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An Interpretative Phenomenological Research of the Psychological Experience of Dietary Management in Older Adults with Diabetes

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Abstract: *Objective*: To explore in depth the psychological perceptions and meaning construction of older adult patients with diabetes during the dietary management process, and to provide a theoretical reference for developing individualized clinical nursing care. *Methods*: A purposive sampling method was used to select 13 older adult patients with diabetes for semi-structured in-depth interviews. The interview data were collated and analyzed using Van Manen's analysis method. *Results*: The psychological experience of dietary management in older adult patients with diabetes included four core themes: (1) Information fog and cognitive shock at initial diagnosis; (2) Self-struggle during the habit reshaping stage; (3) Alternating cycle of hope and frustration in long-term management; (4) Reconstructing normality and searching for meaning in life. *Conclusion*: Dietary management is an important process for older adult patients with diabetes to reconstruct the meaning of life. Clinical nursing should focus on patients' psychological experiences and value needs, providing more humanistic and individualized support.

Keywords: Dietary management; Psychological experience; Diabetes; Geriatric nursing; Qualitative research

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1. Introduction

The global aging process is accelerating, making the elderly the main bearers of the disease burden of diabetes. Epidemiological surveys show that the prevalence of diabetes in this group has reached 25% to 33% [1]. As a key link in blood glucose control, dietary management faces many special challenges in the practice of older adult patients with diabetes: cognitive decline makes complex nutritional calculations difficult to execute, and psychosocial factors such as depressive tendencies and insufficient social support mean that approximately 29.1% of patients exhibit self-neglect behaviors, leading to decreased management adherence [2]. Although some interventions can improve physiological indicators such as HbA1c and BMI in the short term, long-term

effects are often difficult to maintain due to the neglect of psychological experiences [3]. Current research mostly focuses on improving the disease management ability of older adult patients with diabetes through behavioral intervention methods such as self-efficacy theory, while analysis of the patients' subjective meaning and deep psychological experience is relatively lacking [4]. Older patients often experience cognitive conflict between the "desire to eat autonomously" and "disease management needs", and traditional quantitative methods struggle to capture such meaning structures. Hermeneutic phenomenology is dedicated to understanding individuals' subjective interpretation and meaning generation of life experiences, making it suitable for deeply exploring the essence of the psychological experience of older adult patients with diabetes in dietary management [5]. Based on Heideggerian Hermeneutic Phenomenology, this study aims to reveal the psychological process and meaning construction mechanism behind the dietary management behaviors of older adult patients with diabetes, providing a basis for constructing individualized nursing intervention plans.

2. Methods

2.1. Research objects

Using a purposive sampling method, 13 older adult patients with diabetes hospitalized in the endocrinology department of a tertiary hospital in Huizhou City or registered at surrounding community service centers were selected as research participants.

2.1.1. Inclusion criteria

(1) Age ≥ 60 years [6]
(2) Meeting the World Health Organization diagnostic criteria for diabetes [7]
(3) Diabetes duration greater than 5 years
(4) Voluntary participation in this study

2.1.2. Exclusion criteria

(1) Presence of language communication barriers
(2) Hearing impairment
(3) Refusal of audio recording.

2.1.3. Sample size

Sample size was determined by data saturation, meaning no new concepts or themes emerged during the qualitative data analysis [8]. This study was approved by the hospital ethics committee. All participants signed informed consent forms, and the acquired interview data and demographic information were anonymized. A total of 13 older adult patients with diabetes were interviewed, 9 males and 4 females; average age (71.2 ± 9.6) years, average disease duration (18.2 ± 6.9) years, mostly married and living with their spouse. General data are shown in **Table 1**.

Table 1. General data of older adult patients with diabetes (n = 13)

No	Sex	Age	Education level	Occupation	Marital status	Living situation	Origin	Duration (Years)	No. of comorbidities
P1	F	69	Secondary School	Retired	Married	Spouse	Sichuan	> 20	6
P2	M	60	Primary School	Gardener	Married	Spouse	Guangdong	7	2
P3	M	64	University	Retired	Married	Spouse	Guangdong	> 20	3
P4	M	79	Junior High	Retired	Married	Spouse & children	Guangdong	> 20	3
P5	F	61	Secondary School	Freelance	Married	Spouse	Jilin	> 10	1
P6	M	80	Primary School	Retired	Married	Spouse	Hebei	> 20	2
P7	M	62	University	Retired	Married	Children	Henan	> 20	2
P8	M	73	University	Retired	Married	Spouse	Guangdong	> 20	3
P9	F	80	Secondary School	Retired	Married	Spouse	Heilongjiang	> 30	3
P10	M	82	Secondary School	Retired	Married	Spouse	Jiangsu	15	1
P11	F	65	University	Lawyer	Divorced	Alone	Inner Mongolia	14	2
P12	M	62	High School	Property Management	Married	Spouse	Jilin	> 10	1
P13	M	88	University	Retired	Widow	Alone	Guangdong	> 30	3

