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Informal Learning About Chronic Diseases Among Older Adults: A Qualitative Study of Symptom Recognition, Disease Causation, and Self-Management

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Research Article

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Abstract

Background

Population ageing has increased the prevalence of chronic diseases and the need for health-related learning among older adults. Informal learning plays an important role in helping older individuals understand disease symptoms, causes, and management strategies in daily life. However, evidence on how older adults informally learn about chronic diseases remains limited, particularly in socio-culturally diverse and under-researched settings. This study aimed to explore older adults' informal learning experiences regarding chronic diseases, including their learning resources, approaches, and the perceived impact of these learnings on everyday life.

Methods

A qualitative multiple case study design was employed. Semi-structured interviews were conducted with 32 adults aged 65 years and older (21 men and 11 women) living in the Central Artuklu district of Mardin, Türkiye. Participants were selected through maximum variation sampling and met the inclusion criteria of being aged 65 years or older and having at least one chronic disease. Data were collected between June and September 2019 and analysed using content and descriptive analysis. Coding focused on disease-related learning, informal learning resources, and learning approaches.

Results

Cardiovascular diseases and hypertension were the most common chronic conditions, followed by diabetes. Three overarching themes emerged: (1) informal learning about disease symptoms, (2) informal learning about disease causes, and (3) informal learning about coping strategies. Participants primarily learned about symptoms through lived experiences and physician consultation. Knowledge about disease causes was predominantly acquired from healthcare professionals, although some participants attributed illness to stress, sadness, ageing, or life difficulties based on personal experiences. Coping strategies were mostly learned through physician recommendations and experiential learning, while self-directed learning through television, written materials, relatives, and the internet remained limited. Lower educational attainment appeared to be associated with more limited access to and use of self-directed health information. Approximately one-third of participants reported insufficient knowledge regarding disease symptoms and causes.

Conclusions

Older adults rely predominantly on experiential and physician-mediated informal learning to understand and manage chronic diseases. However, important knowledge gaps persist, especially among individuals with lower educational attainment. Strengthening physician–patient communication and developing accessible, context-sensitive informal health learning opportunities may improve health literacy and chronic disease self-management among older adults.

Clinical trial number:

Not applicable.

Introduction

Population ageing and the increasing prevalence of chronic diseases have heightened the importance of health-related learning in later life. As individuals age, managing chronic conditions often requires acquiring knowledge about symptoms, disease causes, treatment, and everyday coping strategies. In this context, lifelong learning extends beyond formal education and includes learning that occurs through everyday experiences, interpersonal relationships, and practical problem-solving across the life course [1, 2]. Among older adults, informal learning becomes especially important because health-related challenges frequently emerge outside structured educational settings.

Informal learning refers to knowledge acquisition that occurs through daily experiences, observation, social interaction, and problem-solving rather than formal instruction [2] In older adulthood, age-related physiological and psychosocial changes, together with increasing multimorbidity, often require continuous adaptation and learning. Maintaining independence, managing chronic illness, and preserving well-being depend partly on older adults' ability to access, interpret, and apply health-related knowledge in everyday life [3, 4].

Chronic diseases become increasingly common with age and substantially influence older adults' quality of life, functional capacity, and daily routines [5, 6]. However, participation in formal or non-formal educational opportunities may become more limited in later life due to mobility restrictions, health problems, economic barriers, or changing social circumstances. Consequently, much of older adults' health-related learning occurs informally through healthcare professionals, family members, peers, television, written materials, digital resources, and lived experiences. Through these processes, older adults may develop practical knowledge regarding symptom recognition, medication use, treatment adherence, and disease self-management.

Despite growing recognition of the role of informal learning in healthy ageing, limited research has examined how older adults learn about chronic diseases in everyday life, particularly in Türkiye. Existing studies in the Turkish context have primarily focused on health conditions, healthcare access, and care needs among older adults, while the informal processes through which older adults acquire and use disease-related knowledge remain underexplored.

Addressing this gap, the present study explores older adults' informal learning experiences regarding chronic diseases in the central Artuklu district of Mardin, Türkiye. Specifically, the study investigates the learning resources, learning approaches, and types of knowledge older adults develop regarding chronic disease symptoms, causes, and self-management in daily life. This study aimed to explore older adults' informal learning experiences regarding chronic diseases, including how they learn about symptoms,

disease causation, and coping strategies, as well as the resources and approaches involved in these processes.

Methods

Research Design

This study employed a qualitative descriptive design to explore older adults' informal learning experiences regarding chronic diseases. A qualitative approach was considered appropriate because the study aimed to understand how older adults make sense of their chronic illnesses, how they acquire health-related knowledge, and how these learning experiences influence everyday life. The qualitative descriptive design enabled an in-depth exploration of participants' perspectives regarding symptom recognition, disease causation, and chronic disease self-management within their daily contexts.

Study Group

The study group consisted of 32 older adults aged 65 years and older living in the central Artuklu district of Mardin province, Türkiye. Of the participants, 21 were male and 11 were female.

