



Prevalence of chronic diseases among residents of care and treatment institutions in Wrocław

Częstotliwość występowania chorób przewlekłych wśród pensjonariuszy zakładów opiekuńczo-leczniczych we Wrocławiu

Zuzanna Małgorzata Wróblewska^{1,A-D}✉, Michał Motyl^{2,B-C}, Halina Król^{3,B-C},
Michał Kowalczyk^{4,C-D}, Izabela Wróblewska^{5,6,E-F}

¹ University Clinical Hospital, Wrocław, Poland

² Medical University, Łódź, Poland

³ Collegium Medicum, Jan Kochanowski University, Kielce, Poland

⁴ Medical University, Lublin, Poland

⁵ Department of Internal Medicine, Faculty of Health Sciences, Medical University, Wrocław, Poland

⁶ Faculty of Health Sciences and Physical Culture, Collegium Witelon State University, Legnica, Poland

A – Research concept and design, B – Collection and/or assembly of data, C – Data analysis and interpretation, D – Writing the article, E – Critical revision of the article, F – Final approval of the article

Wróblewska ZM, Motyl M, Król H, Kowalczyk M, Wróblewska I. Prevalence of chronic diseases among residents of care and treatment institutions in Wrocław. *Med Srodow.* 2023; 26(3–4): 72–78. doi: 10.26444/ms/175757

Abstract

Introduction and Objective. Chronic diseases are the most common cause of psycho-physical disability in seniors, and the reason for increased levels of dependency on others. Multimorbidity, which is closely related to multi-drug use, can be found in most elderly people. The concomitant coexistence of chronic diseases causes difficulties in diagnosis, ambiguity in clinical images, contributing to the development of severe complications and generating resistance to treatment. The aim of study was to analyse the frequency of chronic diseases among nursing home residents, and the impact on their daily functioning.

Material and methods. The study was conducted on a group of 120 residents in care and treatment facilities in Wrocław. An author's questionnaire and the Barthel Scale were used. Respondents were predominantly aged 81–90 years (42%), mainly women (78%), with vocational education (57%), living on a pension (60.8%), and living in the city (62%).

Results. According to their BMI, 58% of respondents were found to be overweight. The majority were partially dependent on the care of others (72%), required constant nursing care (73%), and their families were not care-efficient (67%). Respondents were characterised by multi-morbidity, with the most common conditions being atherosclerosis (58%), hypertension (43%), stroke (28%) and diabetes (18%), and complaints of feeling heavy in the legs (51%), rapid fatigue (48%), pain (44%) and dizziness (42%), which hindered daily functioning (73%).

Conclusions. Inappropriate health behaviours influence the development of chronic diseases. The course of chronic diseases causes dependency on others in respondents. Disability results in the need for round-the-clock care for the senior citizen.

Key words

chronic diseases, disability, senior citizen, care and treatment facility

Streszczenie

Wprowadzenie i cel pracy. Choroby przewlekłe są najczęstszą przyczyną niepełnosprawności psychofizycznej seniorów oraz powodem wzrostu zależności od innych. U większości osób w podeszłym wieku można stwierdzić wielochorobowość, z którą ściśle wiąże się wielolekowość. Współistnienie chorób przewlekłych powoduje trudności w diagnostyce, niejednoznaczność obrazów klinicznych, a także przyczynia się do rozwoju ciężkich powikłań oraz generuje oporność na leczenie.

Cel pracy. Analiza częstotliwości występowania chorób przewlekłych wśród pensjonariuszy zakładów opiekuńczo-leczniczych oraz ich wpływ na codzienne funkcjonowanie seniorów.

Materiał i metody. Badania przeprowadzono na grupie 120 mieszkańców zakładów opiekuńczo-leczniczych we Wrocławiu. Wykorzystano w tym celu kwestionariusz ankiety autorskiej oraz skalę Barthel. Wśród ankietowanych przeważały osoby w wieku 81–90 lat (42%), głównie były to kobiety (78%) z wykształceniem zawodowym (57%), utrzymujące się z emerytury (60,8%), mieszkające w mieście (62%).