2.2. Research methods

2.2.1. Developing the interview guide

Based on the research purpose and literature review, a preliminary interview guide was developed. Three older adult patients with diabetes were selected for pre-interviews. Based on the pre-interview results and clinical expert opinions, the interview guide was revised and finalized. The final version included:

(1) What were your initial thoughts when the doctor first mentioned dietary management after diagnosis?
(2) What were your psychological feelings during the early stages of dietary management?
(3) Have you tried any new methods in dietary management? What were your thoughts at the time?
(4) What do you consider the biggest gain after long-term adherence to dietary management?
(5) What are the main psychological difficulties you encounter in dietary management?
(6) What factors play a key role in helping you persist with dietary management?
(7) What are your expectations or plans for future dietary management?

2.2.2. Data collection methods

Data were collected through face-to-face semi-structured interviews. The research team included two nursing master's students with a background in qualitative research and one clinical nursing expert. One graduate student was responsible for leading the interviews, while the other recorded participants' non-verbal behaviors and assisted with audio recording and documenting the environment. Before the interview, the researcher established a trusting relationship with the participant, explained the purpose and significance of the study, and obtained informed consent. Interviews were conducted in private rooms on the ward or in the participants' homes to ensure face-to-face communication was free from external interference. The interviews were audio-recorded, and simultaneous field notes were taken, focusing on recording patients' non-verbal information, observing changes in expression,

tone, and actions. Interview duration was controlled between 25 and 40 minutes.

2.2.3. Data analysis methods

The researcher, as the research instrument, transcribed the audio recordings verbatim within 24 hours after each interview, integrating records of non-verbal behaviors. Reflective journals and interview notes detailing the interview process were also written. The transcribed data were analyzed using Van Manen's method [9] with the assistance of Nvivo 12.0 software, following these steps:

(1) Repeated reading of the text to immerse in the participants' narratives
(2) Line-by-line coding to identify meaning units
(3) Categorizing similar expressions to extract preliminary themes
(4) Integrating and interpreting themes within the four existential dimensions of body, time, space, and relations
(5) Forming the analysis report through narrative writing.

After the interviews, three researchers transcribed the recordings into text within 24 hours, numbered sequentially. Discrepancies were resolved through discussion to reach consensus.

2.2.4. Quality control

(1) Credibility

Representativeness of research objects (the selected participants represented older adult patients with diabetes of different ages, education levels, genders, occupations, and disease durations). Second, for patients with language communication difficulties (e.g., Hakka speakers), the interview time was appropriately extended. Besides, triangulation was used, including data source triangulation (medical records, audio recordings, interview notes, literature), method triangulation (interviews, observation), and researcher triangulation (three researchers independently observing and analyzing) to ensure data reliability. Moreover, it reflect on the researcher's role and bias, where interview notes and reflective journals were written promptly after each interview, and elements were considered in the thematic analysis to help readers understand the study's limitations.

(2) Dependability

Refers to stability across time and location. Firstly, the research sites included hospital wards and communities (wards in endocrinology and neurology departments, communities in participants' homes); interviews were scheduled between 3 to 4 PM, ensuring sufficient time and participant concentration, thus ensuring data reliability. Moreover, two team members independently performed audio transcription and analysis, then jointly discussed the data analysis coding and final theme extraction.