Participants were selected using maximum variation sampling, one of the purposive sampling methods commonly used in qualitative research. Maximum variation sampling was preferred to ensure diversity in participants' demographic characteristics, educational backgrounds, living conditions, and chronic disease experiences. This sampling strategy enabled the inclusion of individuals with different experiences and perspectives, thereby contributing to a richer understanding of informal learning among older adults.

Sampling continued until sufficient diversity in experiences and recurring patterns across participants were achieved. No individuals who were approached declined participation.

Inclusion Criteria

Participants were included in the study based on the following criteria:

1. Being aged 65 years or older;
2. Having at least one chronic disease;
3. Having adequate cognitive functioning and hearing ability to participate in interviews;
4. Living independently at home, either alone or with family members, rather than residing in institutional settings (e.g., nursing homes or hospitals);
5. Voluntarily agreeing to participate in the study.

Data Collection

Data were collected through semi-structured interviews, which enabled participants to express their experiences and perspectives in detail while allowing flexibility for follow-up questions. A semi-structured interview guide was specifically developed by the researcher for this study based on a review of the relevant literature and expert feedback. The final English version of the interview guide is provided as Supplementary File 1.

The interviews were conducted by a female researcher with qualitative research training. No prior relationship existed between the researcher and participants. Before each interview, participants were informed about the purpose of the study and the scope of participation.

To enhance content validity and clarity, the interview questions were reviewed by experts in the field. Prior to data collection, a pilot study was conducted to assess the comprehensibility and relevance of the interview questions. The pilot interviews involved six older adults selected by the researcher, including two individuals aged 65–74, two aged 75–84, and two aged 85 years and older. Based on feedback obtained from these preliminary interviews and evaluations by the thesis advisor, minor revisions were made to improve the interview guide. The final interview guide used in the study is presented in Supplementary File 1.

Interviews were conducted between June 1 and September 15, 2019, primarily in participants' homes. In some interviews, household members who lived with participants were present in the environment. Interviews lasted approximately 30–60 minutes and were conducted in Turkish and, where necessary, in participants' preferred local language with clarification support. Audio recordings were obtained with participants' permission, and field notes were taken during interviews to capture contextual observations and non-verbal information.

Interviews focused on participants' chronic health conditions, their informal learning experiences related to these conditions, sources of health-related knowledge, and coping practices in daily life. Audio-recorded interviews were transcribed verbatim immediately after each interview and anonymized before analysis.

Data Analysis

Data were analysed using content analysis and descriptive analysis. Interview transcripts were read repeatedly to facilitate familiarisation with the data and to identify meaningful units related to informal learning about chronic disease symptoms, causes, and coping strategies.

Initial codes were generated inductively from participants' narratives while also being informed deductively by the literature on informal learning, health literacy, and health-related learning in later life. Codes were compared across interviews and grouped into broader categories reflecting learning resources, learning approaches, and disease-related knowledge. Through an iterative comparative process, categories were refined into overarching themes.

Coding and theme development were conducted collaboratively by the researcher and thesis advisor to enhance analytical consistency. No qualitative data analysis software was used. Findings were interpreted thematically and supported with direct participant quotations to preserve contextual meaning and enhance interpretive credibility.

Trustworthiness

Several strategies were employed to enhance the trustworthiness of the study. Credibility was supported through expert review of the interview guide, pilot interviews, prolonged engagement with participants during in-depth interviews, and the inclusion of direct participant quotations to reflect participants' perspectives accurately.

Dependability and confirmability were strengthened through collaborative coding and theme development conducted by the researcher and thesis advisor, as well as the maintenance of an audit trail documenting analytical decisions throughout the research process. Transferability was supported through detailed descriptions of the study setting, participant characteristics, sampling procedures, and data collection processes to allow readers to assess the applicability of findings to similar contexts.

Member checking was not conducted because many participants had limited literacy and advanced age, making repeated verification interviews impractical. This limitation has been acknowledged when interpreting the findings..

Results

Demographic Characteristics of Participants

Table 1 *Distribution of Older Adults Participating in the Study According to Demographic Characteristics*

Features	Number (f)	Percentage (%)
Gender (n=32)		
Female	11	34.3
Male	21	65.7
Age Groups (n=32)		
65-74 Age	16	50.0
75-84 Age	11	34.3
85 and +	5	15.7
Marital Status (n=32)		
Married	22	68.8
Lost their spouses	10	31.2
Education Status (n=32)		
Illiterate	10	31.3
Primary School Graduate	12	37.5
Secondary School Graduate	4	12.5
High School Graduate	5	15.6
Higher Education/University	1	3.1
Occupation Status (n=32)		
Officer	8	25.0
Worker	9	28.1
Housewife	10	31.2
Tradesmen	3	9.4
Farmer	2	6.3
Employment Status (n=32)		
Never Worked in a Assurance Job	2	6.3
Retired	20	62.5
Housewife	10	31.2

The demographic characteristics of the participants are presented in Table 1. A total of 32 older adults participated in the study. Of the participants, 34.3% were women and 65.7% were men. Half of the

participants (50.0%) were aged 65–74 years, while 34.3% were between 75 and 84 years old, and 15.7% were aged 85 years and above. Most participants were married (68.8%), whereas 31.2% had lost their spouses. No participants reported being unmarried or divorced.

