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DOI: 10.15225/PNN.2026.15.1.6 JNNN 2026;15(1):36–43 **Review**

Self-Care Impairments Related to Cyberchondria in Elderly Individuals with Chronic Diseases

Zaburzenia samoopieki związane z cyberchondrią u osób starszych z chorobami przewlekłymi

Hatice Gülsoy

Department of Nursing, Division of Fundamentals of Nursing, Faculty of Health Sciences,
Alanya Alaaddin Keykubat University, Alanya, Antalya, Turkey

Abstract

With the global increase in the elderly population, the prevalence of chronic diseases is also rising, requiring healthcare systems to focus more intensively on the long-term care needs of older adults. Self-care behaviors play a central role in the health management of elderly individuals with chronic illnesses. However, in the digital age, intensive online searches for health-related information may disrupt rather than support self-care processes. In this context, cyberchondriaa state of health anxiety triggered by persistent online health information seekinghas emerged as a growing digital health behavior issue, especially among older adults.

Limited digital health literacy, high sensitivity to uncertainty, and increased dependency contribute to the elevated risk of cyberchondria in this population, leading to negative outcomes such as poor treatment adherence, reliance on inaccurate information, anxiety disorders, and impaired self-care behaviors. This review examines the prevalence of cyberchondria and its impact on self-care among elderly individuals with chronic diseases, using epidemiological and behavioral data from regions with high aging populations, including the European Union, the United States, and Japan. Findings suggest that while older adults increasingly seek health information online, the quality and interpretation of the information accessed significantly influence their health outcomes. In this process, nurses play a key role in ensuring safe access to information and managing anxiety through guidance and education. **(JNNN 2026;15(1):36–43)**

Key Words: cyberchondria, digital health literacy, elderly individuals, nursing care, self-care

Streszczenie

Wraz ze wzrostem globalnej populacji osób starszych wzrasta również częstość występowania chorób przewlekłych, co wymaga od systemów opieki zdrowotnej intensywniejszego skoncentrowania się na potrzebach długoterminowej opieki dla osób starszych. Zachowania związane z samoopieką odgrywają kluczową rolę w zarządzaniu zdrowiem osób starszych cierpiących na choroby przewlekłe. Jednak w erze cyfrowej intensywne wyszukiwanie informacji zdrowotnych w Internecie może zakłócać, zamiast wspierać, procesy samoopieki. W tym kontekście cyberchondria — stan lęku zdrowotnego wywołany uporczywym poszukiwaniem informacji zdrowotnych online — pojawiła się jako rosnący problem w zakresie cyfrowych zachowań zdrowotnych, zwłaszcza wśród osób starszych.

Ograniczona cyfrowa wiedza zdrowotna, wysoka wrażliwość na niepewność oraz wzrost poziomu zależności przyczyniają się do zwiększonego ryzyka cyberchondrii w tej populacji, prowadząc do negatywnych skutków, takich jak niska zgodność z leczeniem, poleganie na niedokładnych informacjach, zaburzenia lękowe oraz osłabienie zachowań samoopiekuńczych. Niniejszy przegląd analizuje rozpowszechnienie cyberchondrii i jej wpływ na samoopiekę wśród osób starszych z chorobami przewlekłymi, wykorzystując dane epidemiologiczne i behawioralne z regionów o wysokim udziale starzejącej się populacji, takich jak Unia Europejska, Stany Zjednoczone i Japonia. Wyniki wskazują, że chociaż osoby starsze coraz częściej poszukują informacji zdrowotnych w Internecie, to jakość i sposób interpretacji uzyskanych informacji w znacznym stopniu wpływają na ich wyniki zdrowotne. W tym procesie pielęgniarki odgrywają kluczową rolę w zapewnieniu bezpiecznego dostępu do informacji oraz zarządzaniu lękiem poprzez doradztwo i edukację. **(PNN 2026;15(1):36–43)**

Słowa kluczowe: cyberchondria, cyfrowa wiedza zdrowotna, osoby starsze, opieka pielęgniarska, samoopieka

Introduction

Within the framework of global demographic transformation, the proportion of elderly individuals in the total population is steadily increasing, reshaping the priorities of healthcare systems [1,2]. According to the World Health Organization (WHO), the number of people aged 60 and over is expected to exceed two billion by 2050 [3–5]. This demographic shift is accompanied by a significant rise in the prevalence of chronic diseases [2,6–8]. Conditions such as hypertension, diabetes, chronic obstructive pulmonary disease (COPD), cardiovascular diseases, and osteoarthritis are among the primary health problems that negatively affect the quality of life in older adults [7,9,10]. The effective management of chronic diseases involves not only the implementation of medical treatments, but also an ongoing process that requires active participation, personal responsibility, and the sustainable use of self-care abilities [11–14].

