**Journal of Digital Health Innovation and Medical Technology**
Vol. 2 No. 2 Juni 2026
E-ISSN: 3090-0816
Open Access: https://journals.ai-mrc.com/jdhimt

# Exploring the Lived Experience of Medication Adherence among Chronic Disease Patients in Digital Health Contexts: A Qualitative Phenomenological Study

**Yusran Hasymi [1]*, Husni [2], Marlin Sutrisna [3], Lia Novitasari [4], Mistati Novita Sari [5]**
[1,3,4,5]Universitas Bengkulu, Indonesia
[2]Poltekkes Bengkulu, Indonesia
[1]yhasymi@unib.ac.id*, [2]husniyus@gmail.com, [3]sutrisnamarlin@gmail.com, [4]lnsari@unib.ac.id, [5]mnovitasari@unib.ac.id

**Article Info**

***Article history:***
Received 25-04-2026
Revised 09-06-2026
Accepted 17-06-2026

***Keyword:***
Medication Adherence; Chronic Patients; Lived Experience; Digital Health; Patient-Centered Care; Health Behavior

**ABSTRACT**

Medication adherence is a critical issue in pharmaceutical research and chronic disease management, as it directly influences treatment outcomes and patient quality of life. Recent studies have increasingly emphasized patient-centered care and digital health interventions, yet the experiential dimension of adherence remains insufficiently explored. However, current approaches largely rely on behavioral and quantitative frameworks, leaving unclear how patients with chronic illness experience and sustain long-term medication adherence in everyday life. Here, an interpretative phenomenological approach is employed to explore the lived experiences of patients and to reveal how adherence is constructed through emotional, social, cognitive, and technological dimensions. Data were collected through in-depth semi-structured interviews with [number] adult patients diagnosed with chronic illnesses and undergoing long-term pharmacological treatment at [healthcare setting/location] and analyzed using Interpretative Phenomenological Analysis to identify essential themes. The findings show that medication adherence is experienced as an ongoing negotiation shaped by emotional burden, relational dynamics, understanding of treatment, and the supportive yet limited role of digital health tools. These results demonstrate that adherence is not merely a behavioral outcome but a meaning-centered process embedded in patients' daily lives and personal interpretations of illness and care. These findings advance current understanding by reframing medication adherence as a lived experience and highlight the need for patient-centered pharmaceutical interventions that integrate emotional, social, and technological dimensions to improve long-term treatment outcomes.



## INTRODUCTION

Medication adherence has become a central concern within the fields of pharmaceutical research, clinical pharmacy, and public health, particularly in the context of chronic disease management (Kelly et al., 2023). Chronic illnesses such as diabetes, hypertension, and cardiovascular disorders require sustained pharmacological treatment over extended periods, often spanning years or even a lifetime (Rathbone et al., 2021). Despite advancements in pharmacotherapy and healthcare delivery systems, maintaining consistent adherence to prescribed medication regimens remains a persistent global challenge. Inadequate adherence contributes to suboptimal clinical outcomes, increased healthcare costs, and reduced quality of life, especially among patients who must integrate long-term treatment into everyday routines (Yang et al., 2021). The rapid expansion of digital health technologies, including mobile applications and electronic reminder systems, has further shaped contemporary efforts to support medication-taking behavior.

However, medication adherence should not be understood merely as a clinical behavior or measurable outcome. For individuals living with chronic illness, taking medication is part of a broader lived experience that involves negotiating identity, managing uncertainty, responding to emotional fatigue, and adapting treatment to social and cultural contexts (Rashwan et al., 2025; Rochmah & Mukti,

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2022). Digital health tools add another layer to this experience by mediating patients' interactions with treatment, healthcare systems, and self-management practices (George-Akpenyi et al., 2024). Although these tools are often designed to improve efficiency and compliance, their effectiveness is also influenced by patients' motivation, emotions, beliefs, and relational circumstances. Therefore, adherence requires analysis not only through behavioral indicators but also through the subjective meanings patients attach to long-term medication use.

Existing studies have provided important insights into medication adherence from behavioral, clinical, and technological perspectives. Quantitative approaches, such as adherence rates, prescription refill records, and self-reported compliance scales, have contributed valuable epidemiological and clinical evidence (Emert et al., 2023). Similarly, intervention-based strategies, including patient education, simplified dosing regimens, reminder systems, and digital health applications, have sought to address observable barriers such as forgetfulness, limited knowledge, and access constraints (Mukhlis, Suradi, et al., 2023; Mukhlis, 2025b). Nevertheless, these approaches often prioritize external behavioral modification and measurable improvement, while paying less attention to the internal experiential processes that shape how patients accept, resist, or sustain medication use over time.