Wyniki. Według wskaźnika BMI u 58% badanych stwierdzono nadwagę. Większość z nich jest częściowo zależna od opieki innych (72%), wymaga stałej opieki pielęgniarskiej (73%), a ich rodziny nie są wydolne opiekuńczo (67%). Ankietowanych cechuje wielochorobowość, najczęściej występującymi schorzeniami są miażdżyca (58%), nadciśnienie (43%), udar mózgu (28%) i cukrzyca (18%), a dolegliwościami uczucie ciężkości nóg (51%), szybkie męczenie się (48%), ból (44%) i zawroty głowy (42%), które utrudniały codzienne funkcjonowanie (73%).

Wnioski. Nieprawidłowe zachowania zdrowotne wpływają na rozwój chorób przewlekłych. Przebieg chorób przewlekłych

✉ Address for correspondence: Zuzanna Małgorzata Wróblewska, University Clinical Hospital, Wrocław, Poland
E-mail: zn.wroblewska@gmail.com

powoduje u ankietowanych zależność od innych. Skutkiem niepełnosprawności jest konieczność sprawowania całodobowej opieki nad seniorem.

Słowa kluczowe

niepełnosprawność, choroby przewlekłe, senior, zakład opiekuńczo-leczniczy

INTRODUCTION

In recent years, there has been the marked phenomenon of ageing populations worldwide. Demographers consider a population to be ageing when 12% of the percentage of the total population is 60 years or older. The phenomenon of human ageing is dependent on an increase in human life expectancy, and a decrease in the birth rate of the population. The former is mainly influenced by improvements in social conditions, as well as medical developments and disease prevention [1].

Old age is one of the completely natural and irreversible stages of human life. It is a process with various types of qualitative and quantitative changes that manifest themselves in all organs. It can be divided into three sub-periods: early old age lasting from 60–74 years of age, late old age covering the years from 75–89 years of age, and very late old age (longevity) affecting people over 90 years of age [2].

In old age, all vital processes slow down and, in addition, structural and functional changes occur that lead to the development of multiple disease processes [3]. Their course is different from that of diseases diagnosed in younger age groups, and is usually characterised by atypical symptoms, difficult diagnosis (multi-morbidity), more severe course, more serious complications, longer convalescence and, as a result, increased mortality [4]. Old age is a stage of life that can take a very different course. It depends on a senior's past life experiences, his or her psychological characteristics, genetic burden, lifestyle, occupational exposures and many others. Invariably, however, old age has health, economic, social, epidemiological, legal and even political consequences [5].

In old age, more often than in previous periods of life, problems may arise that manifest themselves in bothersome ailments resulting in reduced independence and dependence on others. Older people are usually already diagnosed with chronic diseases [6]. Multi-morbidity is also a characteristic feature of aging, so according to NICE (2016) and WHO (2015) definitions, it is the simultaneous co-occurrence of two or more medical conditions or chronic medical problems in a person. The most commonly diagnosed diseases include diabetes, hypertension, generalised atherosclerosis, ischaemic heart disease, stroke and Alzheimer's disease [7]. The first is characterised by hyperglycaemia, which occurs as a result of a defect in insulin secretion or action. This metabolic condition leads to disturbances in lipid, carbohydrate and protein metabolism. In seniors, type 2 diabetes is most common, resulting from a relative lack of insulin or impaired insulin action [8]. The ageing process itself affects impaired glucose metabolism which is due to the phenomenon of sarcopenia (reduced muscle strength and mass), increased fat mass (resulting from physical inactivity), and an inappropriate diet (excess energy components) [9]. In addition, glucose metabolism is disrupted by drugs taken by seniors, mainly steroids or thiazide diuretics. In about half of the elderly, diabetes is asymptomatic, and the symptoms that do occur are attributed to co-morbidity or the ageing process.

Typically, the elderly complain of malaise, weakness, polyuria and discrete cognitive impairment (concentration, memory, counting) [10, 11]. However, these symptoms, especially if not diagnosed and thus treated, lead to serious complications such as microangiopathy, nephropathy, retinopathy or neuropathy. Their visible symptom can be diabetic foot syndrome, which often leads to amputation of a limb and thus loss of independence for the senior citizen. Long-lasting and untreated diabetes can lead to brain dysfunction and the development of various types of dementia [12].