In this context, the ability of individuals to access, comprehend, and integrate health-related information into their decision-making processes becomes critically important [11,15–17]. In the digital age, access to health information is largely facilitated through the internet [11,17–19]. In recent years, with the widespread adoption of digital health platforms, individuals increasingly turn to the internet to investigate their symptoms, seek disease-related knowledge, and shape their own health decisions [20,21]. However, this behavior does not always yield positive outcomes. At this point, the concept of cyberchondria, widely discussed in the literature, becomes relevant [1,22]. Cyberchondria is defined as the persistent online search for health-related information in response to physical symptoms, which, instead of alleviating concerns, leads to heightened anxiety due to information overload, contradictory content, and fear-inducing messages [19,21]. This phenomenon is particularly pronounced among individuals with elevated health anxiety [2,23].

Elderly individuals are considered a more vulnerable group within the digital health information landscape, both cognitively and emotionally [20,23]. Contributing factors include limited digital health literacy, low tolerance for uncertainty, the influence of past health experiences, and inadequate social support systems [12,13]. Additionally, age-related cognitive decline and reduced information filtering capacity may hinder an older person's ability to critically evaluate the vast volume of online information [2,18,19,24]. As a result, older adults may place trust in unverified sources, adopt inappropriate treatment approaches, alter medication use without medical consultation, or refuse recommended therapies. Such behaviors may lead to serious impairments in self-care responsibilities [4,8,14,25,26].

Self-care is a fundamental concept in nursing science and is defined as the individual's ability to independently meet their own health-related needs [2,19,26,27]. According to Dorothea Orem's Self-Care Deficit Theory, nursing care becomes necessary when an individual is unable to meet their health-related needs independently [14,18,21]. Orem emphasized that reductions in self-care capacity necessitate professional nursing interventions [12,18]. From this perspective, decision-making errors based on misinformation due to cyberchondria in elderly individuals may result in self-care deficiencies, thereby expanding the scope of nursing interventions [16,26].

Cyberchondria should not be viewed solely as an individual-level psychological issue, but also as a public health concern that warrants attention from healthcare systems [11,12,14,27]. The anxiety it generates, along with treatment non-adherence, improper medication use, and misuse of healthcare services, can directly affect both individual health outcomes and the overall burden on healthcare systems [7,12,18,28].

The aim of this review is to examine the effects of cyberchondria behaviors on self-care in elderly individuals with chronic illnesses. The study evaluates current literature in the context of digital health literacy, patient safety, and nursing care, and seeks to identify associated risks and provide recommendations for nursing practices, supported by statistical data from countries with high proportions of elderly populations.

Elderly Population Rates and Aging Statistics

The global increase in the elderly population is significantly influencing both the delivery of healthcare services and individuals' digital health behaviors [9,14,17]. In European countries, the proportion of individuals aged 65 and older has reached 21.6% of the total population (for example, in Poland, this rate was 19.6% as of 2023) [4,18,28]. In Türkiye, the proportion of individuals aged 65 and over rose to 10.2% in 2023, and this figure is projected to double within the next 20 years [13,18,28]. In the United States, the number of people over the age of 65 has exceeded 59 million, accounting for approximately 17.7% of the total population [6,11,14,23]. Japan has the highest proportion of elderly individuals in the world at 29%, followed by Italy at 24.5% [3,17,23,28]. These figures indicate that more than one in five people globally is in the older age group, and in some countries, this proportion is approaching one-third of the population [6,19,23]. The increase in the elderly population also brings a higher burden of chronic disease and a growing demand for long-term, comprehensive healthcare services for older adults [4,9,12,28]. This demographic shift necessitates

the adaptation of health systems to become more age-friendly, the expansion of digitally supported care models, and the development of policies tailored to the needs of the elderly [4,8].