This limitation is particularly important because adherence in chronic illness is embedded in emotional, relational, and existential dimensions. Patients may experience uncertainty, dependence, fatigue, ambivalence, or tension between medical expectations and everyday realities (Overbury et al., 2021). Even when qualitative studies explore patient experience, many remain descriptive and do not fully examine the interpretive meanings through which patients understand their treatment journeys. As a result, there remains limited knowledge of how patients construct meaning around medication adherence within the combined context of chronic illness and digital health environments.

To address this gap, the present study adopts an interpretative phenomenological approach to explore the lived experiences of patients in maintaining long-term medication adherence. Phenomenology is appropriate because it enables an in-depth examination of how individuals interpret treatment demands, emotional challenges, interactions with healthcare systems, and the use of digital health tools in everyday life (Mukhlis, Arifin, Ridwan, & Zulbaidah, 2025; Mukhlis, Arifin, Ridwan, Zulbaidah, et al., 2025). Through Interpretative Phenomenological Analysis, this study seeks to identify essential themes that reveal how adherence is experienced, negotiated, and sustained beyond surface-level compliance (Mukhlis et al., 2024; Mukhlis, Maryam, et al., 2023). The study therefore contributes a more holistic understanding of medication adherence and offers insights for developing patient-centered strategies that resonate with patients' real-world experiences.

This article is structured as follows. The introduction presents the background, research gap, and rationale for the study. The method section describes the phenomenological design, participant selection, data collection, and analytical procedures. The results section presents key themes derived from participants' experiences, supported by narrative descriptions and direct quotations. Finally, the discussion interprets the findings in relation to existing literature, followed by a conclusion outlining implications for research and practice (Macklin et al., 2024)

## RESEARCH METHODS

### Study Design

A qualitative study grounded in interpretative phenomenology was employed to explore the subjective experiences of patients with chronic illness in maintaining long-term medication adherence in the era of digital health (Fife, 2020; Kawamura, 2020). This design was considered appropriate because the phenomenon under investigation extended beyond observable behavior and involved personal meaning, emotional negotiation, social interaction, and the lived experience of managing treatment over time. Rather than measuring adherence as a numerical outcome, the phenomenological approach enabled close examination of how adherence was experienced, interpreted, and sustained in everyday life.

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More specifically, the study was informed by a Heideggerian interpretative phenomenological orientation, which emphasizes understanding human experience as situated within personal, relational, and socio-contextual worlds (Lutz & Knox, 2014; McNabb, 2015). This approach was selected because medication adherence among patients with chronic illness is not merely a technical act of following prescriptions, but a meaningful practice shaped by illness identity, emotional burden, family influence, and the use of digital reminders and health technologies. Through this design, the study sought to capture the essential meanings participants attached to their treatment routines and to illuminate how these meanings were constructed within the context of chronic disease management. Prior to data collection, ethical approval was obtained from the relevant institutional ethics committee. All participants received written and verbal information regarding the study aims, procedures, voluntary participation, confidentiality, and their right to withdraw at any stage without consequences. Written informed consent was obtained before each interview, including consent for audio recording. To protect anonymity, participants' identities were replaced with codes, and all transcripts and research data were stored securely with access limited to the research team.

**Participants**

Participants consisted of adult patients living with chronic illness who had experience with long-term medication use and exposure to digital health support in treatment management, such as medication reminder applications, mobile health tools, or digital notification systems. Participants were selected using purposive sampling, as this strategy allowed the inclusion of individuals who had directly experienced the phenomenon of interest and were able to provide rich, reflective accounts of medication adherence in everyday life.

Recruitment was conducted through healthcare facilities, patient networks, and community-based chronic illness support groups. Potential participants were approached through gatekeepers or public recruitment information, after which interested individuals contacted the research team directly or provided permission to be contacted. Eligibility was screened using a brief recruitment checklist based on the inclusion and exclusion criteria. Participants who met the criteria were then given a detailed explanation of the study before providing informed consent. Recruitment continued until sufficient depth and variation of experiential accounts had been achieved

The inclusion criteria comprised: (1) adults aged 18 years or older; (2) diagnosis of a chronic illness requiring long-term pharmacological treatment; (3) current or recent experience of taking prescribed medication for at least six months; (4) ability to communicate experiences clearly in an interview setting; and (5) familiarity with at least one form of digital health support related to medication management. The exclusion criteria included acute medical instability, severe cognitive impairment, and inability to participate in an in-depth interview due to communication or health limitations.

