



# Psychological and Physical Experiences of Patients Undergoing Haemodialysis: A Phenomenology at a Tertiary Hospital in Ghana

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## Abstract

**Background and Aim:** Chronic Kidney Disease is a serious public health concern globally; however, it hits hard in resources constraint countries where health infrastructure is inadequate. Ghana's prevalence is 13.3%, amidst poor access to life-saving interventions such as hemodialysis. Yet, less is known about the experiences of people seeking haemodialysis therapy in Northern Ghana. The authors sought to explore the experiences of people seeking hemodialysis therapy at a tertiary hospital in Ghana. **Methods:** A descriptive phenomenological study was conducted among patients undergoing hemodialysis at Tamale Teaching Hospital. Purposive sample was used to recruit 17 participants. Individual in-depth interviews were conducted using a semi-structured interview guide until data saturation was reached or achieved from March to April 2024 which was achieved at the 17<sup>th</sup> participant using purposive sampling approach from March to April, 2024. Data were analysed concurrently with data collection using the Collaizi 7 steps approach. Ethical considerations and trustworthiness were enhanced throughout the study. **Results:** Analysis revealed two themes and five sub-themes emerged. Patients faced a) psychological concerns, bordering on: 1) mental health struggles, 2) spirituality and existential questions and 3) acceptance and adaptation, and b) physical changes and challenges, encompassing: 1) changes in physical appearance and health

outcomes, and 2) impact on daily life and activities. **Conclusions:** People living with chronic kidney diseases, undergoing haemodialysis, face varied physical and psychological challenges. Navigating these problems requires support from family and health care professionals. Governmental policies towards alleviating the burden of care are paramount.

## Subject Areas

Nephrology

## Keywords

Challenges, Chronic Kidney Disease, Ghana, Hemodialysis, Physical, Psychological

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## 1. Introduction

Chronic kidney disease (CKD) is a non-communicable condition characterized by impaired kidney function or damage lasting at least three months [1]. Evidence reveals chronic conditions such as glomerulonephritis, diabetes, and hypertension are the commonest causes of CKD; however, hereditary factors have also been identified as a cause [2]. Nephrotoxic herbal medicines, commonly used in rural Asia and Africa, are also linked to CKD. The global burden of CKD is growing, with 843.6 million people worldwide affected in 2017 [3]. Consequently, increasing the number of people receiving dialysis is expected to double by 2030, which will pose huge pressure on existing HD centers [4]. Significantly, over five million people die worldwide yearly due to a lack of life-saving therapies for chronic kidney diseases [5]. Chronic kidney disease is a significant public health concern in Africa, with a prevalence rate of 15.8% [6]. In Ghana, the prevalence rate is 13.3%, with 687 patients on Kidney Replacement Therapy (KRT) as of 2017 [7]. Low- and middle-income countries (LMICs), including Ghana, bear 63% of the global burden of CKD, leading to early morbidity and mortality of the affected population and are more affected by the disease [8].

Management of CKD includes conservative therapy and kidney replacement therapy (KRT), including haemodialysis (HD), peritoneal dialysis, and kidney transplant [7]. Globally, about 86.9% of late-stage kidney disease patients opt for HD due to its accessibility [5]. However, kidney transplantation is not widely practiced in Ghana due to the need for compatible donors and lack of infrastructure [9].

Even though kidney transplantation is the best treatment for kidney failure (CKD) in Ghana, as it enhances survival and quality of life compared to HD [10]. However, the country lacks a viable kidney transplantation program, leading to a high number of patients on HD. In 2017, 3.5% of patients received a kidney transplant, 0.3% were on peritoneal dialysis, and 96.2% were on HD [7]. The distribution

of HD services in Ghana is unfair, with most dialysis centers located in urban areas, neglecting rural communities [10]. Moreover, Tamale Teaching Hospital (TTH) is the only medical facility in the five Northern Regions that provides HD leading to patients traveling long distances to access care. Yet, little is known about their experiences from the physical, psychological, social, and economic and the impact these experiences have on their treatment or treatment modalities [10].