Another common condition affecting the elderly is hypertension which belongs to a group of conditions whose prevalence increases with age. In people over 80 years of age, due to an increase in arterial stiffness, the most common form of this disease is isolated systolic hypertension [13], resulting from increased pulse wave velocity and earlier return of the reflected wave, superimposed on the advancing wave. The result is an increase in systolic pressure and a decrease in diastolic pressure. The main reason for hypertension in seniors is the changes that occur in the cardiovascular system with age, which cause a steady increase in systolic blood pressure [14]. In older people, hypertension is diagnosed at values above 140/90 mm Hg. However, both the diagnosis and the treatment undertaken require individualised management. The disease usually develops asymptotically and is usually diagnosed incidentally during a follow-up medical visit. The treatment of hypertension, due to its causes, requires pharmacological management, but equally the modification of the current lifestyle. This is very difficult as older people are reluctant to modify their habits, but it is necessary as it determines the maintenance of normal body homeostasis and determines normal blood flow [15].

The next conditions affecting older patients are cardiovascular diseases. Of these, the most common is atherosclerosis, which is the leading cause of death in seniors [16]. This is a complex process underlying a chronic inflammation taking place in the inner membrane of the arteries. Gender and age, as well as elevated levels of cholesterol and its fractions, hypertension, an unhygienic lifestyle (smoking, alcohol consumption, low physical activity), diabetes and obesity, all play a role in the development of this condition [10]. Most of the factors mentioned are modifiable, therefore education on nutrition issues, maintaining normal RR and blood glucose values and performing regular preventive examinations should be the cornerstone of actions by health care professionals [17].

Closely related to atherosclerosis is another chronic disease affecting the elderly – ischaemic heart disease, caused by atherosclerosis of the coronary arteries. As a result of their narrowing, there is a reduced supply of oxygen to the heart muscle, relative to its demand [18]. The disease may be latent or overt, manifesting as chest pain (angina), which may be non-specific in seniors. Sometimes, the first symptom of ischaemic heart disease is a myocardial infarction, caused by acute hypoxia of the muscle, and can end in cardiac death. The most important action in the case of this condition is to

minimise the inconvenient symptoms for the senior citizen. This can be achieved through changes in lifestyle, discussed earlier, mainly the introduction of individualised physical activity combined with an appropriate diet [19, 20].

A condition that frequently affects older people is stroke. Due to its frequency, it represents a serious medical and social problem, mainly because of its multifaceted consequences, affecting all spheres of functioning of the senior and his or her family. Stroke is a sudden life-threatening condition and mostly affects people around 60–70 years of age [21]. The main symptoms are disorders of neurological function, and their nature depends on the location and the effects on the extent of the lesion. A distinction is made between haemorrhagic and ischaemic stroke. The former is caused by rupture of a cerebral vessel, resulting in extravasation of blood within the brain, and affects approximately 15% of cases. In contrast, the second (about 85% of cases) is caused by narrowing or occlusion of the lumen of a vessel within the brain or supplying blood to the brain [22].

In addition, there are also emergencies with acute cerebral circulatory failure, which, according to the World Health Organisation (WHO), do not belong to strokes. These include subarachnoid haemorrhages and transient ischaemic attacks. The essence of the lesions described is acute cerebral circulatory failure of various aetiologies, which leads to reduced cerebral perfusion in the course of haemorrhage or ischaemia. The prognosis depends mainly on the extent of the lesion, and the consequences of strokes, in the form of paresis and paralysis, depressive disorders and social sequelae, may cause complete disorganisation of the life of the elderly and their loved ones [7, 23].

Another group of diseases commonly occurring in older patients, and closely related to those previously discussed, are various types of dementia of a chronic and progressive nature. Dementia arises as a result of damage to the brain, leading to the development of cognitive dysfunctions, among them memory, orientation, reasoning, counting, learning ability, abstract thinking, or the ability to make choices [24]. One of the most common causes of dementia is Alzheimer's disease, which accounts for around 70% of all cases and is an irreversible, progressive neurodegenerative disorder leading to mental degradation. The aetiology of the condition remains unexplained. Among the many factors predisposing to it, age and the apolipoprotein genotype on chromosome 19 are prominent [25]. However, gender, vascular disease, head injury, vascular disease and diabetes are also important. Alzheimer's disease occurs in two forms: sporadic, affecting about 95% of all cases and having its onset after 65 years of age, and familial, accounting for the remaining 5% of cases and beginning around the age of 40. The increase in prevalence of the disease is age-related and doubles every 4.5 years after the age of 65 [26]. The condition is characterised by memory impairment, progressive personality changes, delusions, hallucinations, agnosia, aphasia and apraxia. Because of its symptoms, which are often associated with the ageing process rather than with disease itself, it is diagnosed late. Its average duration is estimated at four to eight years, during which the senior's behaviour changes significantly. The disease can be divided into three phases. In the first phase, the patient is able to lead an independent life with only minor limitations. Memory problems mainly occur, and the patient is also often irritable, suspicious, manifests depressive symptoms and develops language disorders in the form of