3. Results

3.1. Information ambiguity and cognitive shock in the initial stage of diagnosis

3.1.1. Lack and ambiguity of authoritative guidance

Patients generally faced the problem of unclear dietary information in the initial stage of diagnosis. The advice provided by doctors was usually general and lacked specific and feasible guidance, leaving patients confused at the starting stage and having to rely on themselves for difficult exploration. For example, Uncle Tian (P2) mentioned:

"No, the doctor didn't say anything. (In a low tone)" Another interviewee (P4) also expressed a similar feeling: "At first, they didn't say anything, and I didn't know... They just said to leave it to me, and didn't say anything else". In Grandpa Zhao's (P6) memory, the doctor's advice only remained: "Don't eat sweet food. I don't remember anything else, only that I shouldn't eat sweet food". This lack of guidance laid the foundation for subsequent long-term self-exploration and confusion. Only a few such as (P11) experienced systematic nutrition management in later hospitalization: "The University of Hong Kong-Shenzhen Hospital didn't let me avoid certain foods; they just fixed the amount for me", but such experiences were not common in the early stage.

3.1.2. Initial construction of disease cognition and emotional coping

Faced with the "diabetes" diagnosis, different older adult patients formed varying understandings of the disease and emotional response patterns based on their life experiences and cognitive backgrounds. Some participants showed high medical compliance, such as P11 who clearly stated: "I believed it, believed it very much (the doctor's words)". Some showed greater vigilance due to factors like family history, such as P12 who was "particularly concerned about myself". However, other participants, due to their era background and life pressures, chose to neglect the disease. P13 and P7 considered it a secondary issue, lacking sufficient attention: "At that time, it was work, work piled up, nobody to rely on but yourself, no time to think about these things". These early-formed cognitive patterns and emotional tones profoundly influenced their subsequent decades of disease management attitudes and behavioral choices.

3.2. Self-struggle during the habit reshaping stage

3.2.1. Tug-of-War between physiological desires and self-control

Changing long-formed eating habits was described by most interviewees as a long-term process accompanied by physical and mental discomfort. There was a strong conflict between the desire for sweet and high-fat foods and health cognition. "Being unable to control one's mouth" was a common real experience, and the sense of deprivation and restraint were the core dilemmas. P1 mentioned: "When I see those fruits, I really want to eat them, but I just stand there for a while and then leave... I don't dare to eat them even if I buy them back". When talking about occasional dietary compromises, P2 revealed helplessness in his tone: "When I'm in a good mood, I still can't help it.. Hehe". He constantly struggled between the physical need for satiety and the new understanding of health. "Hunger" became a common real experience. P11 recalled: "Once I was so hungry that I felt dizzy and bloated". P12 also believed that "eating less staple food... makes it easy to get hungry... it's a bit difficult". P13's experience was more historically characteristic, reflecting the helplessness in the era of material scarcity: "I felt a little hungry, but there was no way... I just mixed soy sauce with water to drink". The confrontation between physical needs and willpower became a major challenge in dietary management.

3.2.2. Alienation and adaptation in the social world

Dietary management is not a solo act; it deeply affects patients' social interactions. Occasions like family gatherings, friend meetups, and travel often caused pressure, forcing them to make difficult trade-offs between maintaining social connections and adhering to dietary principles, often experiencing feelings of being out of place or needing deliberate avoidance. P11 shared a travel experience: "Went traveling with friends, ate just one-eighth of a local pancake, that small corner, and my blood sugar was high that evening". This reflects the psychological burden of not being able to fully let go even in relaxed settings. P7 had his own set of social coping strategies: "They

eat theirs, I just have a dish I can eat... Of course they shouldn't insist (on persuading)". P12 also had methods for handling drinking occasions: "Friends ask you out for drinks... Be careful, drink less". P9, however, almost no longer participated in group meals due to the disease, reflecting the risk of social isolation that dietary management may trigger.

3.3. Alternating cycle of hope and frustration in long-term management

3.3.1. "Uncontrollable" blood sugar and persistent frustration

Even if patients try their best to follow the prescribed dietary plans, their blood glucose may still have unpredictable changes, cause confusion and self-doubt, and seriously shaking their confidence in dietary management. P1's words were full of powerlessness: "My blood sugar just can't be controlled, it still can't be controlled now, I don't know why I can't control it". P4 said: "If you eat too much or are full, your blood sugar will definitely be on the high side... If it's high, you just don't eat that much next time". P12 described the frustrating reality of increasing medication dosage year by year: "The blood sugar injection (insulin)... is increasing year by year, not decreasing at all". Even P13, whose blood sugar was relatively stable, said that his "postprandial blood glucose two hours after meals is generally around 10", which is far from the target. The gap between long-term efforts and poor results constitutes a source of continuous psychological frustration.