Educational attainment was generally low among the participants. Approximately one-quarter of the sample (31.3%) was illiterate, with women comprising nearly all individuals in this category. Approximately 38% of participants had completed primary school education, whereas the proportion of university graduates was notably low (3.1%). Regarding occupational status, nearly all female participants—representing approximately one-third of the total sample—identified themselves as lifelong homemakers and reported no formal labor-force participation. None of the participants were actively employed at the time of the study.

Overall, the participant profile reflects a predominantly male, low-educated, and retired older population, many of whom had longstanding experiences of aging-related health conditions and limited formal educational opportunities.

Prevalence of Chronic Diseases Among Participants

Table 2 *Distribution of Chronic Diseases of the Elderly Participating in the Study by Gender*

Chronic diseases	Gender		Total	
	Women (f)	Men (f)	Number (f)	%
Heart Failure	4	11	15	20.6
Hypertension	8	7	15	20.6
Diabetes mellitus	6	4	10	13.6
Goiter	4	2	6	8.2
Rheumatism	1	4	5	6.8
Osteoporosis	4	-	4	5.5
Prostate disease	-	4	4	5.5
Cholesterol	1	2	3	4.1
Vertigo (dizziness)	2	1	3	4.1
COPD	1	1	2	2.7
Chronic Pharyngitis	1	1	2	2.7
Cancer	-	1	1	1.4
Depression	-	1	1	1.4
Kidney failure	-	1	1	1.4
Gout(protein disease)	-	1	1	1.4
Total	**32**	**41**	**73**	**100**

*Participants reported multiple chronic conditions; therefore, frequencies exceed the total number of participants.

The distribution of chronic diseases reported by the participants is presented in Table 2. Participants reported multiple chronic conditions, reflecting the complex health profiles commonly observed in older adulthood. Since several participants experienced more than one chronic disease, the frequency of illnesses exceeded the total number of participants (n = 32). The most frequently reported chronic conditions were heart failure (20.6%) and hypertension (20.6%), followed by diabetes mellitus (13.6%). Thyroid disorders (goiter) (8.2%), rheumatism (6.8%), osteoporosis (5.5%), and prostate disease (5.5%) were also commonly reported. Less prevalent conditions included hypercholesterolemia (4.1%), vertigo (4.1%), chronic obstructive pulmonary disease (COPD) (2.7%), chronic pharyngitis (2.7%), cancer (1.4%), depression (1.4%), kidney failure (1.4%), and gout (1.4%).

Gender differences were observed in the distribution of certain chronic conditions. Heart failure was reported more frequently among men, whereas hypertension and diabetes were more commonly

reported among women. Osteoporosis appeared exclusively among women, while prostate-related disorders were reported only by male participants.

Overall, the findings indicate that cardiovascular and metabolic diseases constituted the most prevalent chronic health conditions among the participants, highlighting the importance of understanding how older adults develop informal knowledge regarding symptom recognition, disease causation, and chronic disease self-management.

Theme 1: Learning to Recognize Chronic Disease Symptoms

Participants described learning about the symptoms of chronic diseases primarily through personal experience, consultation with healthcare professionals, and, to a much lesser extent, self-directed information seeking through digital sources. However, a substantial proportion of participants also reported having limited or no knowledge regarding disease symptoms.

Learning Through Personal Experience

Experiential learning emerged as the most prominent pathway through which participants recognized and interpreted disease symptoms. Older adults frequently reported identifying symptoms through repeated bodily experiences and gradual familiarity with recurring physical changes associated with chronic illness. Through lived experience, participants developed individualized understandings of symptom patterns, severity, and bodily warning signs.

Participants with diabetes, hypertension, vertigo, rheumatism, prostate disease, and cardiovascular conditions particularly emphasized learning through symptom monitoring and repeated exposure to illness-related episodes. For example, one participant described recognizing fluctuations in blood glucose levels through bodily sensations:

“When my blood sugar drops, I shake badly and immediately feel the need to eat something sweet… When dizziness and nausea start, I understand that it is vertigo” (P1, female, age 65).

Similarly, another participant explained recognizing diabetes and hypertension symptoms through recurring physical discomfort:

“My feet burn like fire, my mouth becomes dry, and I often go to the toilet… When my blood pressure rises, I feel dizzy” (P28, female, age 72).

Participants experiencing cardiovascular and respiratory diseases similarly described learning to associate symptoms such as shortness of breath, fatigue, swelling, and mobility difficulties with disease progression. Repeated bodily encounters enabled participants to interpret physical discomfort as meaningful health indicators, reflecting a process of experiential informal learning.

Learning Through Consultation With Healthcare Professionals

Consultation with physicians constituted the second most common learning pathway regarding disease symptoms. Approximately one-quarter of participants reported learning symptom-related information during medical examinations or follow-up consultations. Participants described receiving explanations about symptom meanings, disease progression, or diagnostic outcomes from physicians.