'word deprivation' [27]. In the process of developing this condition, the neurological symptoms manifest as sudden falls, most likely caused by apraxia. In the second phase, the senior citizen is no longer able to function independently, as memory impairment increases to the point where the patient does not recognise his or her loved ones, and becomes lost even in previously familiar surroundings. During this period, severe behavioural disturbances become apparent, in the form of aggression and hallucinations. Uncontrollable walking, feelings of anxiety and poor vocabulary are characteristic. In the third phase, there is a complete lack of sphincter control, the patient stops eating independently, is unable to move independently and has to stay in bed, and stops communicating verbally altogether. In the terminal phase, painful flexion contractures and swallowing disorders occur, resulting in the need for tube feeding [28].

The diagnosis of Alzheimer's disease is difficult because it needs to be differentiated from a number of diseases in the course of which dementia is an essential symptom. The basis of diagnosis is to perform screening neuropsychological tests that assess brain function. A confident diagnosis is only possible when dementia is found on clinical examination, and amyloid deposits and neurofibrillary degeneration of neurons are present on neuropathological examination [29].

To date, there are no effective causal treatments for Alzheimer's disease; therefore, patients are treated only symptomatically. The applied pharmacotherapy only prolongs the senior patient's independence, improves cognitive functions and reduces the degree of behavioural abnormalities. Unfortunately, it does not halt the progression of the neurodegenerative process and, as a result, the patient becomes completely physically and mentally incapacitated, resulting in incapability of living independently and requiring total and round-the-clock care [30, 31].

The chronic diseases presented significantly affect the functioning of seniors. As the ageing process and their progression, as well as family care inefficiencies, the independence of the senior citizen decreases, resulting in an increased need for various forms of care. The elderly who are additionally disabled, require special holistic care based on maintaining their independence for as long as possible, and supporting them in their illness. When the dependence of a senior on others becomes permanent, the illness worsens and staying in the home environment is no longer possible and the seniors are placed in care centres, where the aim is to support the dependent person in his or her daily functioning, and thus ensure a satisfactory quality of life [32, 33].

The aim of study was to analyse the frequency of chronic diseases among care and treatment facilities and their impact on the daily functioning of seniors.

MATERIALS AND METHOD

A voluntary and anonymous study was conducted using the author's anonymous survey questionnaire with closed, open, alternative and conjunctive questions, and on the basis of an interview with the resident or his/her family and medical records. The study involved 120 residents of care and treatment facilities located in Wrocław.

Respondents were predominantly aged 81–90 years (51;42.5%), followed by those aged 71–80 years (39;32.5%), 61–70 years (12;10.0%), 50–60 years (10;8.3%), and over 90

years of age. (8;6.6%). The majority were women (94; 78.3%), predominantly those with a vocational education (68; 56.6%), living on a pension (73; 60.8%), living in the city (75; 62.5%), and who assessed their current housing situation as bad (71; 59.2%).

RESULTS

The largest group of residents (55; 45.8%) had been in the care centre for 1–3 years, 41 (34.2%) for 4–9 years, and 12 (10.0%) each for up to 6 months or 7–12 months. The majority of respondents (103; 85.3%) had a history of manual work. According to their BMI, 69 (57.6%) were overweight, 43 (35.8%) had a normal body weight, 5 (4.17%) were 1 degree obese and 3 (2.5%) were underweight.

Most of the respondents are partially dependent on the care of others (87; 72.5%), and scored 21–85 points on the Barthel scale, 33 (27.5%) persons scored 0–20 points, indicating total dependence. None of the respondents scored 86–100 points, indicating total independence.

Analysis showed that the majority of families surveyed (81; 67.5%) were characterised by incomplete caring capacity, 36 (30.0%), were completely inefficient in this respect, and only 3 (2.5%) declared complete caring capacity.

Respondents mostly (88; 73.3%) required continuous nursing care, 26 (21.7%) required additional medical care, and 6 (5.0%) did not require daily care.