A total of 10–15 participants was considered appropriate for the interpretative phenomenological design, as this range allows detailed idiographic exploration while preserving depth of analysis. Relevant demographic characteristics, such as age range, gender, type of chronic illness, duration of medication use, and form of digital health utilization, were documented to contextualize the lived experiences described by participants (Hillman & Radel, 2018; Migdal, 2018). These characteristics were included not for statistical comparison, but to support interpretive understanding of how medication adherence was experienced across different life situations.

**Data Collection**

Data were collected through semi-structured, in-depth interviews, which are well suited to phenomenological inquiry because they provide space for participants to describe their lived experiences in detail while allowing the exploration of meanings, emotions, and contextual influences. An interview guide was developed based on the research question, the identified research gap, and key domains relevant to the phenomenon, including emotional experience, perceived burden of treatment, family and social support, understanding of medication, and the role of digital health tools in sustaining adherence.

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Interviews were conducted either face-to-face in a quiet and private setting or through a secure online platform when direct meetings were not feasible. Each interview lasted approximately 45 to 60 minutes, depending on the depth and flow of the participant's narrative. A comfortable and nonjudgmental environment was maintained to support openness and reflection, and participants were encouraged to describe experiences in their own words (Carreiras & Castro, 2012; Iosifides, 2016). Follow-up prompts were used to deepen descriptions, clarify meanings, and explore significant moments related to adherence behavior, emotional struggle, or interactions with digital support systems.

All interviews were audio-recorded with participants' consent and subsequently transcribed verbatim. Field notes were also prepared during and immediately after each interview to capture contextual impressions, nonverbal cues, and emerging reflections relevant to the interpretive process. The interview guide functioned as a flexible framework rather than a rigid instrument, allowing participants' accounts to shape the direction and depth of each conversation.

### Data Analysis

Data were analyzed using Interpretative Phenomenological Analysis (IPA) to identify how participants made sense of their lived experiences of long-term medication adherence in the context of digital health. IPA was selected because it is especially appropriate for exploring complex, emotionally laden, and personally meaningful health-related experiences. This analytic approach supports a detailed examination of both participants' accounts and the interpretive meanings embedded within them.

The analysis proceeded through several systematic stages. First, each transcript was read repeatedly to achieve immersion in the data and to develop familiarity with the overall narrative. Second, initial notes were generated to identify significant expressions, experiential concerns, emotional tones, and contextual meanings (Daly, 2007; Longhofer et al., 2012). Third, emergent codes were developed from these notes and organized into conceptual clusters reflecting recurring patterns across the narratives. Fourth, related codes were grouped into broader themes that captured essential dimensions of the participants' lived experience. Finally, connections among themes were examined to construct an interpretive account of the phenomenon as a whole.

This process resulted in the identification of interrelated themes concerning emotional discipline, the supportive yet limited role of digital reminders, the dual role of family and social relations, the importance of understanding medication, and the moral and existential meaning of adherence. Qualitative data management software such as NVivo may be used to assist with data organization, coding, and retrieval; however, interpretive engagement with participants' narratives remained central throughout the analytic process. Credibility was strengthened through repeated engagement with the transcripts, careful comparison across cases, and preservation of the relationship between individual quotations and their broader experiential context.

## RESULTS

### Adherence as an emotionally demanding discipline

Participants consistently described long-term medication adherence as emotionally taxing. Taking medication every day was not perceived as a neutral clinical routine, but as a repeated confrontation with illness, vulnerability, and the possibility that their condition might not improve despite continuous treatment. For several participants, the act of swallowing medicine each day functioned as a reminder that they were living with a chronic condition, thereby sustaining feelings of fatigue, anxiety, and emotional weariness. Although participants shared similar emotional struggles, their expressions varied in tone, length, and level of reflection. Some accounts were hesitant, fragmented, or expressed in simple everyday language, suggesting that adherence was not always narrated as a fully resolved experience.