3.3.2. Embodiment of "trouble" and treatment resistance

The treatment behavior itself, especially the complex medication regimen and insulin injection, was regarded by the interviewees as a heavy "trouble" due to the cumbersome process, accompanying pain, and interference with daily life. This negative physical experience led some interviewees to have a strong sense of treatment resistance or burnout. The root cause was not the lack of understanding of the benefits of treatment, but the psychological resistance to "daily life being constantly interfered with and occupied by the disease". Interviewee P1 expressed this: "My biggest regret is taking insulin... If I don't take insulin, it won't be so troublesome. I have to take the needle, the medicine, and prepare disinfectant and cotton swabs. It's too troublesome". Interviewee P10 also clearly explained the reason for refusing insulin: "The reason I don't take it is that I think it's too troublesome to inject before each meal. First, it hurts, and second, I'm worried about dependence". Interviewee P11 vividly described the large amount of medication: "I take more medicine than food; I'm full just from taking medicine". This resistance is essentially a rebellion against "life being 'colonized' by the disease".

3.4. Awakening to coexistence with the disease – reconstructing normality and searching for life meaning

3.4.1. Identity shift from "patient" to "expert"

After years of self-management practice, many older adult patients with diabetes, through the experience of " prolonged illness makes a doctor", regained a sense of control and initiative in their lives. They transformed from "patients" passively receiving medical orders into proactive "self-managers". This identity shift brought about psychological experiences of confidence and composure. P7 said proudly: "I know clearly in my heart, I am an 'old doctor' with 20 years of experience... I also explain diabetes-related knowledge to others". P10 also displayed confidence based on experience: "Our life experience is much richer than young people's, what to eat and what not to eat... We also have knowledge reserves in this area". P11 demonstrated strong autonomy: "I don't really listen to the doctor now... For example, the doctor says don't eat fruit, I eat it every day, just control the amount". They

were no longer panicked patients but had gradually become active agents with practical knowledge.

3.4.2. Philosophical acceptance of "dancing with sugar"

In the end, many patients developed an open-minded life philosophy, integrating diabetes into part of their lives rather than the whole. "Attaching importance to it without excessive anxiety" is their core coping wisdom. They learned to find a dynamic and personalized balance between strict control and moderate enjoyment, adherence to discipline and self-forgiveness, and achieved peaceful coexistence with the disease. P3 summarized it as: "Despise it strategically, attach importance to it tactically... It's not that I want to ruin myself, but I don't want to take it too seriously". P5 showed an open-minded attitude: "I am very optimistic and think openly... When it's time to give up... I will find a way to end it". P10 experienced inner peace: "We have a good attitude... The greatest gain in my life is that I don't have any discomfort, and my mentality is better". P11 established a stable dietary pattern and felt satisfied: "I have gradually stabilized now... But I eat well". P12 rationally realized: "Although it can't be cured, it can be controlled". P13 showed an indifferent attitude after many years: "Worrying is useless... I don't worry". By reconciling with the disease, they regained a sense of control over life and peace of mind.

4. Discussion

4.1. Information fog: Absence of health system support and initiation of self-exploration

This study found that patients generally faced a lack of professional dietary guidance in the early stages of diagnosis, a phenomenon corroborated by several existing studies [10,11]. Advice provided by healthcare professionals at the diagnosis stage was often too general, lacking specific operational guidance, leaving patients in a state of cognitive ambiguity from the start. This information vacuum forced patients to turn to informal channels for relevant knowledge, such as peer communication, online information, or TV programs, not only increasing their information anxiety but also potentially leading to subsequent unscientific self-management behaviors [12]. Therefore, enhancing the systematic, individualized, and operational aspects of initial dietary education and effectively integrating it into the diagnosis and treatment process is an important direction for improving the diabetes support system.

4.2. Self-regulation game: Balance between individual needs and social constraints

Dietary management essentially constitutes a long-term internal conflict, i.e., the continuous confrontation between individuals' original dietary desires and health needs. This study reveals the inner struggle of patients in the process of self-control, especially the internal contradictions when facing high-temptation foods and social occasions. This finding is consistent with the self-depletion theory, indicating that willpower, as a limited psychological resource, tends to be exhausted in continuous dietary regulation, thereby increasing the possibility of behavioral relaxation [13]. More importantly, the study further reveals the social dimension contained in dietary management: when eating behavior is embedded in social interactions, patients often fall into a dilemma between following medical advice and conforming to group norms, accompanied by emotional experiences such as guilt, embarrassment, or marginalization [14]. This suggests that effective interventions need to go beyond the individual level, incorporate family and social support, and alleviate patients' psychological pressure in social situations by creating an inclusive dietary environment.