Among the respondents, 58 (48.3%) have smoked cigarettes in the past, 47 (39.2%) have never done, while 15 (12.5%) continue to use tobacco. Additionally, 75 (62.5%) sometimes consume alcohol, 26 (21.7%) denied that they consume alcohol, and 19 (15.8%) do so regularly. Simultaneously, 63 (52.5%) declared medium physical activity practised in the past, 43 (35.8%) high, and 14 (11.7%) low.

The largest group among the respondents (57; 47.5%), were those who could not answer the question about whether there were chronic diseases in their family (lack of knowledge in this area), 44 (36.7%) had no such diseases in their family, and 19 (15.8%) replied that there were chronic diseases in their family.

The respondents were characterised by multi-morbidity; some of them citing more than one underlying disease (Fig. 1). They and were asked whether they used medical care and 94 (78.3%) stated they had done so regularly since being diagnosed with chronic diseases, and 26 (21.7%) had never

done so. A characteristic feature of multi-morbidity was the presence of multiple ailments and the simultaneous presence of several. Of these, the most bothersome were a feeling of heaviness in the legs (61; 50.8%), followed by rapid fatigue (58; 48.3%), pain (53; 44.2%) and dizziness (51; 42.5%) (Fig. 2).

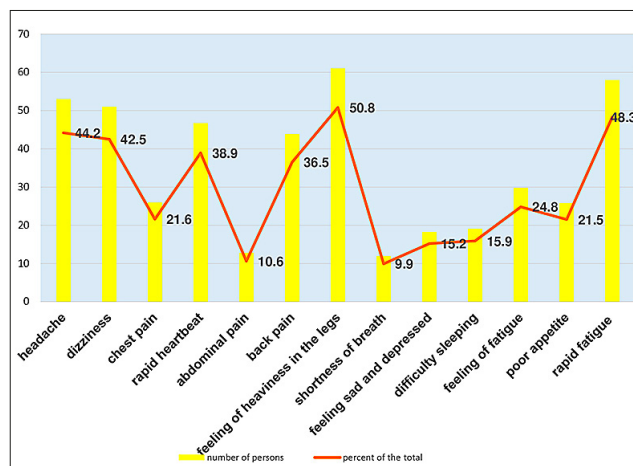


Figure 2. Most common complaints

The reported complaints of the majority (88; 73.3%) included impeded daily functioning, for 23 (19.2%) this was only a minor issue, and for 9 (7.5%) the symptoms impeded daily functioning to a medium degree. All the respondents had some complaint or complaints that impeded their daily functioning. Respondents were also asked about their level of satisfaction with the care offered in their facility. The majority were satisfied (49; 40.8%) and rated it at a very high level, 35 (29.2%) were satisfied, 26 (21.7%) were rather satisfied, and 10 (8.3%) were dissatisfied with the facility’s services. None of the respondents described the care offered as very bad (Fig. 3).

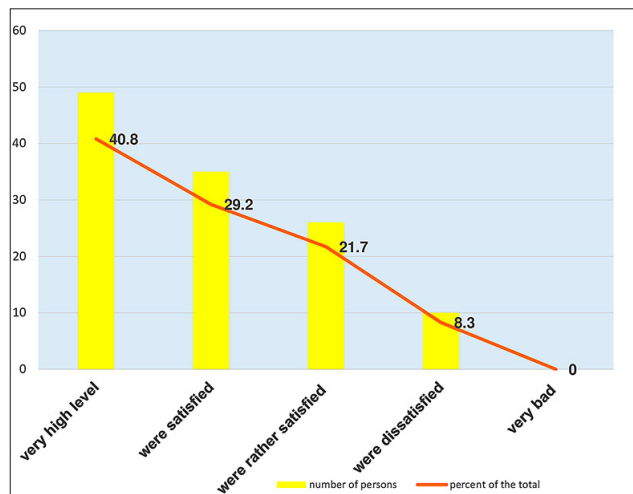


Figure 3. Rating of satisfaction with the care offered to residents at the centre