One participant explained that the medication routine carried psychological weight beyond its pharmacological function: "Every time I take the medicine, I am reminded that I am not really free from this illness. It is not just about remembering to take a pill, it is about accepting again and again that I need it to stay stable" (P3). This statement illustrates that adherence was lived not merely as behavioral

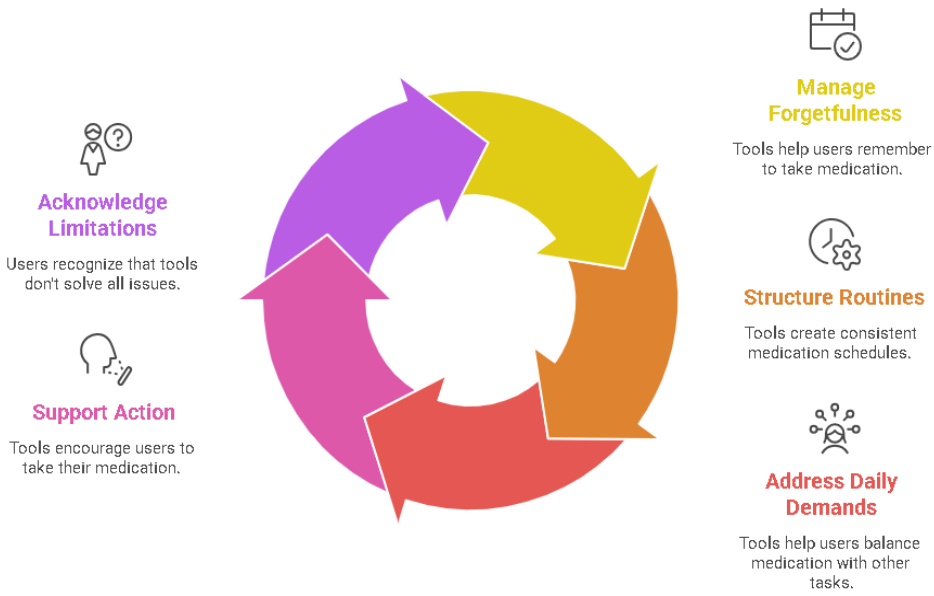
compliance, but as repeated emotional acknowledgment of dependency and bodily limitation. Another participant described the prolonged treatment as exhausting: “Sometimes I feel tired, not because the medicine is difficult to take, but because it never seems to end. It feels like my whole life is scheduled around treatment” (P7).

Participants also spoke about internal conflict between knowing that medication was necessary and feeling resistant toward its constant presence in daily life. This tension became especially visible during periods of emotional exhaustion, when motivation weakened even though awareness of clinical benefit remained intact. A participant stated, “I know the medicine helps me, but there are moments when I just feel overwhelmed. It is not forgetting, it is more like I am mentally tired of being a patient all the time” (P2). In this sense, adherence was experienced as an emotionally demanding discipline that required persistence not only against symptoms, but also against the psychological burden of chronicity itself.

**Digital reminders as supportive but insufficient companions**

The second theme revealed that digital health tools played a meaningful role in supporting medication adherence, particularly by helping participants manage forgetfulness, routine fragmentation, and competing daily demands. Mobile applications, alarm features, and digital reminders were often described as practical aids that brought structure to treatment routines. However, participants did not experience technology as a complete solution. Rather, digital tools were perceived as helpful companions that could support action but could not resolve emotional ambivalence, treatment fatigue, or existential frustration.

**The Cycle of Digital Health Tool Support**




One participant remarked, “The app helps me remember the time, especially when I am busy, but it cannot change how I feel about taking medicine every day” (P1). This account highlights an important distinction between memory support and motivational depth. For this participant, technology could prompt behavior but could not transform the emotional meaning attached to medication-taking. Another participant similarly noted, “When the reminder appears, I know what I should do. But if I am already feeling frustrated or tired, sometimes I still delay it. The reminder is there, but my mind is somewhere else” (P5).

Participants valued digital tools when these technologies fit smoothly into their everyday lives. Simplicity, accessibility, and low cognitive burden were particularly important. When reminders were easy to use, they were described as extensions of self-management. Yet when digital interventions felt repetitive or impersonal, participants became less responsive to them over time. As one participant stated, “At first, the reminders were very useful. Later, I got too used to them, so sometimes I ignored

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them like any other notification" (P9). This suggests that technology was experienced not as an autonomous driver of adherence, but as something whose effectiveness depended on emotional readiness, personal discipline, and the individual's broader relationship with illness.

**Family and social relations as both reinforcement and pressure**

Participants' accounts showed that medication adherence was deeply embedded in social life. Family members, spouses, children, and close friends often served as reminders, motivators, and sources of emotional support. Participants frequently described adherence as easier when they felt accompanied, cared for, or observed by significant others. In these situations, medication-taking became part of a relational network rather than an isolated individual act.

One participant described family support in strongly relational terms: "My wife always asks whether I have taken my medicine. Sometimes I feel she remembers it better than I do. It makes me feel cared for, and that helps me stay disciplined" (P4). Another participant similarly expressed that support from children created a sense of accountability: "I want to stay healthy for my children, so when they remind me, I feel that taking medicine is not only for me but also for them" (P8). These experiences indicate that adherence was reinforced when medication was connected to emotional bonds and shared concern.