Patients receiving HD in Ghana face various challenges, including psychological, social, financial, and physical issues [11]. The number of patients undergoing HD has risen since 2015, with a rising number of clients [12] [13]. Prior studies on CKD have concentrated at Southern Ghana, leading to a lack of research in Northern Ghana, where there is scarcity of HD centers. This study aimed to explore the experiences of patients undergoing HD at the Tamale Teaching Hospital (TTH), focusing on psychological and physical experiences of patients undergoing haemodialysis to determine the best strategy of care. The phenomenological lens, to determine the best strategy for care.

## **2. Methods**

### **2.1. Study Site and Settings**

The study was conducted at the TTH, an eight-hundred-and-fifteen (815)-bed capacity tertiary facility established in 1974. It's the referral center for the Northern Sector, encompassing the Upper East and West regions as well as parts of Oti and Bono East regions.

### **2.2. Study Design**

A descriptive phenomenological design was employed to explore the experiences of patients undergoing haemodialysis, as little is known about the phenomena. This approach also sought to provide description rather than to interpret. The approach was ideal to answer the research question "what are the experiences of patients undergoing haemodialysis?" to guide the researchers in discovering the patients' experience of undergoing hemodialysis.

### **2.3. Study Population**

The study population was patients with end-stage kidney disease undergoing HD at TTH. The inclusion criteria were patients between the ages of 18 - 70-years undergoing HD for more than 3 months, and who could speak either English, Dagbani, Twi, Mampruli, and Hausa. Patients with acute kidney injury on HD and those who were seriously ill were excluded.

### **2.4. Sample Size Determination and Sampling Technique**

Purposive sampling approach was used to recruit 17 participants for this study. This approach allowed for selecting participants who are knowledgeable on the phenomena and could provide useful information and met the inclusion criteria. The sample size was determined by data saturation, a point at which the information

from the interviews became repetitive and redundant.

### **2.5. Data Collection Instrument and Technique**

In-depth interviews were done with 17 participants using a semi-structured interview guide with open ended and probing questions developed from the research objectives was used to collect data. In addition to the interview guide, a digital audio recorder and journal for field notes were used.

This technique was best suited because of the varied demographic and cultural characteristics of the participants. This made it unfavorable for group interviews to be conducted.

### **2.6. Data Collection Procedure**

Data collection started after ethical clearance was sought from the Committee on Human Research, Publication, and Ethics of Kwame Nkrumah University of Science and Technology, Kumasi (CHRPE/AP/266/24). A discussion was held at the HD unit with the staff about the study to seek cooperation and support during the data collection period.

The participants were approached at the HD Unit and the study was explained to them using the participant's information leaflet using simple terms and language they understand. Participants were given some time to think about the study. Those who were willing to participate were recruited by allowing them to sign a consent form, which a healthcare worker or their relatives witnessed. Discussions were then held to schedule a date, time, and place for their interviews based on their convenience. Interviews took place in a quiet, private room at the HD Unit, not utilized by the staff. Data collection was conducted within the period of March-April 2024. The first author conducted the interviews in English, which were digitally audio recorded, and field notes interviews field notes were also taken to capture the non-verbal communications, such as facial expressions and gestures, to enrich the data. Each interview lasted for about 42 minutes. These were undertaken with only the participant and the PI in the room to ensure privacy. All participants in our study could speak English; as such, all interviews were conducted in English.

After each interview peer debrief and assessment of their emotional states were done before the participants left the facility.

### **2.7. Data Management**

The first author listened to each transcript severally times and transcribed verbatim into Microsoft Word documents immediately after the interviews. The audio-reordered information and transcripts were stored by the PI with a password on PC only accessible to the research team. To ensure anonymity, confidentiality and easy access and retrieval pseudo-names were used for participants. Raw data like field notes, digital audio recorder and transcripts in a safe box using a pin-coded padlock.