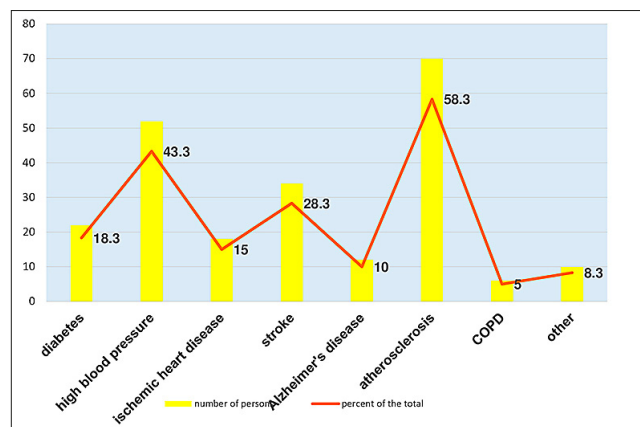


Figure 1. Diseases diagnosed in respondents

DISCUSSION

The elderly constitute a population that is not homogeneous, and its heterogeneity is due to the individual course of the ageing process and the presence of chronic disease processes. These result in disorders and limitations of organ function that increase with the number of diseases present

(poly-pathology). This phenomenon is one of the most typical features of geriatric patients [3, 6].

The study shows that the elderly in care and treatment facilities represent a cross-section of the population in the age range in question. Thus, they are mainly older women, former city dwellers, living on a pension, with a vocational education, and who in the past performed mainly manual work. The results obtained are in agreement with studies by other researchers [34, 35, 36].

According to their BMI standards, the residents surveyed were mostly overweight. This is not surprising, as research shows that metabolism slows down with age, and excess body fat is more common than in lower age groups. This situation is also undoubtedly closely linked to the health status of seniors diagnosed with numerous chronic conditions. This, in turn, may limit their mobility, and the pain experienced has an impact on limiting physical activity [7, 32]. According to the presented study, the most common chronic diseases in the respondents were hypertension, atherosclerosis, diabetes and stroke, conditions that significantly affected their current lives and worsening their functioning in all spheres – physical, mental, social and economic.

Chronic diseases are disorders of prolonged duration and can eventually lead to impaired biological and psychological functions, and even premature death [37]. Even a single illness is in itself a source of negative experiences and, as such, generates a lower quality of life. This situation is exacerbated when a multiplication of disease entities becomes involved; their long-term course and often irreversible effects lead to various types of dysfunction and disability. The same as the original cause, the disease can result in increasing discomfort, ever-worsening pain and suffering, and thus progressive limitations [38, 39].

According to the respondents, the course of their chronic illness and the continuous progression of the ageing process makes it largely impossible for them to perform complex, and sometimes even basic daily activities. As a result, seniors inevitably become increasingly dependent on others which, in turn, reduces their well-being and with it their quality of life. This was evidenced by the results obtained which indicate that the largest proportion of those surveyed were dependent on the care of others. In addition, the families of the seniors were found to be inefficient in their care, resulting in the transfer of patients to care centres.

These results are reflected in the literature, and in the analyses of other researchers who have indicated that one of the main reasons for placing older people in care centres is their disability [34, 35, 40].

In elderly patients there is often an overlap between disease changes and the effects of ageing. As a result, it is difficult to know whether the observed symptoms are the result of a disease process or a physiological process [3, 32]. The current study found that most of the complaints experienced by residents are related to progression of the ageing process, as well as the disease entity itself. However, it is difficult to prove whether or not there is a so-called 'domino effect', which is the emergence of an avalanche reaction started by a breakdown in homeostasis in a single organ which ultimately leads to multi-organ failure.

At the same time, an inherent feature associated with multi-morbidity, so characteristic of the elderly, is multi-drug use. It also has numerous consequences in terms of drug interactions and adverse effects. The result is the so-called

'disease-therapy spiral', a vicious circle in which it is difficult to assess whether the observed symptoms are a consequence of the disease, or an adverse reaction to the drugs administered [38]. The occurrence of several concurrent conditions in older people poses a serious therapeutic problem, and the use of an increasing number of drugs eventually leads to further damage of organs and generates the development of further diseases [14].

Another feature of the disease process in the elderly is the non-specificity of disease symptoms which are often atypical; hence, the diagnosis of a chronic disease may be made at a late stage, despite ongoing process of the disease for several years. Chronic conditions occurring in seniors may also be associated with geriatric cascades and cycles, where one adverse event may cause another, and ultimately worsen the senior's health and contribute to an earlier death. It is the task of the medical staff to break this self-perpetuating spiral of symptoms and problems as soon as possible, with the aim of improving the well-being of the elderly client and maintaining their life running at a satisfactory level [41].