At the same time, not all social involvement was experienced positively. For some participants, repeated questioning or monitoring by family members generated feelings of pressure, dependence, or frustration. One participant explained, "Sometimes I know they mean well, but when they keep asking, it makes me feel like I have no control over my own body" (P6). This reveals that social support could shift into perceived surveillance, particularly when participants wished to preserve autonomy. Thus, the social world functioned in an ambivalent way: it could strengthen adherence by providing emotional reinforcement, yet it could also create subtle tension when support was experienced as intrusive. The findings suggest that adherence was not only a clinical or personal matter, but also a socially negotiated experience shaped by intimacy, expectation, and identity.

**Understanding medication as a basis for commitment**

A further theme concerned the role of understanding in shaping adherence. Participants who demonstrated stronger commitment to medication often described a clearer understanding of their illness, the purpose of treatment, and the consequences of discontinuation. This understanding did not necessarily remove fatigue or frustration, but it gave participants a cognitive and moral basis for continuing therapy despite discomfort. Importantly, participants did not always describe this understanding in formal biomedical terms. Many explained it through practical reasoning, personal experience, and lessons learned after periods of doubt or inconsistency..

One participant explained, "When I finally understood what the medicine actually does in my body, I stopped seeing it as a burden and started seeing it as something that keeps me safe" (P10). This statement suggests that comprehension transformed medication from an external demand into an internalized necessity. Another participant said, "Before, I only took it because the doctor told me to. Now I take it because I understand what happens if I stop, and that makes a big difference" (P11). Such accounts indicate that adherence became more sustainable when participants moved from passive obedience to informed commitment.

Nevertheless, several participants also described periods in which incomplete understanding led to doubt, inconsistency, or fear. Confusion regarding side effects, long-term use, or changes in dosage sometimes weakened confidence in treatment. As one participant noted, "There were times when I felt unsure whether taking it for so long was really good for me. If I do not fully understand, it is easier to hesitate" (P12). This finding suggests that knowledge was not simply informational, but experiential and interpretive. Participants needed not only instructions, but a coherent understanding that allowed them to integrate medication into their sense of safety, agency, and bodily trust.

**Adherence as a moral and existential responsibility toward life and health**

Beyond the practical, emotional, and social aspects of adherence, participants also described medication-taking as carrying moral and existential significance. For many, adherence was connected

to a broader responsibility to remain alive, preserve function, and protect relationships. In this context, medication was not experienced solely as treatment, but as part of a larger struggle to sustain life, dignity, and hope under chronic illness.

One participant reflected, "Taking medicine is my way of fighting for a normal life. Even if I am tired of it, I know it is part of how I survive" (P13). Another participant framed adherence as an act of responsibility: "Sometimes I do it not because I want to, but because I feel I owe it to myself and my family to stay as healthy as I can" (P14). These accounts suggest that adherence was embedded in ethical self-understanding, where continuing treatment became a way of honoring personal worth, social roles, and future possibility.

Some participants also expressed a spiritual dimension to this responsibility, especially when discussing endurance through uncertainty. One participant said, "I believe that treatment is part of the effort I must make, while the final outcome is in God's hands. That belief gives me strength to continue" (P15). In this way, adherence was not only about remembering medication or avoiding complications, but about sustaining meaning in the face of long-term vulnerability. The act of taking medicine became part of how participants positioned themselves within illness, hope, faith, and responsibility for life itself.

Taken together, the findings indicate that long-term medication adherence in the era of digital health was experienced as a multidimensional and deeply interpretive process. Participants did not describe adherence as mere compliance with medical advice, but as an ongoing negotiation between emotional fatigue, technological support, social influence, personal understanding, and existential responsibility. Digital tools were valued for their practical assistance, yet they remained secondary to the emotional and relational conditions that shaped participants' willingness to continue treatment. The essential structure of the phenomenon, therefore, lies in the way adherence was lived as a continuous effort to preserve stability and meaning while managing the enduring presence of chronic illness.

## DISCUSSION

This study shows that long-term medication adherence in the era of digital health is not experienced by patients as a simple act of compliance, but as a deeply interpretive process shaped by emotional burden, social relationships, personal understanding, and existential responsibility (Piñol-Ripoll & Carrillo, 2025). Rather than repeating the conventional view that adherence depends primarily on knowledge, access, or behavioral reminders, the present findings suggest that adherence is sustained when patients are able to make treatment meaningful, emotionally tolerable, and compatible with everyday life. In relation to the central question raised in the introduction, the findings indicate that the lived experience of adherence is best understood as an ongoing negotiation between the demands of chronic illness and the patient's effort to preserve meaning, stability, and agency in everyday life.