Table 1. Distribution of the study sample by country

Region/Country	Proportion of Elderly Population (%)	Year
European Union (EU-27 average)	21,6	2024
Turkey	10,2	2023
United States	17,7	2023
Italy	24,5	2023
Japan	29,1	2023

% — percent

The continuous growth of the elderly population places significant structural and economic pressures on healthcare systems. Population aging not only increases healthcare demands at the individual level but also constitutes a critical risk factor for the sustainability of social security systems [2,4,8,12,20–22]. As the proportion of the working-age population declines and the number of individuals at retirement age rises, the planning of pension funds, healthcare expenditures, and care services requires the adoption of more complex and integrated approaches [6,16,19].

This demographic transformation encompasses not only individuals aged 65 and older but also, more notably, those in the 'oldest-old' category, aged 80 and above. Individuals in this group are more frequently affected by multiple chronic conditions, cognitive impairments, and functional limitations, and thus require more intensive and continuous care. In Europe, people aged 80 and above constituted 6.1% of the total population in 2024, and this figure is projected to rise to 15.3% by the year 2100 [1,4,5,15,19,21]. Such projections highlight the urgent need for comprehensive reforms not only in access to healthcare services, but also in areas such as home care, long-term institutional care, digitally supported monitoring systems, and palliative care [3,6,16,22,24,27].

As population aging reshapes societal needs, healthcare systems must shift from traditional models toward more innovative, person-centered, and digitally integrated approaches. Holistic models capable of addressing the physical, mental, and social health needs of older adults should include multidisciplinary teamwork, telehealth technologies, self-care support tools, and efforts to enhance digital health literacy [7,12,13,27,28]. In this regard, the objective for aging societies should not be limited to expanding the quantity of services, but should also emphasize improving service quality and facilitating the digital inclusion of older individuals as a core strategic priority [2,6,20,23].

Internet Use and Health Information Seeking Among Older Adults

In recent years, there has been a noticeable increase in internet use among older adults; however, these rates remain significantly lower compared to younger populations. Across Europe, just over half of individuals aged 65–74 use the internet, while this rate falls below 30% among those aged 75 and older [3,15]. A similar trend is observed in Turkey, where increasing age correlates with reduced access to and effective use of digital tools [16,18,19,21–23,25]. In the United States, while only 14% of people over the age of 65 used the internet in the early 2000s, this figure has now exceeded 75%. Nonetheless, this remains lower than the internet usage rate of over 95% observed among the general adult population [12,18,25]. These disparities indicate that although older adults are increasingly participating in digitalization, digital inequalities still persist as a significant challenge [7,10,14,18].

In the context of digital health behaviors, not only access but also digital competence plays a critical role. Although the tendency to seek health information online is growing among the elderly, a large proportion of this group lacks basic digital skills [4,13,14,19]. In Europe, only a small segment of older adults who use the internet possess essential digital competencies; many rely on guided use and struggle to navigate digital platforms independently [5,15,22]. This limitation hampers their ability to access reliable health information, analyze data, and make informed health decisions [5,10,14,17].

Digital inclusion among older adults also varies widely between countries [9,12,18,27]. In Northern European countries such as Denmark, Sweden, and the Netherlands, internet access and usage rates among older individuals are relatively high [2,7,20]. In contrast, Eastern European countries such as Bulgaria and Romania report significantly lower levels of digital engagement among the elderly [1,24]. These differences reflect not only individual preferences, but also the influence of national infrastructure investments, educational systems, digital literacy policies, and cultural norms [4,12,25,26].

Among older adults with internet access, common online activities include following digital news sources and searching for health-related information. Individuals frequently seek knowledge about their own health status or that of their family members, focusing on topics such as medications, symptoms, treatment options, and lifestyle recommendations [6,9,12,20,26]. However, engagement in more complex digital tasks such as accessing online public services (e.g., e-government

portals) or making online purchases remains significantly lower among older users compared to younger generations [8,13,16]. This gap is attributed to multiple factors, including lack of confidence in technology, user interface designs that are not age-friendly, and insufficient digital literacy [11,16,27].

While expanding digital access offers new opportunities for personal health management among older adults, it also presents specific risks. Cognitive limitations, low levels of digital health literacy, and difficulties in interpreting online information can lead to confusion, misinterpretation, and increased anxiety [6,11,18,19]. To ensure the integrity of health services, it is essential to implement targeted educational programs, establish technical support systems, and design age-friendly digital interfaces that facilitate safe and accurate access to health information for the elderly [2,9,13,23].