For instance, one participant reported learning about osteoporosis only after receiving a clinical explanation:

"I did not understand what osteoporosis was at first. Later, when I became hunched over, the doctor told me that I had osteoporosis" (P3, female, age 68).

Likewise, participants with cardiovascular conditions explained that they became aware of symptom severity through physician consultations and diagnostic procedures. In these cases, healthcare professionals played a key role in helping participants interpret bodily changes and connect symptoms with chronic disease diagnoses.

Self-Directed Learning Through Digital Sources

Only one participant reported using internet-based resources to learn about disease symptoms. This participant described independently searching for information while also relying on family support due to visual limitations:

"I try to research it myself. Sometimes I ask my children because I cannot read things on the internet very well" (P1, female, age 65).

Limited Knowledge About Disease Symptoms

Notably, nearly one-third of participants reported limited or no knowledge concerning the symptoms of their chronic illnesses. Several participants expressed dissatisfaction with physician communication, stating that healthcare providers focused primarily on prescribing medication without offering sufficient explanations about disease symptoms or progression.

One participant remarked:

"They give me medicine, but they do not explain anything" (P29, male, age 77).

Another participant similarly stated:

"I do not know anything about it" (P16, female, age 83).

Overall, participants reported learning disease symptoms primarily through lived experience and physician consultation, whereas self-directed learning through digital sources remained limited.

Theme 2: Learning About the Causes of Chronic Disease

Participants reported learning about the causes of chronic diseases through multiple informal pathways, including consultation with healthcare professionals, personal experience, prior professional knowledge, and guidance from relatives. Nevertheless, a considerable number of participants reported limited or no understanding of the causes underlying their illnesses.

Learning Through Consultation With Healthcare Professionals

Consultation with physicians emerged as the most frequently reported source of learning about disease causation. Participants described acquiring knowledge regarding the origins or risk factors of their chronic illnesses during medical examinations, follow-up visits, or diagnostic procedures. Physician explanations often focused on hereditary predisposition, lifestyle-related risk factors, smoking, medication effects, or underlying physiological mechanisms.

For example, participants reported learning that cardiovascular conditions were associated with vascular blockage and cholesterol accumulation, while others learned that smoking contributed to respiratory illness. One participant explained:

"I smoked cigarettes and was affected by the cold… the doctor told me that this is why I developed COPD" (P5, male, age 77).

Similarly, another participant linked cardiovascular disease to hereditary and physiological factors following medical consultation:

"The doctor told me that it was hereditary… these illnesses run in the family" (P22, female, age 65).

Participants also described learning about disease causation in relation to menopause, early hormonal changes, medication-related complications, dietary habits, and passive smoking exposure. In these cases, physicians functioned as key mediators of health-related knowledge, helping older adults interpret the biological and behavioral origins of chronic disease.

Learning Through Personal Experience

Experiential learning represented the second most common pathway through which participants interpreted the causes of their illnesses. Rather than emphasizing biomedical explanations, participants often attributed chronic disease development to emotionally and socially experienced life conditions, particularly stress, sadness, psychological distress, insomnia, and aging.

For many participants, chronic illness was understood through accumulated life experiences and perceived emotional burdens. One participant explained:

"Stress was the biggest factor for me… I did not drink alcohol or have other risks, but I had stress" (P2, male, age 65).

Similarly, emotional hardship and psychological strain were frequently associated with hypertension and other chronic conditions:

“It happens because of sadness and stress” (P28, female, age 72).

Several participants also associated illness with loneliness, family-related emotional burdens, and deteriorating psychological well-being.

Learning Through Prior Knowledge and Family Networks

A small number of participants reported learning about disease causation through prior knowledge or family-based consultation. One participant with a healthcare background drew upon professional experience to explain conditions such as insulin resistance and vertigo:

“Since we are health professionals, I know this from my professional life” (P1, female, age 65).

Likewise, another participant described learning about the relationship between body weight and hypertension through a daughter who worked as a nurse:

“My daughter told me that my blood pressure was related to my weight” (P8, male, age 66).

Limited Knowledge About Disease Causes

Despite these learning pathways, several participants reported having little or no understanding of why they had developed chronic illnesses. Some participants expressed uncertainty, while others attributed illness to fate or divine causes. Others reported that physicians had not adequately explained disease origins or that they did not feel sufficiently informed during healthcare encounters.

One participant stated:

“I have no idea why” (P9, male, age 75).

Another remarked:

“I do not know anything about it” (P13, male, age 72).

Overall, the findings demonstrate that physician consultation constituted the primary source of informal learning about the causes of chronic diseases, while experiential learning centered on emotional distress, stress, and aging also played a significant role.

Theme 3: Learning Coping and Self-Management Strategies

Participants reported learning how to cope with and manage chronic diseases through a variety of informal pathways, including consultation with healthcare professionals, personal experience, written materials, family and social networks, prior knowledge, and television-based health information. Among

these, physician consultation and experiential learning emerged as the most prominent sources shaping chronic disease self-management practices.