The findings provide a clear answer to the broader question of how patients with chronic illness experience and sustain long-term medication adherence within digitally mediated care contexts. The study demonstrates that adherence is not maintained solely through external supports such as reminders, instructions, or monitoring tools, but through an internal process in which patients continuously interpret the significance of treatment in relation to their bodies, identities, emotions, and social roles. This contribution is important because it shifts the understanding of adherence away from a narrow behavioral frame and toward an experiential one (Cantarero-Arévalo & Werremeyer, 2021). The findings reveal that patients do not merely follow or fail to follow treatment; rather, they actively negotiate treatment within the realities of fatigue, uncertainty, family expectations, and the perceived meaning of health maintenance. In this sense, the study contributes a more human-centered understanding of adherence by showing that sustained medication use depends not only on memory or access, but also on how treatment is lived, valued, and emotionally endured over time.

A particularly important contribution of this study lies in its illumination of the limits of digital health when separated from the experiential world of the patient. Although digital tools were described as useful for structuring routines and reducing forgetfulness, they did not eliminate emotional resistance, treatment fatigue, or ambivalence toward lifelong medication use. This finding helps clarify

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why practical interventions often produce inconsistent results in chronic care. Technology may support adherence behavior, but it does not automatically transform the subjective meaning of treatment. The present study therefore adds depth to the research question by showing that digital health functions most effectively when it operates within, rather than apart from, the emotional and relational conditions of the patient's life. This perspective is especially valuable for pharmaceutical and clinical practice because it suggests that patient-centered adherence support must address not only regimen management but also the lived burden of remaining a patient over time.

The findings also extend the research question by demonstrating that medication adherence is deeply relational. Family members and close social networks were experienced as important sources of care, encouragement, and accountability, yet they could also become sources of pressure when support was perceived as surveillance or intrusion. This dual character of social support is significant because it reveals that adherence is not simply an individual decision, but a social experience negotiated within relationships (Mukhlis, Janwari, et al., 2023; Mukhlis & Abdullah, 2025). The study therefore contributes a more nuanced account of how support functions in chronic illness management. Rather than assuming that greater family involvement always improves adherence, the findings suggest that the meaning of support depends on how it is experienced by the patient. This insight broadens the conceptual understanding of adherence and provides a more refined basis for designing supportive interventions that respect both connectedness and autonomy.

The present findings are consistent with prior scholarship showing that medication adherence is influenced by more than clinical knowledge or treatment availability. Existing literature has long emphasized that adherence is shaped by multiple behavioral, cognitive, and contextual factors, and global health reports have repeatedly identified it as a complex challenge in chronic disease care. The current study supports this view, but it also extends it by clarifying how these factors are experienced from within the patient's perspective. Rather than treating emotional burden, social influence, and digital support as separate variables, the findings reveal how these dimensions are woven together in the lived experience of everyday treatment. This interpretive depth complements previous research by moving from explanation of predictors to understanding of meaning.

The theme of adherence as an emotionally demanding discipline aligns with studies that describe chronic treatment as psychologically burdensome and identity-shaping. Earlier work has shown that patients often experience long-term medication use as a reminder of illness, loss of normality, and continuing vulnerability (Halboup et al., 2025). The present study reinforces these observations by showing that adherence involves repeated emotional work, not merely repeated pill-taking. This deepens previous understandings by suggesting that treatment fatigue is not only a practical barrier but also an existential one. In phenomenological terms, medication becomes part of how illness is re-encountered each day, which helps explain why adherence may remain fragile even when patients recognize its clinical importance.

The findings regarding digital reminders also complement earlier research on digital health interventions. Previous studies have reported that mobile applications, reminder systems, and monitoring technologies can improve adherence by supporting routine and self-management, especially in chronic illness contexts. The present study does not contradict that evidence, but it introduces a necessary qualification. Digital tools were experienced as useful but limited, especially when emotional exhaustion or ambivalence overshadowed the practical prompt provided by technology. This suggests that the value of digital health lies less in its capacity to replace human meaning-making and more in its ability to support patients whose motivation is already contextually sustained. In this way, the study refines the literature by showing that technology is not neutral or universally effective; its impact depends on the patient's interpretive and emotional relationship with treatment.