Online Health Information Seeking Behaviors Among Older Adults

Despite facing certain limitations in accessing digital technologies, older adults have shown an increasing tendency to search for health-related information online. Population-based studies conducted across Europe indicate that approximately half of individuals aged 65–74 use the internet as a source of health information [3,8,15,19,20]. However, this proportion decreases significantly among those aged 75 and older. Individuals in the 65–74 age group, often referred to as the "young-old", demonstrate a stronger inclination to access digital health information, while those in the "oldest-old" category (75+) tend to engage more cautiously with online resources [10,15,19,20,28].

Notable differences are observed across European Union member states. In Northern and Western European countries such as Finland, the Netherlands, and Denmark, the prevalence of online health information seeking is relatively high. In these regions, a significant proportion of older adults have access to digital resources and actively use them to support their health-related decisions [2,5,10,12,18,28]. In contrast, in Eastern and Southeastern European countries such as Bulgaria and Romania, the rate of digital health information seeking among the elderly is markedly lower. These disparities stem not only from individual preferences but also from differences in digital infrastructure, educational attainment, and trust in national healthcare systems [1,21,23,26].

The frequency and diversity of online health information seeking also vary by age. Studies show that approximately half of those aged 65–74 have conducted at least one online health search, and about one-third report regularly consulting multiple sources. A smaller portion of this age group never uses the internet for health-related purposes [3,8,11,17,22,24]. Among those aged 75 and older, more than 60% report never searching for health information online, and the proportion using multiple sources declines significantly [5,13,16,21,24]. This pattern suggests that as age increases, there is a noticeable reduction in both the frequency and variety of information-seeking behaviors [1,9,16,25].

Older adults who do search for health information online often use it as a reference in their health decision-making processes. In some cases, they consult the internet either before or after speaking with a healthcare professional [5,11,15]. A significant proportion of those aged 65–74 report conducting research prior to visiting a healthcare facility, and nearly half believe that their physicians are supportive of this behavior [1,8,17–19,21]. However, this perception tends to diminish with age; those aged 75 and over not only search less frequently but also feel less supported by healthcare professionals when doing so [3,9,10,14,26].

These findings demonstrate that older adults are not merely passive recipients of healthcare services but also take an active role in accessing, evaluating, and utilizing health information [3,4,17,26]. To ensure that this process remains safe and effective, it is essential to strengthen digital health literacy, promote the use of age-sensitive digital platforms, and establish a communication bridge between healthcare providers and patients that incorporates the responsible use of digital health information [4,13,20,28].

Prevalence and Characteristics of Cyberchondria in Older Adults

Cyberchondria is defined as the escalation of anxiety resulting from repeated online searches about perceived health symptoms [5,6,14,23]. With the widespread accessibility of digital information, cyberchondria is no longer a phenomenon exclusive to younger populations; it has also become a subject of investigation among older adults [6,7,15,28]. Various studies have shown that a significant proportion of individuals who search for health-related information online exhibit symptoms of cyberchondria [16,20,22,24]. This tendency is particularly pronounced among older individuals who have not previously experienced major health problems and who already exhibit high levels of health-related anxiety [15,19,24]. Some research suggests a positive correlation between advancing age and cyberchondria, reporting that the tendency toward cyberchondria increases with age [6,18,22].

However, there is no clear consensus on this issue. Some studies in the literature argue that younger individuals, who spend more time in digital environments and are more frequently exposed to health information,

may be more susceptible to cyberchondria [4,11,20,27]. From this perspective, the limited internet use among older adults could act as a protective factor against such anxiety-related disorders [1,15,25]. Nevertheless, among older adults who do have access to digital tools and possess higher levels of digital literacy, especially those with low tolerance for health-related uncertainty, the risk of cyberchondria remains significant [11,18].

There appears to be a direct relationship between cyberchondria and health anxiety [3,9,19,22]. Studies conducted during the COVID-19 pandemic revealed that older adults experienced heightened anxiety in the face of uncertainty, often supported by repeated internet searches [3,7,23]. Even simple symptoms frequently led users to alarming content associated with severe diseases, resulting in unnecessary fear and psychological stress [10,12,14]. Older adults with low digital health literacy find it particularly challenging to critically assess such information, leaving them vulnerable to misinformation and cognitive overload [7,8,28].