Learning Through Consultation With Healthcare Professionals

Consultation with physicians represented the most commonly reported pathway for learning how to manage chronic diseases. Participants described following medical recommendations related to medication adherence, routine check-ups, dietary restrictions, symptom monitoring, hydration, and surgical interventions. In many cases, physician guidance provided the foundation for participants' day-to-day disease management behaviors.

For example, one participant emphasized adherence to medical advice in managing heart disease:

"I regularly go to my doctor, have my check-ups, follow my doctor's advice, and take my medication regularly" (P7, female, age 71).

Similarly, participants with diabetes and kidney disease described learning practical management strategies through physician consultation, including medication use and preventive care practices:

"When my blood sugar drops, I eat something sweet… I learned this from the doctor" (P21, female, age 65).

Participants also described following physician-prescribed dietary recommendations, monitoring disease progression through clinical examinations, and making treatment decisions based on medical advice. These findings suggest that physicians functioned as central agents in facilitating informal learning related to chronic disease self-management.

Learning Through Personal Experience

Experiential learning emerged as another major pathway through which participants developed coping strategies for chronic illness. Older adults frequently described modifying their daily behaviors through repeated experiences of symptoms, discomfort, and illness-related limitations. Over time, participants developed individualized strategies aimed at preventing symptom aggravation and maintaining physical functioning.

For instance, participants with vertigo described avoiding sudden movements to prevent dizziness and falls:

"I avoid sudden movements because I know I may fall" (P1, female, age 65).

Similarly, participants with hypertension and diabetes explained learning to recognize bodily warning signs and responding through practical interventions such as consuming sweet foods during hypoglycemic episodes or using home remedies to relieve symptoms:

"When my blood sugar drops, I immediately eat something sweet and it improves" (P26, male, age 77).

Some participants also adapted their living environments or daily routines to alleviate chronic symptoms. One participant reported changing residential settings due to worsening rheumatic pain, while others described avoiding confined spaces, reducing physical strain, or altering movement patterns in response to illness experiences. These findings indicate that coping behaviors often developed through a process of trial, observation, and experiential adjustment.

Learning Through Written Materials and Prior Knowledge

A limited number of participants reported self-directed learning through written materials or pre-existing professional knowledge. One participant described applying health-related guidance encountered through religious reading and written information to dietary self-regulation practices:

"I learned from what I read and applied it to myself" (P2, male, age 65).

Another participant reported learning how to use a monitoring device through reading instructional materials with family assistance. In addition, a former healthcare professional explained managing blood glucose levels based on prior occupational knowledge and regular monitoring practices.

Learning Through Family, Social Networks, and Media

Family members, friends, and broader social environments also played a role in shaping disease management practices. Participants reported learning practical coping strategies through recommendations from spouses, children, relatives, and peers, particularly regarding dietary practices and symptom relief methods.

For example, one participant described using traditional remedies based on social recommendations:

"We hear these things from friends and family… using lemon and garlic for blood pressure" (P10, female, age 77).

Likewise, children occasionally acted as important facilitators of health learning by teaching participants how to use medical devices or providing illness-related explanations.

Television-based health programs constituted another, though limited, source of informal learning. One participant described watching physicians on television to gain information about disease management:

"There is a doctor on television… I watch because I have the same disease" (P2, male, age 65).

Diversity in Chronic Disease Self-Management Learning

Overall, participants described learning coping and self-management practices primarily through physician consultation and personal experience, while family members, written materials, and television served as additional sources of information.

Discussion

Principal Findings

This study explored older adults' informal learning experiences regarding chronic diseases in later life and identified three interrelated domains of learning: recognition of disease symptoms, understanding disease causation, and coping/self-management practices. Overall, the findings indicate that older adults acquire health-related knowledge predominantly through informal and experience-based mechanisms, with physicians serving as important—but not always sufficient—sources of information. Participants primarily relied on bodily experiences, healthcare encounters, family networks, and occasionally media or written materials to make sense of chronic illness in everyday life. However, substantial disparities in access to understandable health information were also observed, particularly among participants with lower educational attainment.

These findings contribute to the growing literature on lifelong and informal learning in later life by demonstrating that chronic illness itself becomes a context for continuous learning and adaptation in older adulthood. While formal educational opportunities may decline with age, older adults continue to engage in ongoing learning processes aimed at preserving daily functioning, autonomy, and well-being. In this respect, chronic disease management can be understood as a form of lifelong learning embedded within everyday lived experience [1,2].

Importantly, the findings also suggest that informal health learning among older adults is not exclusively biomedical in nature. Participants frequently interpreted illness through personal, emotional, and social experiences, reflecting multidimensional understandings of health and ageing. This finding supports previous research indicating that older adults construct health knowledge by integrating professional medical advice with experiential knowledge developed through everyday life [7,8].