## 2.8. Data Analysis

Data analysis was done using the Colaizzi Descriptive Phenomenological approach manually concurrently with collection process. Initial interviews were analysed before going to the field to confirm the themes. Analysis was conducted by the authors independently. When disagreement occurred, discussions were held in addition to arrive at a consensus. Using the 7 steps as stated below [14] were followed:

**Step 1:** Familiarisation: The authors familiarised ourselves with the data by reading all transcripts to comprehend the experiences and feelings of the participants undergoing HD.

**Step 2:** Identifying significant statements: The authors identified all statements in the accounts that had direct relevance to the phenomenon. Extracted these significant statements by use of colour pens to make it easier for arranging, recognising, locating, and evaluating meanings.

**Step 3:** Formulating meanings: We then identified meanings relevant to the phenomenon that arose from a careful consideration of the significant statements. Spelled out the meaning of each significant statement by formulating meanings using colours. After which we made sure that every significant statement had the correct marking or had been correctly marked. At this point we bracketed our presuppositions about the phenomena as being nurses.

**Step 4:** Clustering themes: The discovered meanings were grouped into themes that appeared in every account. Organised the formulated meanings into clusters of themes. In this step, all formulated meanings were arranged into categories that reflected a unique structure of clusters of themes by the researcher. The grouped clusters of themes that reflect significant statements were incorporated together to form a distinctive theme.

**Step 5:** Developing an exhaustive description: Here, we wrote a full and inclusive description of the experiences of ESKD patients on HD by incorporating all the themes produced at step 4. Integrating results into an exhaustive description of the phenomenon under study.

**Step 6:** Producing the fundamental structure: We condensed the exhaustive description down to a short, dense statement that captures just those aspects deemed to be essential to the structure of the phenomenon. To summarise, we employed assertions to produce subthemes and main themes, as shown in table below.

**Step 7:** Seeking verification of the fundamental structure in order to determine whether the basic structure statement accurately represents each participant's experience. We conducted member checking with all the participants for their feedback from 1<sup>st</sup> May, 2024, and 5<sup>th</sup> May, 2024. We met ten (10) in person, and seven (7) were via phone.

At the end each participant indicated approval of our interpretation of their thoughts in the study's conclusions following the member checking. All of them said that the outcomes matched their narratives of their experiences receiving HD.

### Trustworthiness

Trustworthiness was achieved in the study via credibility, transferability, dependability, and confirmability (Table 1).

**Table 1.** Ensuring trustworthiness.

Concept	Approach
Credibility	<ol style="list-style-type: none"> <li>1. Experience of the research team members.</li> <li>2. Prolonged field stay and engagement with the participants during data collection.</li> <li>3. Member checking-going back to all participants with findings for verification.</li> <li>4. Triangulation of data collection tools, thus field notes in addition to interviews.</li> <li>5. Conducting peer debriefs after interviews.</li> </ol>
Transferability	Thick descriptions of the study settings, tools, and processes to enable extrapolations to other situations or for an audit trail.
Dependability	Pre-test of semi-structured interview guide materials for the study was done. It sounds some way to ensure validity and reliability.
Confirmability	<ol style="list-style-type: none"> <li>1. Use of probing questions to confirm participant's opinions.</li> <li>2. Use of reflective journal to bracket ideas or biases.</li> </ol>

### 2.9. Ethical Consideration

With an introductory letter from Ghana College Nurses and Midwifery-Research Committee ethical clearance was obtained from Committee on Human Research Publication and Ethics of Kwame Nkrumah University of Science and Technology (CHPE/AP/266/24). This study is part of a larger project titled "Experiences of patients undergoing HD at the Tamale Teaching Hospital". Following the ethical review approval, permission was obtained from the TTH Institutional Review Board before data collection commenced. All participants provided informed consent before interviews were conducted. We adhered all ethical principles in the conduct of ethical research.