On the other hand, certain individual protective factors have also been identified. Optimistic personality traits observed in many older adults have a buffering effect against cyberchondria, as individuals with positive cognitive styles tend to be more resilient to distressing online health content [22,28]. This finding underscores the importance of focusing on confidence- and hope-based messages rather than fear-based communication in health literacy education for the elderly [3,13,16].

Gender differences have also emerged as a possible influencing factor in cyberchondria tendencies [11,17]. Female individuals tend to seek health-related information more frequently and earlier than males, often using the internet actively to research symptoms and treatment options [2,12,20]. However, current studies have not reached a definitive conclusion regarding whether there is a significant gender-based difference in the severity of cyberchondria [1,13]. Both men and women may exhibit similar patterns of online health information seeking and subsequent anxiety when experiencing comparable health concerns [17,20,23,26].

Nearly one-third of older adults have reported experiencing heightened anxiety after searching for health information online [7,21,25,26]. This highlights that cyberchondria may be more prevalent among the elderly than previously assumed and emphasizes the need for increased awareness among healthcare professionals [3,16]. In nursing care in particular, recognizing the emotional responses that older adults may develop following exposure to digital health information, providing accurate guidance, and helping manage anxiety levels have become essential components of holistic care delivery [11,24,25].

The Impact of Digital Behaviors on Self-Care and Chronic Disease Management in Older Adults

Self-care in older adults encompasses not only the maintenance of basic daily activities but also the management of chronic illnesses, monitoring of health status, and the fulfillment of personal responsibilities [3,9,20,27]. The success of this process depends on individuals' physical, cognitive, and environmental conditions, as well as their access to and effective use of digital tools [11,13,18]. In today's healthcare landscape, digital technologies are increasingly employed to support health management among older adults [9,14,22,24]. Telehealth services, mobile health monitoring systems, and online consultation platforms, in particular, allow individuals to track their health from home and access healthcare professionals when needed [2,3,19].

When used appropriately, digital technologies can significantly enhance self-care competencies in older adults [5–7]. For example, routine monitoring tasks necessary for managing chronic conditionssuch as tracking blood pressure or blood glucose levels can be conducted more regularly and safely using mobile devices and sensor-based technologies [13,22]. In addition, digital systems enable individuals to access their own health data more quickly, detect changes early, and notify healthcare providers in a timely manner [6,21]. This facilitates early intervention, helps maintain control over disease progression, and contributes to reducing unnecessary emergency visits [6,12,24].

However, the effectiveness of digital health technologies is closely linked to an individual's level of e-health literacy. Older adults with high digital health literacy are more capable of evaluating online health information, identifying reliable sources, and using that information to manage their health [4,5,8,16,17,23,26]. These individuals are often able to independently carry out tasks such as medication tracking, viewing lab results, and managing appointments via systems like electronic health records and patient portals. This enables more effective communication with healthcare professionals and promotes more informed participation in medical decisionmaking [1,2,16].

Conversely, when digital competencies are lacking, these tools may hinder rather than support the self-care process. Many older adults struggle with basic digital functions, face difficulties accessing online health platforms, or have trouble interpreting the information presented. These challenges can lead to problems such as inability to schedule appointments online, reliance on inaccurate information sources, and confusion regarding medical recommendations. This phenomenon referred to as the digital divide creates inequalities in access to healthcare services among older adults and directly affects the quality of care they receive [1,7,8,12,20].

Self-care behaviors based on digital information also carry certain risks. Exposure to unreliable online content may prompt some individuals to self-medicate or pursue unproven alternative therapies. Such behaviors can lead to poor management of chronic conditions and erosion of trust in professional healthcare. Furthermore, the ambiguity and misinformation commonly found in online content may trigger anxiety disorders such as cyberchondria, which can negatively affect both self-care capacity and overall quality of life [7,10,11,14,17,20,28].

In this context, improving digital health literacy within nursing care emerges as a critical area of intervention. Technology support programs for older adults, user-friendly interfaces, guided assistance, and simplified digital platforms can help promote safer and more independent navigation of digital health environments. Educational efforts should not be limited to teaching technical skills, but also focus on identifying trustworthy information, avoiding misleading content, and supporting sound decision-making in digital contexts [5,9,11,13,16,20,21].