Theme 1. Learning to Recognize Chronic Disease Symptoms

The findings revealed that experiential learning constituted the dominant pathway through which older adults recognized and interpreted chronic disease symptoms, whereas consultation with physicians represented a secondary but important source of learning. Participants frequently reported learning symptom patterns through repeated bodily experiences, gradually associating specific sensations—such as dizziness, fatigue, pain, numbness, dry mouth, or shortness of breath—with particular chronic conditions. Through repeated encounters with illness-related bodily changes, participants developed practical forms of symptom literacy grounded in lived experience.

Consistent with earlier research theories of informal and experiential learning, which suggest that individuals acquire meaningful knowledge through everyday experiences rather than solely through structured educational settings [9]. Experiential learning becomes particularly important in later life because ageing-related changes and chronic illnesses create recurring situations that require adaptation, interpretation, and problem-solving. Older adults often learn to identify bodily warning signs

through observation and repeated exposure, transforming lived experience into practical health knowledge [10].

The prominence of experiential learning observed in this study supports broader literature suggesting that older adults frequently develop embodied forms of illness knowledge through repeated bodily experiences and everyday symptom monitoring [10,11]. Through recurring encounters with dizziness, fatigue, pain, or fluctuations in blood glucose and blood pressure, participants gradually transformed lived experiences into practical symptom awareness. In this respect, chronic illness itself appeared to function as an ongoing context for informal learning in later life.

At the same time, consultation with healthcare professionals emerged as an important complementary learning mechanism. Participants who reported receiving explanations from physicians appeared to possess greater awareness regarding disease symptoms and symptom progression. This finding is consistent with studies emphasizing the role of physician-patient communication in promoting health literacy and disease understanding among older populations [12]. Effective communication with healthcare professionals may support older adults in interpreting bodily experiences and integrating medical explanations into everyday self-management.

However, a notable finding of this study was that approximately one-third of participants reported having limited or no knowledge regarding disease symptoms, often attributing this to insufficient explanations from physicians. Several participants described healthcare encounters as medication-focused and expressed dissatisfaction with limited communication regarding disease progression or symptom recognition. Similar concerns have been reported in previous studies showing that older adults may experience barriers to meaningful communication in healthcare settings, particularly when limited consultation time, low health literacy, or educational disadvantages are present [13].

Educational attainment also appeared to shape informal learning opportunities in this study. Participants with lower levels of formal education were more likely to report inadequate knowledge regarding symptom recognition. Although this relationship was not statistically examined, the pattern aligns with broader evidence indicating that limited education is associated with lower health literacy and reduced access to understandable health information in later life [14]. In contexts where older adults have restricted formal educational experiences, informal learning through interpersonal communication and lived experience may become especially significant for health-related decision-making.

Taken together, these findings suggest that symptom-related learning among older adults reflects a dynamic interaction between embodied experience and professional medical guidance. While experiential learning enabled participants to develop practical symptom awareness, physician communication appeared essential for strengthening disease understanding and preventing informational gaps. From a geriatric care perspective, these findings highlight the importance of age-sensitive, comprehensible, and repeated health communication strategies that acknowledge older adults' experiential knowledge while also supporting informed symptom recognition and timely disease management.

Theme 2. Learning About the Causes of Chronic Disease

The findings demonstrated that older adults learned about the causes of chronic diseases primarily through physician consultation and experiential interpretation, while prior professional knowledge and family-based support functioned as supplementary sources of learning. At the same time, a considerable proportion of participants reported uncertainty or limited understanding regarding disease etiology. These findings suggest that older adults' understanding of chronic disease causation is shaped through a dynamic interaction between biomedical explanations and experiential interpretations of everyday life circumstances.

Consultation with healthcare professionals emerged as the dominant source of learning regarding disease causation. Participants frequently reported learning about the origins of chronic conditions through explanations provided by physicians during medical consultations, diagnostic evaluations, or treatment processes. Explanations concerning hereditary predisposition, smoking, diet, medication use, cardiovascular blockage, hormonal changes, and chronic physiological deterioration were commonly cited. Participants often integrated these explanations into their broader understanding of illness development.

This finding aligns with previous evidence indicating that healthcare professionals play a central role in shaping older adults' understanding of chronic disease etiology and risk factors, particularly in contexts where health literacy is limited [12,13]. Physician-provided information may contribute to greater disease awareness, facilitate treatment adherence, and support informed health decision-making in later life. In particular, chronic disease management among older adults often depends on repeated interactions with healthcare systems, making physician communication a critical component of informal health learning [15].

However, the findings also revealed that participants frequently interpreted disease causation through experiential and psychosocial lenses, often attributing chronic illnesses to emotional distress, sadness, stress, insomnia, loneliness, and the cumulative burdens of ageing. Rather than relying exclusively on biomedical explanations, many participants understood disease development through everyday experiences and emotionally meaningful life events. Chronic illness was frequently framed as a consequence of prolonged hardship, family-related concerns, psychological strain, or social suffering.

Participants frequently combined biomedical explanations provided by physicians with interpretations grounded in emotional and everyday experiences, particularly stress, sadness, and accumulated life burdens. Rather than relying solely on biomedical reasoning, chronic illness was often understood through personally meaningful life experiences. This pattern echoes Bury's concept of biographical disruption, whereby illness is interpreted through lived experience and changing life circumstances [16].