The current study shows that caring for a chronically ill family member is a burdensome task, as the families of the respondents were mostly inefficient in terms of care. Consequently, they opted for an institutional form of care for their chronically ill family member. The average stay in the centres ranged from 1–3 years which, according to other studies, is the average length of stay, and is characteristic of this type of centres in Poland [2, 4]. Those eventually taken into care were usually in an advanced stage of chronic disease, with worsening changes associated with the ageing process, and leading an unhygienic lifestyle. The processes described ultimately lead to a deterioration of the patient's general condition, a reduction in capacity and greater dependence on care. This was reflected in the scores obtained on the Barthel scale [42].

The specificity of geriatric care is to do everything possible to maintain the independence of the lives of senior citizens for as long as possible through the early detection of extant and adverse conditions, and their subsequent treatment and rehabilitation. Particular attention should be paid to health promotion and successful ageing, as well as the search for effective forms of prevention of late-life conditions and ailments. Hence, a major task is the early recognition of factors that limit the independence of the seniors by extending preventive programmes and health promotion to older people [43].

This study has shown that the majority of respondents had an anti-healthy lifestyle – they smoked tobacco (some still do), consumed alcohol and, although they had performed some physical work in the past, reported little physical activity. This last aspect may also have a direct impact on the overweight described earlier. Such behaviour may be indicative, among other things, of insufficient knowledge among seniors regarding the prevention of chronic conditions related to healthy eating and sensible physical activity. It is therefore important to promote healthy behaviour through primary geriatric prevention. It aims to prevent premature old age by enhancing and strengthening health. Lifestyles developed in youth have consequences in later life, which is why it is aimed at young and healthy people, as well as middle-aged people who are at particular risk of premature ageing. Preventing premature old age is not specifically about preventing it, but rather about improving health conditions

to achieve the highest possible quality of life, thus preventing a pathological, incapacitated and fully-dependent old age.

The priority of the measures taken is to make old age a stage of life free of burdensome and severe illnesses and of physical and mental impairment [38]. Equally important, however, is secondary geriatric prevention which targets seniors burdened by chronic diseases that accelerate the ageing process, or lead to a reduction or loss of independent living. Its aim is to strive for independent and autonomous living, with the simultaneous prevention of senile infirmity, physical activation, and the containment of disease progression and its negative effects. Education on positive health behaviours and related lifestyle modification is an important issue and a challenge in every period of a person's life. In the elderly, however, this is particularly difficult due to seniors' habits and their resistance to making any changes. However, it is feasible if it is based on the seniors' sense of health-consciousness, i.e. their ability to be aware of their own health-seeking behaviour.

Lifestyle significantly influences the incidence of chronic diseases. A healthy lifestyle is important at every stage of one's life and is also possible to implement in old age. The introduction of controlled physical exercise, a healthy diet, smoking cessation, limiting the amount of alcohol consumed, as well as the sensible intake of only necessary medication, can make a significant contribution to preventing the development of a variety of diseases [42]. These measures will also counteract declining fitness, increase years of life, and improve the quality of life. It is understood that changes in behaviour, especially changing existing habits, are difficult, and the most important factor when introducing them is the feeling of self-efficacy. Therefore, the process should begin with recommendations that are simple to implement and have a clear effect. This will allow a positive motivation towards further recommendations. The resulting behaviour should be through the completely free choice of the senior citizen, and the goals pursued should be achievable and tailored to his or her abilities [43, 44].

Ageing is a phase of life which in biological terms is characterized by a slow decline in the functional reserve of individual organs and systems. It is a completely physiological, normal, staggered and irreversible process occurring in the individual development of a person. It is also a universal and inevitable phenomenon that inevitably ends in death [3, 4]. At the same time, ageing is a process that facilitates the development of diseases, and their course is much more severe and associated with a higher mortality rate than in earlier phases of a person's life. Age is one of the most important factors increasing the possibility of chronic disease. Environment, lifestyle and behavior also contribute to its onset [6, 7].

CONCLUSIONS

- 1) Inappropriate health behaviours influence the development of chronic diseases. 2) The course of chronic diseases causes dependency on others.
- 2) Disability results in the need for round-the-clock care.
- 3) The most common chronic diseases among the respondents were atherosclerosis, hypertension, diabetes and stroke; the complaints included feeling of heaviness in the legs, fatigue, headaches and dizziness.