## 3. Results

We present findings of analysis of interview transcripts of 17 patients undergoing HD in our study. First, we present the demographic factors and then the main themes and sub-themes. The latter are supported by quotes of the participants for emphasis.

### 3.1. Participants Demographic Characteristics

Seventeen (17) patients undergoing HD participated in this study. More than half were 40 years and below, males and married. Majority were from Northern Region and about a quarter from the Upper East region. All were educated with the

majority having tertiary education attainment. The duration of HD treatment ranged from 1 to 5 years for 88.2% of patients undergoing HD twice a week (See **Table 2**).

### 3.2. Summary of Themes and Sub-Themes

In **Table 3**, we provide the summary of themes and sub-themes from our study. Two themes and five sub-themes were realised from analysis of transcripts from this study.

**Table 2.** Participant demographic characteristics.

Participant	Age (years)	Region of residence	Gender	Duration of dialysis(years)	Frequency of dialysis	Marital status	Level of Education
P1	35	Upper East	F	3	Once/week	Married	Tertiary
P2	57	Northern	M	1	Twice/week	Married	SHS
P3	33	Northern	F	9	Twice/week	Separated	SHS
P4	58	Northern	F	11	Twice/week	Separated	Tertiary
P5	38	Northern	M	4	Twice/week	Married	SHS
P6	39	Upper East	M	0.4	Twice/week	Married	JHS
P7	23	Northern	M	1	Twice/week	Married	JHS
P8	35	Northern	M	0.3	Twice/week	Married	JHS
P9	70	Northern	M	0.3	Twice/week	Married	Tertiary
P10	50	Northern	F	0.4	Thrice/week	Married	SHS
P11	32	Upper East	F	4	Twice/week	Married	Tertiary
P12	61	Upper East	M	0.3	Twice/week	Married	Tertiary
P13	35	Upper East	F	5	Twice/week	Married	Basic Education
P14	51	Asante	M	0.5	Twice/week	Married	Tertiary
P15	42	Northern	F	4	Twice/week	Married	Tertiary
P16	52	Northern	M	0.4	Twice/week	married	JHS
P17	27	Savana	M	0.3	Twice/week	Married	SHS

Legend JHS—Junior High School, SHS—Senior High School, F—Female, M—Male.

**Table 3.** Summary of themes and sub-themes.

Number	Theme	Sub-theme
1	Psychological concerns	1. Mental health struggles 2. Spirituality and existential questions 3. Acceptance and adaptation
2	Physical changes and challenges	1. Changes in physical appearance and health outcomes 2. Impact on daily life and activities

### 3.2.1. Theme One: Psychological Concerns

This theme delves into the psychological struggles experienced by participants undergoing HD. This theme is discussed under three sub-themes as listed below;

- 1) Mental health struggles, encompassing feelings of depression, hopelessness, humiliation, regret, self-blame, stigma, discrimination, and even suicidal thoughts.
- 2) Spirituality and existential questions, involving questioning the role of faith in their suffering and seeking solace in spiritual beliefs.
- 3) Acceptance and adaptation emerge as patients navigate the initial despair of diagnosis to gradually accepting and adapting to the changes brought about by their condition and treatment regimen.

#### ***Sub-theme one: Mental Health Struggles***

The participants demonstrated profound feelings extremely sadness and hopelessness. They expressed a sense of despair and disbelief with statements that capture the overwhelming burden of their condition. The patients express a sense of remorse and self-criticism, lamenting their internal struggle with the belief that they could have taken preventive measures to avoid their current health condition. The participants express feelings of sadness and isolation. Patients expressed feelings of humiliation as others perceive their need for financial assistance as begging. Below are some of the narrations;

Some stated, “*Life is worthless in that case, what is the point of living if at the end of the day I will die*” (P9), and “*I always feel that I should have known earlier to prevent this (kidney disease)*” (P1).

Some participants lamented about losing close friends and acquaintances due to the diagnoses.

“*...but once I was diagnosed and then admitted in this hospital and later on discharged, all my friends have abandoned me*” (P5).