Participants frequently combined biomedical explanations with emotionally meaningful life experiences, reflecting multidimensional understandings of illness commonly reported in chronic illness literature.

A smaller number of participants reported learning about disease causes through prior professional knowledge or medically informed family members, indicating the importance of social and educational resources in facilitating health understanding. Participants with healthcare-related backgrounds or access to medically knowledgeable relatives appeared to possess more structured understandings of disease mechanisms. Previous studies similarly suggest that social capital and access to informed support networks can positively influence health literacy and chronic disease management among older adults [14].

Nevertheless, an important finding of this study was that several participants reported having little or no understanding of the causes of their illnesses, with some attributing disease development to fate or divine will. Others stated that physicians had not adequately explained disease etiology or that they did not understand the information provided during healthcare encounters. These findings echo previous evidence demonstrating that limited educational attainment, restricted health literacy, and communication barriers may contribute to unequal access to understandable health information among older populations [13,14].

The prominence of uncertainty surrounding disease causation is particularly noteworthy in the context of lifelong and informal learning. Lifelong learning frameworks emphasize individuals' ability to seek, interpret, and apply information throughout life [1,17]. However, older adults' opportunities to engage in health-related learning may be constrained by educational disadvantage, limited digital literacy, age-related sensory changes, and communication barriers in healthcare environments. In such contexts, informal learning becomes unevenly distributed, potentially contributing to disparities in disease understanding and self-management capacities.

Overall, the findings indicate that older adults' learning regarding chronic disease causation reflects the coexistence of medical knowledge and experiential meaning-making. While physicians remained the principal source of biomedical explanations, participants frequently interpreted illness through emotional, social, and life-course experiences. These findings underscore the importance of patient-centered communication approaches that acknowledge older adults' lived experiences while simultaneously strengthening their access to comprehensible and evidence-based health information. From a geriatric care perspective, improving explanatory communication regarding disease etiology may support not only disease understanding but also greater engagement in preventive and self-management behaviors.

Theme 3. Learning Coping and Self-Management Strategies

The findings revealed that older adults learned strategies for coping with and managing chronic diseases through multiple informal pathways, most notably physician consultation and experiential learning. Family members, social networks, written materials, television-based information, and prior professional knowledge also functioned as complementary sources of learning. Overall, the findings indicate that chronic disease self-management in later life is embedded within a multidimensional

process of informal learning shaped by both professional medical guidance and everyday lived experience.

Among all learning pathways, consultation with healthcare professionals emerged as the primary source of knowledge regarding coping and disease management practices. Participants frequently described learning medication routines, dietary adjustments, hydration practices, symptom monitoring, follow-up care, and treatment-related decision-making through physician recommendations. For many participants, healthcare professionals served as central mediators of practical disease-management knowledge, particularly regarding medically prescribed behaviors.

Consistent with earlier research extensive literature emphasizing the importance of healthcare professionals in supporting chronic disease self-management among older adults [16,18]. Self-management requires individuals to develop practical competencies related to symptom control, medication adherence, lifestyle modifications, and healthcare utilization. In later life, physician guidance may become especially influential because chronic disease often involves ongoing clinical monitoring and complex treatment regimens [19].

At the same time, the findings demonstrate that experiential learning represented a major pathway through which older adults developed individualized coping strategies. Participants described learning through repeated bodily experiences, trial-and-error practices, and observation of symptom fluctuations over time. Rather than solely relying on external advice, many older adults modified their daily behaviors in response to recurring physical discomfort and illness-related limitations. Strategies such as avoiding sudden movements to prevent vertigo, consuming sweet foods during hypoglycemic episodes, avoiding physically demanding situations, and altering living environments were developed through accumulated experience.

The findings indicate that older adults gradually developed individualized management strategies through repeated encounters with symptoms and daily disease experiences. Consistent with chronic illness self-management literature, participants appeared to transform repeated bodily experiences into practical forms of coping and self-regulation [11,18].

In addition to physicians and personal experience, family members and social networks played an important supportive role in informal disease-management learning. Participants described learning coping practices from spouses, children, friends, and relatives, particularly concerning dietary modifications, symptom relief, and the use of monitoring devices. In some cases, family members acted as mediators of health information by teaching device use or translating medical advice into more understandable forms.

This finding is supported by previous studies showing that family support significantly contributes to chronic illness adaptation and self-management among older adults [20]. Older adults frequently depend on family members for informational, emotional, and practical assistance, especially when health literacy

or physical limitations restrict independent information seeking. In collectivist social contexts, family networks may become especially important channels of informal health learning.

Television programs, written materials, and prior professional knowledge represented less common but noteworthy learning pathways. A small number of participants reported applying information obtained through televised health programs, religious texts, or instructional materials to regulate diet, medication practices, or symptom management. Participants with healthcare-related occupational backgrounds appeared to demonstrate greater confidence in disease monitoring and interpretation, suggesting that educational and professional experiences may shape self-management capacities later in life.