The role of family and social relations in the present findings also resonates with patient-centered care literature, which has consistently emphasized the importance of interpersonal support in sustaining health behaviors. However, the current study adds a more complex interpretation by showing that support may become burdensome when it threatens personal autonomy. This nuance is important because many existing frameworks treat social support primarily as a positive resource. The findings instead suggest that relational involvement must be understood phenomenologically, that is, in terms of

how it is perceived and lived by the person receiving it. Such an interpretation enriches prior theory by revealing that the effectiveness of support depends not simply on its presence, but on whether it affirms dignity, agency, and relational trust.

The finding that understanding medication strengthens adherence also corresponds with existing research linking treatment knowledge and health beliefs to patient engagement. Yet the present study suggests that knowledge alone is not sufficient. Some patients may know why medication is necessary while still struggling to accept its emotional meaning. Therefore, pharmaceutical counseling should move beyond information transfer and support patients in translating clinical knowledge into lived meaning.. This point is especially relevant to pharmaceutical care., where counseling is often evaluated in terms of information transfer alone. The findings suggest that patient education becomes more effective when it supports comprehension as lived meaning rather than as technical instruction.

Finally, the theme of adherence as a moral and existential responsibility broadens current discussions of medication use by bringing attention to dimensions that are often underrepresented in adherence research. Patients did not describe medication only as treatment for disease, but also as a way of preserving life, sustaining social roles, fulfilling personal responsibility, and, in some cases, expressing spiritual commitment. This interpretation complements phenomenological and patient-centered approaches that recognize illness as a condition affecting the whole person rather than isolated biological processes. It also helps explain why adherence may persist even in the presence of fatigue, inconvenience, or emotional resistance. When medication is experienced as tied to hope, duty, and continued participation in life, adherence gains moral depth that cannot be adequately captured by standard compliance models.

Taken together, the study complements and deepens previous literature by showing that medication adherence is not adequately understood through behavioral measurement alone. The findings support earlier evidence that adherence is multifactorial, but they also reveal that its essential structure lies in the patient's effort to make treatment livable, meaningful, and emotionally sustainable within the context of chronic illness and digital health. This contribution does not reject the value of existing practical interventions. Instead, it clarifies why such interventions may remain limited when they are disconnected from the subjective world of the patient. By interpreting adherence as lived experience, the study offers a more comprehensive understanding of the phenomenon and provides a stronger conceptual basis for future patient-centered pharmaceutical care.

The findings carry important scientific and practical implications for pharmaceutical research, clinical pharmacy, and patient-centered care. First, they suggest that medication adherence should not be understood only as a technical problem of remembering doses or following prescriptions, but as a lived process shaped by emotional endurance, relational dynamics, and the patient's evolving interpretation of treatment (Hao et al., 2021). This means that adherence support will remain incomplete if it focuses exclusively on reminders, monitoring, or simplified instructions without addressing the deeper meanings patients attach to chronic medication use. In practical terms, the findings support the need for pharmaceutical care models that combine informational support with empathic communication, ongoing counseling, and attention to the emotional burden of long-term treatment. This interpretation is consistent with the broader literature showing that adherence in chronic illness is influenced by interacting behavioral, cognitive, and contextual factors rather than by isolated clinical variables alone.

The findings also have broader social and cultural implications because they show that adherence is embedded in everyday life rather than confined to clinical settings (Arney et al., 2023). Patients experienced medication-taking within family relationships, work demands, moral obligations, and, in some cases, spiritual understanding. This indicates that adherence is closely connected to how individuals maintain identity, responsibility, and dignity while living with chronic illness (Mukhlis, 2025a; Mukhlis & Saidah, 2025). Such an interpretation is highly relevant in patient-centered care because it suggests that treatment support must be responsive to the social world in which the patient lives. In wider populations, especially those managing long-term illness in increasingly digitalized healthcare environments, the findings imply that digital health interventions will be most effective when they are designed not only for efficiency but also for experiential relevance, emotional sensitivity, and

relational compatibility. Thus, the present study encourages a broader view of adherence as a human experience with clinical, social, and ethical significance.

At the professional level, the results are especially relevant for pharmacists and other healthcare providers who play a central role in chronic disease management (X. Zhang et al., 2024). The findings suggest that professional encounters should move beyond medication instruction toward a more dialogic approach that helps patients interpret treatment in ways that feel meaningful and sustainable. Patients may understand what they are supposed to do while still struggling with exhaustion, ambivalence, or the symbolic burden of lifelong therapy. Therefore, effective pharmaceutical care should not only transmit knowledge but also create space for patients to express uncertainty, fatigue, and concerns related to digital tools or family expectations. This practical implication aligns with contemporary efforts to strengthen patient-centered and experience-based models of care. By bringing phenomenological insight into the discussion, the study shows that adherence support becomes more clinically useful when it recognizes the patient as an interpreting subject rather than as a passive recipient of treatment.