“*Everybody is now running away, if you call them, they don't want to pick again because every day, money, you know, they blocked me*” (P16).

Similarly, participants express a troubling sentiment as a means of escaping their suffering.

“*Frankly speaking, it's very disturbing. So, to me sometimes, when I just sit down, I just think like I should have been dead by now*” (P5).

Another said

“*So, if you come and the machines are only two or only one, I become disappointed and discouraged. In fact, life is worthless in that case*” (P9).

#### ***Sub-theme two: Spirituality and Existential Questions***

Patients demonstrated a sense of confusion and doubt, indicating a struggle to reconcile their faith with their current health challenges and reflecting a profound sense of uncertainty and searching for meaning in their suffering. Below are some of the narrations;

“*It is only God who cures us. I was not even expecting that I will be alive again...I'm going to die with the sickness or something like that?*” (P8).

“*My wife too should consider it like that, if it is death, she should be prepared*”

*to take the kids and all that. She shouldn't be surprised by it... When I first realized that it was a kidney problem, I was taken aback" (P12).*

### **Sub-theme Three: Acceptance and Adaptation**

The patients recount feelings of being overwhelmed and hopeless upon receiving the diagnosis of kidney disease and the prospect of dialysis. However, with time, they gradually accepted their situation. They had this to say:

*"I've accepted it. And I know that is that one that will send me whatever be the case, one day one day that one that will send me so I have accepted it" (P4).*

Another participant said *"So initially it was not easy at the time, but because there is life, you just have to accept it like that" (P14).*

*"That day I thought that was just the end for me. I really felt bad since I was diagnosed of kidney disease and they talked to me about dialysis, I just thought that was just the end for me. I was feeling bad. But now it's better. Now I am accepting it like that. I have no option" (P1).*

### **3.2.2. Theme Two: Physical Changes and Challenges**

This theme describes the challenges faced among patients undergoing HD including various alterations in physical health and associated difficulties. Patients undergoing HD often experience a decline in physical strength, manifesting as decreased energy levels and fatigue. In addition, issues such as breathing difficulties and restlessness may also arise. Affecting their overall comfort and well-being during treatment sessions. Patients frequently report perceived side effects of HD, including nausea, dizziness, and muscle cramps contributing to their discomfort.

Additionally, the visible physical changes resulting from the disease and treatment, such as weight loss, skin changes, and access site scarring, may impact their self-image and confidence. The limitations imposed by these physical changes often extend to daily life activities and work. As patients may struggle with activities of daily living and maintaining employment due to their condition. The theme is discussed under two sub-themes:

- 1) Changes in physical appearance and health outcomes.
- 2) Impact on Daily Life and Activities.

#### **Sub-theme one: Changes in physical appearance and health outcomes**

The patients shared their ordeal with kidney disease and the effects of the HD on their physical appearance. They highlight the diverse physical changes they experience, including weight loss, changes in body composition, muscle weakness, and alterations in skin texture. Some of these narrations are presented below:

*"First, I was fat now, I'm small, I'm slim, I've reduced weight, I was fair, I am now dark" (P1), "Like I didn't have big abdomen. Okay. I used to have, what we call, six parks" (P5), and "My abdomen was big, more than nine months. Even when I was pregnant, my stomach was all like that" (P3).*

*"I was fat but now I have reduced, really, for reduction, I've reduced. I was not experiencing other things like, waist pains, body pains, now I have started getting them" (P4).*

Some of the participants said the following about body image concerns. *"My*

face is heavy and even my legs and the whole body is not even strong" (P6), and "I have grown lean. The flesh I used to have been shiny but now, I have seen that the skin is wrinkled" (P12).

Similarly, participants emphasized on the drastic reduction in their strength. "I can't even walk. Like when I walk here, I'm tired" (P1), "I was an athlete. I was running. I was very active, very, very active. Now with this big abdomen, I am no more active" (P5), "Even if I'm coming to the hospital, they have to sit me on the wheelchair" (P4), and "I don't have much strength in my body. Even this chair, I cannot take it" (P2).