Nevertheless, the findings also indicate considerable inequalities in self-management learning opportunities. Although some participants actively integrated medical advice, prior knowledge, and self-monitoring into disease management, others appeared more dependent on passive care practices or informal remedies. Lower educational attainment, limited literacy, and restricted access to understandable health information may partially explain these differences. Previous research consistently demonstrates that health literacy is strongly associated with self-management capacity, medication adherence, and health outcomes among older populations [13,14].

Importantly, participants frequently combined biomedical recommendations with experiential and culturally embedded practices, including home remedies and socially transmitted health advice. Rather than replacing physician recommendations, these practices often coexisted with medical treatment. Similar findings have been reported in studies of chronic illness management showing that older adults commonly integrate professional medical advice with culturally meaningful and socially learned coping practices [21].

Overall, the findings suggest that coping and self-management learning among older adults reflects a hybrid process integrating professional guidance, experiential adaptation, and social support systems. While physicians served as key facilitators of biomedical management, older adults actively transformed lived experiences into individualized coping practices. These findings underscore the need for geriatric care approaches that move beyond one-way information delivery and instead recognize older adults as active learners whose experiential knowledge can contribute meaningfully to disease management. Strengthening age-appropriate communication, family-inclusive interventions, and accessible health education may further support older adults' self-management capacities and health-related autonomy.

Although data were collected in 2019, the study addresses enduring processes of informal learning and chronic disease management in later life, which remain highly relevant for ageing populations.

Limitations of the Study

This study has several limitations that should be considered when interpreting the findings. First, the study was conducted with a relatively small sample of older adults living in the central Artuklu district of Mardin, Türkiye. Although maximum variation sampling was employed to capture diverse experiences,

the findings reflect the perspectives of a specific sociocultural and geographical context and therefore may not be transferable to all older adult populations in Türkiye or other settings. Older adults living in metropolitan areas, institutional care settings, or different cultural environments may have distinct informal learning experiences related to chronic disease management.

Second, the study included only community-dwelling older adults with sufficient cognitive functioning and hearing ability to participate in face-to-face interviews. Older adults with cognitive impairment, advanced frailty, severe sensory limitations, or those residing in institutional care settings were excluded. Consequently, the findings may not fully represent the informal learning experiences of more vulnerable older populations, who may encounter different barriers to health-related learning and chronic disease self-management.

Third, the findings were based on participants' self-reported experiences and retrospective accounts, which may have been influenced by recall bias, selective memory, and subjective interpretation. However, because the primary aim of the study was to explore older adults' lived experiences and meaning-making processes, these subjective accounts represent an important source of qualitative insight rather than merely a methodological limitation.

Fourth, although the study identified apparent differences in informal learning experiences according to participants' educational backgrounds, these relationships were not statistically examined because of the qualitative research design. Therefore, causal inferences cannot be made. Future mixed-methods and quantitative studies are warranted to further investigate how sociodemographic characteristics influence informal health learning among older adults.

Fifth, the interviews were conducted in 2019, before the rapid expansion of digital health communication and telehealth services following the COVID-19 pandemic. Consequently, participants' limited use of internet-based health information may partly reflect the temporal context in which the data were collected. Nevertheless, the core processes of informal learning from personal experience, family members, peers, and healthcare professionals identified in this study remain highly relevant and continue to underpin chronic disease self-management among older adults.

Finally, because participation was voluntary, selection bias cannot be excluded, as individuals who agreed to participate may have been more willing to discuss their health experiences than those who declined participation.

Despite these limitations, this study provides an in-depth understanding of how older adults acquire and construct health-related knowledge outside formal educational settings. By foregrounding older adults' own perspectives, the findings contribute to the literature on informal learning, health literacy, and chronic disease self-management and offer practical implications for geriatric care, patient education, health communication, and lifelong learning policies.

Conclusion

This study demonstrated that older adults engage in predominantly informal learning processes to understand and manage chronic diseases in later life. Participants primarily learned about disease symptoms, causes, and coping strategies through lived experience and physician consultation, while family networks and media-based resources played more limited roles.

The findings highlight important inequalities in access to understandable health information, particularly among older adults with lower educational attainment. Strengthening age-sensitive physician–patient communication and recognising older adults' experiential knowledge may support health literacy and chronic disease self-management in geriatric care.

Future research should examine informal health learning across more diverse older populations and explore the evolving role of digital health resources in later life.

Declarations

Ethics approval and consent to participate

Ethical approval for this study was obtained from the Ankara University Social Sciences Sub-Ethics Committee (Decision No. 226, May 27, 2019). All procedures involving human participants were performed in accordance with the ethical standards of the institutional research committee and with the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards. Verbal informed consent was obtained from all participants prior to data collection because some participants had limited literacy and written consent could have caused discomfort or reduced participation. Participant anonymity and confidentiality were maintained throughout the study.

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Authors' contributions: SC conceived and designed the study, collected and analysed the data, interpreted the findings, and drafted and revised the manuscript. The author read and approved the final manuscript.

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