Although digital health solutions hold great potential to strengthen self-care capacities in older adults, this potential can only be fully realized through inclusive policies that account for cultural, socioeconomic, and individual differences. Therefore, multidimensional support strategies are essential to ensure that older adults can actively and safely engage with digital health environments [1,7,27,28].

Conclusions

The increasing tendency among older adults to seek health information online brings with it significant risks such as cyberchondria, misinformation, and disruptions in self-care behaviors. These issues become more pronounced in individuals with chronic illnesses, potentially leading to elevated health anxiety and diminished trust in medical treatments. Despite the opportunities offered by digital technologies, limited digital health literacy can cause older individuals to misinterpret online information and develop unnecessary concerns. The nursing discipline, with its foundational focus on health education and patient support, is well-positioned to ensure that older adults engage with digital health environments in a safe, informed, and healthy manner. In this regard, nursing care should extend beyond meeting physical needs to encompass a protective, educational, and guiding role in the individual's interaction with health information.

To enable older adults to participate more effectively in digital health environments, both individual and systemic interventions are required. Nurses should design and implement simplified, age-appropriate educational programs aimed at improving digital health literacy, directly supporting self-care capacity. At the same time, healthcare professionals must be aware of the anxieties that may arise when older individuals encounter digital health information and should incorporate counseling, psychosocial support, and guidance toward trustworthy resources as essential components of holistic care. In order to prevent the exclusion of individuals with limited access to technology, healthcare service models should be supported by social policies that promote equitable access to digital tools and services.

Implications for Nursing Practice

Older adults' access to online health information and the associated tendency toward cyberchondria have introduced new areas of responsibility within nursing care. Nurses play a central role in enhancing older adults' health literacy, guiding them toward reliable digital sources, and correcting misinformation. An older individual experiencing anxiety due to online health content can reach accurate and trustworthy information through the guidance of a nurse, thereby participating more effectively in clinical care. Given that internet usage rates among the elderly remain relatively low, professional support still occupies a significant place in health information access. Nursing care must be structured to maintain and reinforce this trust [3,6,7,10,16,17,22–24,27,28].

The integration of digital technologies into healthcare services has brought the concept of digital inclusion to the forefront of nursing care. Nurses are now responsible for supporting older adults' access to smart devices, mobile applications, and remote health systems, as well as identifying and resolving technical or user-based challenges. Evidence shows that older adults adapt more easily to technology when provided with individualized support, which also contributes to their psychosocial empowerment.Older individuals who develop a positive relationship with technology tend to pursue a more independent lifestyle and are more receptive to formal support services. This dynamic supports both individual well-being and the sustainability of healthcare systems [7,8,16–18,22,23,25,27,28].

With the widespread adoption of digital health services, nursing care models are undergoing transformation. Remote nursing practices, such as tele-nursing, allow patient monitoring from home. Nurses can access real-time patient data via remote monitoring systems, optimizing the timing of interventions. While the initial implementation of digital systems may increase the need for training, their adoption holds the potential to accelerate and enhance the efficiency of care delivery, reducing paperwork and enabling more effective communication with patients [2,7,13,20,26].

As older adults increasingly access digital information, nursing care must evolve with holistic and adaptable strategies. Nurses' roles as active educators and consultants are crucial in addressing challenges such as information overload, anxiety, and uncertainty in self-care. Regularly planned individual or group-based digital health education programs can improve older adults' digital competencies and support more informed, autonomous health management. The effectiveness of these programs depends on tailoring content to age and cognitive capacity, ensuring clarity, simplicity, and relevance **[3,4,7,11,12,15,19,22,26,28]**.

Technologically supported and digitally literate older adults become more competent in managing their own care and less dependent on the healthcare system. Developing digital solutions that are tailored to the needs of older individuals, ensuring nurses take active roles in their implementation, and fostering institutional policies that embrace digital inclusivity are among the core steps toward the sustainability of age-friendly healthcare services. Therefore, integrating nursing care into the broader digital transformation of healthcare is not only necessary for addressing current needs but also essential for preparing for the aging societies of the future **[3,4,7,11,20,26,28]**.

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Corresponding Author:
Hatice Gülsoy
Department of Nursing,
Division of Fundamentals of Nursing,
Faculty of Health Sciences,
Alanya Alaaddin Keykubat University
Alanya, Antalya, Turkey
e-mail: hatice.gulsoy@alanya.edu.tr

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