On breathing difficulties and restlessness as crucial changes among the patients. They had these to say: "Sometimes when I take water, I cannot breathe" (P1), "I can't breathe well" (P4), "Sometimes, it is difficult for me to breathe" (P2), and "As for the breathing, I have the changes for that and the tiredness" (P3).

On other physical challenges including gastrointestinal symptoms, cramps, pain, itching, and sleep disturbances. Participants opined; "I cannot eat anymore" (P1), "The cramps sometimes disturb me" (P3), "I feel cold, vibration, sometimes my chest is paining and sometimes my waist will be paining. Sometimes my stomach will be paining" (P7) and "If I'm on the machine, my body, will be just itching me" (P11).

"I cannot sleep. Yes. In the night, even in the afternoon. Sometimes in one week, only two days I can be free but the rest of the days, all I'm always hot" (P16).

The patients explicitly acknowledge the link between their kidney failure and the changes they are experiencing by stating: "Of course, it's because of the kidney failure. It's because of the kidney failure" (P5), "For the dialysis it is good because when you do it you see your body to be slim" (P3), and "I was not experiencing other things like, waist pains, body pains, now I have started getting them" (P4).

"If I compare my current condition with the previous, nobody expected me to be able to ride motorbike or drive or do something like that. Look at how I am slim now" (P8).

"I think that physically, if I look myself in the mirror, I can see changes from that time when I was diagnosed till today" (P14).

#### **Sub-theme two: Impact on Daily Life and Activities**

The patients recount the significant disruption of the kidney disease and the new routine of HD to their employment and daily activities. They had these to share:

"Since I started this dialysis or since I have been diagnosed of this condition, I haven't been able to go to work, other duties, even taking care of my family, I haven't been able to. I have been taken care of rather. So, it really affects me. Yes. So, it really affects me" (P1).

Similarly, they lament the restrictions the disease has brought on their lives.

"Sometimes, you know, considering the weather, the place becomes so hot that you are just craving for water but you are limited because you are limited in what you can take" (P14).

*“They said we should drink just some small Voltic bottle water. The water problem, as I told you, you would like to drink it, but they said we should sip it. My life now depends on HD” (P9).*

#### 4. Discussion

In the current study, the patients shared their emotional and mental health struggles since the news of being diagnosed with end-stage kidney disease to their current state through HD. Though they have reached a state of acceptance and adaptation, they recount their initial despair, depression, and hopeless moments. This outcome resonates with similar studies from various jurisdictions. Healthcare system, support networks, financial resources, and personal relationships were shown to be the four key determinants of patient decision-making for ESKD therapy. Several factors led to the start of treatment, chief among them was the pressing need to prevent death at an early age. Many people treated their illness in the hopes of finding a cure and occasionally failed to recognise that it was chronic. For those with ESKD in Ghana, decision-making was difficult due to the relative lack of biomedical therapeutic options, the financial and geographic inaccessibility of kidney replacement therapy (KRT), and other factors. There was no open discussion about mortality or conservative management. Instead, patients made every effort to find alternate therapy options, which may have involved using conventional or faith-based healing methods in addition to other non-KRT methods concurrently [15] [16] outlines depression, anxiety, delirium, and withdrawal symptoms as the common psychosocial issues associated with patients with end-stage kidney disease undergoing HD.