Several limitations should be acknowledged when interpreting these findings. As with most phenomenological studies, the aim was depth of understanding rather than statistical generalization. The findings are grounded in a relatively small sample of participants who had direct experience with chronic illness, long-term medication use, and some form of digital health support (Youn et al., 2024; W. Zhang et al., 2024). This design was appropriate for exploring meaning in detail, but it also means that the results should be interpreted as context-sensitive rather than universally representative. In addition, the data were generated primarily through in-depth interviews, which depend on participants' willingness and ability to articulate their experiences. As a result, some aspects of adherence may have remained unspoken, difficult to verbalize, or shaped by retrospective reflection rather than immediate experience.

Another limitation relates to the contextual nature of the phenomenon itself. Medication adherence may differ across illness types, treatment burdens, healthcare systems, family structures, and cultural expectations surrounding responsibility, self-care, and technology use (Yin et al., 2021). Because the present study focused on the shared experience of chronic medication adherence rather than on comparison across distinct clinical subgroups, some condition-specific variations may not have been fully captured. In the same way, the role of digital health may vary depending on the type of application used, digital literacy, and access to healthcare resources. These limitations do not weaken the value of the findings, but they indicate that the meanings identified here should be understood within the boundaries of the participants' lived contexts. They also point to the importance of careful transferability rather than broad generalization.

Future research can extend these findings in several meaningful directions. One important step would be to explore how the lived experience of adherence differs across specific chronic illnesses, age groups, or levels of engagement with digital health technologies (Muhigwa & Kalenzaga, 2025). Such studies could deepen understanding of whether emotional burden, family dynamics, and existential responsibility take different forms in distinct treatment contexts. Future phenomenological work could also examine how patients' experiences change over time, especially during transitions such as diagnosis, treatment adjustment, or the introduction of new digital monitoring systems. Longitudinal qualitative inquiry would be particularly valuable for understanding how meaning develops, stabilizes, or shifts throughout the course of chronic illness management.

Further research may also build on these findings by informing intervention design. Rather than creating adherence strategies based only on behavioral assumptions, future studies could use experiential evidence to develop patient-centered pharmaceutical care models that address emotional endurance, relational support, and meaningful communication (Pang et al., 2021). In addition, comparative work involving patients, pharmacists, and family members may provide a fuller understanding of how adherence is negotiated across different perspectives within chronic care. Such directions would strengthen the contribution of phenomenological research to pharmaceutical and clinical practice by connecting lived experience with more responsive forms of support. In this way, the present study offers not only an interpretation of medication adherence in the era of digital health, but

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also a foundation for future inquiry into how treatment can become more livable, meaningful, and sustainable for patients.

## CONCLUSION

This study examined the lived experience of patients with chronic illness in maintaining long-term medication adherence within the context of digital health. The findings reveal that adherence is not a simple behavioral act but a complex and ongoing process shaped by emotional burden, social relationships, personal understanding, and existential responsibility. The study demonstrates that digital health tools support adherence in practical ways but remain limited when they do not address the deeper experiential and emotional dimensions of treatment. These results contribute to existing literature by shifting the understanding of adherence from a compliance-based perspective toward a more holistic, experience-based interpretation that reflects patients' everyday realities. The study also highlights the importance of integrating emotional, relational, and meaning-centered approaches into pharmaceutical care to improve patient-centered outcomes. From a practical perspective, these findings suggest that future digital health interventions should move beyond reminder-based functions and incorporate features that facilitate emotional support, personalized communication, patient reflection, and meaningful engagement with treatment goals. Designers and healthcare providers should consider integrating patient-centered functionalities such as adaptive feedback systems, peer-support mechanisms, and communication channels that strengthen patients' sense of responsibility and connection to their care journey. Such approaches may enhance the long-term effectiveness of digital adherence interventions by addressing both behavioral and experiential aspects of medication use.Future research can extend these insights by exploring adherence experiences across different clinical contexts and by developing interventions that align more closely with patients' lived experiences and evolving needs.

## CONFLICT OF INTEREST

The authors declare that there are no conflicts of interest regarding the publication of this study. The research was conducted independently without any financial or commercial relationships that could be construed as a potential conflict of interest.

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