4.3. Cyclical dilemma: Finding a sense of control amid "loss of control" and "trouble"

This study found that even if elderly diabetic patients invest a lot of energy, the unpredictability of blood glucose levels and the cumbersomeness of the treatment process are still the main challenges they face in long-term management. Unexpected fluctuations in blood glucose readings directly impact patients' self-efficacy and are likely to induce negative psychological reactions such as learned helplessness [15]. In addition, the embodied analysis of the "trouble" of treatment provides a new perspective: patients' resistance to treatments such as insulin is not due to insufficient understanding of medical knowledge, but to psychological rejection of daily experiences that constantly reinforce their "patient" identity. Each injection, each special meal, constantly reminds them of their disease state, thereby triggering psychological resistance [16]. Therefore, when advocating treatment compliance, clinical workers should fully understand the psychological motivations behind the behavior — namely, patients' inherent yearning for a normal life, autonomy, and convenience. Promoting more convenient and minimally invasive treatment methods and incorporating appropriate flexibility into management strategies is expected to alleviate patients' psychological burden.

4.4. Meaning construction process: Identity reshaping from passive compliance to active management

The study showed that some patients, through long-term self-management practice, gradually achieved an identity transformation from "passively receiving medical orders" to "actively implementing disease management", even becoming "health knowledge disseminators" within their families, and ultimately forming a life philosophy of "peaceful coexistence with the disease". This aligns with illness narrative theory, where patients regain control and meaning by integrating the illness experience into their life story [17]. "Prolonged illness makes a doctor" is not just knowledge accumulation but also subjectivity reconstruction. The wisdom of "despising it strategically, valuing it tactically" that they practiced reflects a high level of psychological adaptation, achieving a balance between vigilance and relaxation, control and enjoyment. Nursing staff should consciously promote the establishment of such positive identities, for example, through peer support groups to facilitate experience sharing, providing role models for newly diagnosed individuals.

4.5. Adaptive balance in the older adult population: Between disease management and quality of life

Compared to younger patients, older adult patients with diabetes exhibit characteristics of "adaptive balance" in dietary management: neither strictly following all norms nor abandoning control, but rather seeking an individualized balance between health maintenance and quality of life [18]. This characteristic is rooted in their life experiences, older adults who experienced periods of material scarcity have profound memories of "fullness" and are more sensitive to the "sense of deprivation" brought by dietary restrictions (P13); the emphasis on "meaning in life" in later years makes them unwilling to sacrifice life's pleasures excessively for blood sugar control. This suggests that clinical practice should avoid "over-medicalized" strategies, allow for appropriate flexibility in special circumstances, and focus on guiding patients to reflect and adjust their behaviors after unplanned eating, rather than pursuing absolute adherence to norms [19].

4.6. Study limitations

The samples of this study were all from Huizhou area, which may have regional limitations; the interview duration

was limited, and some in-depth experiences failed to be fully explored; cross-sectional interviews were used, making it difficult to track the dynamic changes of patients' meaning-making; some elderly patients may not have fully expressed their early experiences due to blurred memories, resulting in limited interview depth. Future longitudinal studies can be carried out to track the psychological change trajectory in different disease course stages.

5. Conclusion

Using an interpretive phenomenological approach, this study deeply revealed that dietary management for older adult patients with diabetes is a dynamic, complex psychosocial adaptation process. The study showed that insufficient professional guidance early on poses challenges for long-term management, highlighting the importance of individualized, continuous nutritional support. Dietary management involves not only the reshaping of physiological habits but also profound physical and psychological experiences and social adaptation, with patients often facing social alienation and psychological pressure. In long-term management, the unpredictability of blood sugar and the burden of treatment easily lead to a cycle of hope and disappointment, weakening self-efficacy. However, some older patients demonstrated psychological resilience, achieving a balance between disease management and quality of life through identity transformation and wise acceptance. Clinical nursing should intervene multi-dimensionally, strengthening knowledge education, paying attention to emotional needs, guiding positive coping, and integrating support resources to provide comprehensive, personalized dietary psychological support for older adult patients with diabetes, enhancing their disease management ability and quality of life.

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Disclosure statement

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