A qualitative study in Singapore using the bio-psychosocial model explored experiences of elderly patients living with end-stage kidney disease [17]. The patients shared psychological experiences such as depressive signs and presentations such as moodiness and silence treatment; fear, worry and anxieties at the sight of the HD machine and needles and uncertain treatment outcomes, stressful treatment procedures, and unpleasant self-perceptions like feeling useless and being a burden unto the family that may negatively influence their quality of life. Additionally, according to Sousa and colleagues, stress, anxiety and depression among patients undergoing HD are associated with lack of happiness, contentment and overall life satisfaction [18]. These studies support the current study where most patients undergoing HD feel worthless and just wasting valuable resources like money for HD. Similarly, a study conducted in Ghana by Osei Appiah and colleagues [13] revealed that patients living with end-stage kidney disease exhibited worry, fear and anxiety when they were told to start HD due to limited or no prior information or education on the procedure. The authors further stated that, most of the patients had now recognized the severity of their condition by the mention of dialysis, misconception about death that may occur through the procedure and the perceived side effects [13].

This study revealed that the patients were anxious due to the fear of death and

the uncertainty death. This aligns with a qualitative study in India on patients diagnosed with kidney disease and undergoing HD revealed their ordeal of death echoing in their ears and minds leading to emotional stress and depression [19]. Some patients in the current study exhibited suicidal tendencies, such as self-harm, expressions of hopelessness, and a general sense of despair, all of which are critical indicators of suicidal ideation. They felt death was the only means to escape their suffering. This finding result is confirmed in a cross-sectional study conducted in Egypt where suicidal ideation was recorded among 39% of patients living with end-stage kidney disease and undergoing HD [20].

Results from this current study revealed feeling humiliated and embarrassed when soliciting funds, describing their experiences as being treated like beggars and noticing that people often avoided them. Although this unpleasant experience may not be universally common, financial struggles are evident among patients undergoing HD and represent a significant barrier to timely dialysis worldwide [21]. Therefore, seeking financial assistance to afford HD treatment is not merely a matter of choice for patients and their families; rather, it is frequently a necessity for their survival.

Maintaining a healthy lifestyle, including a recommended diet including low sodium and saturated fats, regular exercise, adequate hydration, and avoiding smoking and excessive alcohol intake, is crucial for preventing kidney disease [22]. However, in this study, some patients feel regret and blame themselves for not adhering to these healthy lifestyles to avoid the condition. Similarly, some living kidney donors regret ever donating a kidney at some point in their lives [23].

This study revealed stigma and social discrimination experienced by patients living with kidney disease and undergoing HD. These negative stereotypical reactions often stem from misconceptions, such as the belief that kidney disease could be contagious and transmitted through contact or having communication with patients. While these misconceptions may be prevalent in the Sub-Saharan African region [24] [25], is supported by a study conducted in China sheds light on how patients requiring long-term HD treatment are marginalized and discriminated against. This discrimination primarily arises from the misconception that chronic kidney disease is incurable, coupled with the patients' low economic status resulting from loss of employment and inability to afford medical costs [26].

The current study revealed patients believe in spirituality, in their quest to seek solace in spiritual beliefs, posed existential questions questioning the role of their faith in their suffering. This finding was confirmed in a phenomenological study conducted in Ghana, which revealed that indeed patients living with end-stage kidney disease undergoing HD had faith in God, tend to doubt Him at the onset and progress of the disease [27].

Patients recount profound changes in their physical appearance and health outcomes after being diagnosed with end-stage kidney disease and initiating HD. The participants reported significant weight loss, muscle weakness, and alterations in body composition and skin texture, such as darkened and wrinkled skin. These changes and the general loss of physical robustness negatively affect their self-

confidence, self-image, self-esteem, and even sexual drive, particularly among females who may feel less attractive is supported by a study conducted by [28]. The physical strength of the patients markedly decreased, making it difficult for them to walk short distances or perform basic tasks, often requiring the use of wheelchairs. This also aligns with a cross-sectional study conducted in Slovenia, which found that patients with end-stage kidney disease suffer from low physical and functional abilities and a poorer quality of life compared to healthy individuals [29]. This is further supported by another cross-sectional study revealed that patients on HD had reduced physical activity due to impaired lower and upper extremity muscle strength [30].

In this current study, the results revealed range of perceived health outcomes and side effects associated with HD, including gastrointestinal issues, cramps, pain, itching, breathlessness, and severe sleep disturbances, which they confidently associate with kidney failure and the HD sessions. These symptoms are consistent with those reported in other studies. [31] revealed a rapid decline in the health of patients undergoing HD, as a result of diarrhoea, swelling, sleep disturbances, breathing difficulties, progressive vision loss, and limited mobility [31]. Similarly, a qualitative study in Ghana used a phenomenological approach and revealed that common physical experiences of patients undergoing HD included weight gain, oedema in the lower extremities, tiredness, breathlessness, and restlessness [13]. Additionally, sleep disorders and disrupted sleeping patterns emerged as a major experience among patients undergoing HD in a qualitative study in Singapore [17].

Flythe and colleagues identified cramps, exhaustion, and sleeping disorders as common side effects reported among patients receiving HD [32]. They further elaborated on the range of dialysis-induced effects and morbidities affecting multiple organs and systems in patients undergoing HD [33]. These include cardiovascular issues such as hypovolemia, interdialytic hypotension, circulatory stress, cardiac arrhythmias, hypoxemia, and heart failure. Additionally, patients may suffer from altered oxygen supply, nutrient losses, thermal imbalance, and intra-dialytic morbidity. Other complications include maladaptive responses, impaired cognitive function, liver failure, and limb paralysis [33].

The patients revealed that the condition has severely impacted their daily lives and activities, making them unable to work, maintain employment, perform household duties, or even attend to their own self-care, thus imposing significant restrictions on their lives. A significant challenge for patients is adhering to restricted dietary choices and recommended fluid intake, even when they crave more flavorful foods and beverages. However, they understand and agree that failure to adhere to the recommended fluid intake can lead to the accumulation of excess fluids in their body, resulting in the development of edema in extremities, including areas like the hands, feet, and face, which can further complicate their condition [33].

## 5. Implications and Recommendations

The study findings underscore that patients undergoing HD face several challenges

and have varied unmet needs. These challenges and unmet needs further exacerbate the plight of people undergoing HD. With poor health infrastructure and support systems for people living with CKD, navigating these toils can be burdensome. Policies aimed at improving the Ghanaian health industry towards providing responsive and quality healthcare for people living with chronic disease need the greatest attention. There is the need to include in chronic disease care spirituality, religion and responsive psychological therapy. Future studies should consider examining the cost burdens and role of the psychologist in navigating CKD management among people undergoing HD.

## 6. Strengths and Weaknesses

We consider our study to be the first to explore experiences of people undergoing dialysis in northern Ghana, using many local languages and a higher number of interviews conducted as a strength of our study. Some limitations are over-reliance on the narrations of patients, but not healthcare providers, majority of the participants being females and well educated as limitations.

## 7. Conclusion

People living with CKD face varied challenges ranging from physical concerns to psychological problems. These affect their quality of life and lead to long-lasting effects on their household dynamics, especially finances. Governmental policies and support towards remedying the huge burden of seeking care for chronic diseases, such as kidney failure, are essential.

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## Author Contributions

Conception and Design: SBA MMB, GAA, AA, SK, PDAA.

Acquisition of Data: SBA.

Analysis: SBA MMB, GAA.

Interpretation: SBA MMB, GAA.

Drafting the article: SBA MMB, GAA, AA, SK, PDAA.

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## Data Availability

The data used to support the findings of the study are available from the corresponding author upon reasonable request.

## Conflicts of Interest

The authors declare no conflicts of interest.

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## List of Abbreviations

CHRPE	Committee on Human Research Publication and Ethics
CKK	Chronic Kidney Disease
ESKD	End-Stage Kidney Disease
GCNM	Ghana College of Nurses and Midwives
HD	Haemodialysis
JHS	Junior High School
KNUST	Kwame Nkrumah University of Science and Technology
KRT	Kidney Replacement Therapy
LMICs	Low and Middle-Income Countries
P	Personal Computer
PI	Principal Investigator
SHS	Senior High School
TTH	Tamale Teaching Hospital