REFERENCES

1. Lejzerowicz M. Starzenie się ludności i wykluczenie osób starszych a edukacja do starości. *Rozprz Społ.* 2020;14(1):82–97. <https://doi.org/10.29316/rs/117910>
2. Jagielska K. Postawy osób starszych wobec starości. *Pedag-Psych.* 2020;33(1):165–175. <https://10.17951/j.2020.33.1.165-175>
3. Caspari R. Jak wydłużyło się życie. *Świat Nauki.* 2011;9(241):26–31.
4. Szukalski P. Ludzie bardzo starzy we współczesnej Polsce. *Przeg Socjolog.* 2013;62(2):33–54.
5. Newson RS, Witteman JC, Franco OH, et al. Predicting survival and morbidity-free survival to very old age. *Age (Dordrecht, Netherlands)* 2010;32(4):521–534. <https://10.1007/s11357-010-9154-8>
6. Wyszowska D, Gabińska M, Romańska S. Sytuacja osób starszych w Polsce w 2019 r. Główny Urząd Statystyczny; 2021. p. 21–23.
7. Kędzierska-Kornatowska K. Podstawy biologicznego starzenia się organizmu człowieka oraz mechanizmy starzenia się. In: Muszalik M, Kędziora-Kornatowska K, editor. *Pielęgnowanie pacjentów w starszym wieku.* Warszawa: Wydawnictwo Lekarskie PZWL; 2018. p. 3–12.
8. Cole JB, Florez JC. Genetics of diabetes mellitus and diabetes complications. *Natur Rev Nephrol.* 2020; <https://10.1038/s41581-020-0278-5>
9. Gilbert J. La nycturie et le diabète. *J Curr Clin Care. Supplément pédagogique.* Toronto: Printemps; 2017. p. 32–38.
10. Jankowska-Polańska B, Ilko A, Wleklik M. Influence of the acceptance of the disease on quality of life of patients with hypertension. *Arter Hypert.* 2014;18(3):143–150.
11. Oguntibeju OO. Type 2 diabetes mellitus, oxidative stress and inflammation: examining the links. *Inter J Physiol Pathophys Pharm.* 2019;11(3):45–63.
12. Denham AMJ. Prevent 2 Stroke: a pilot study of an online secondary prevention program for stroke survivors. *Public Health.* 2018;5(42):484–490. <https://10.1111/1753-6405.12794>
13. Kostka T, Koziańska-Rościszewska M. Choroby wieku podeszłego. Warszawa: Wydawnictwo Lekarskie PZWL; 2009. p. 46.
14. Kurowska K. Zachowania zdrowotne a jakość życia pacjentów z miażdżycą kończyn dolnych. *Piel Chirurg Angiol.* 2013;3:107–114.
15. Żońnierczuk-Kieliszek D, Kulik T, Maciejasz A, et al. Wybrane czynniki psychologiczne i medyczne, a jakość życia chorych na choroby układu krążenia. *Med Ogól Nauk Zdr.* 2014;20(2):131–135. <https://10.5604/20834543.1112225>
16. Berek K, Bobiński R. Miażdżycza – choroba wieloczynnikowa. *Probl Pielęg.* 2009;17(3):257–262.
17. Zhang Y, Chen Y, Ma L. Depression and cardiovascular disease in elderly: Current understanding. *J Clin Neurol.* 2018;47:1–5. <https://10.1016/j.jocn.2017.09.022>
18. Kulig P, Lewandowski K, Ziaja D, et al. Endovascular aneurysm repair or open aneurysm repair for the treatment of abdominal aortic aneurysm – the latest update. *Pol Przegl Chirurg.* 2016;88(3):166–174. <https://10.1515/pjs-2016-0047>
19. Jankowski P. Zasady profilaktyki chorób układu krążenia w 2018 roku. *Kardiol Inwaz.* 2017;12(6):42–48.
20. Cybulski M, Krajewska-Kułak E. Wielkie zespoły geriatryczne. Wrocław: Urban & Partner; 2021. p. 5–21.
21. Kuklińska M, Sitek EJ, Brockhuis B, et al. Wariant behawioralny otępienia czołowo-skroniowego – wybrane problemy diagnostyczne w neuropsychiatrii. *Akt Neurol.* 2020;20(2):71–81. <https://10.15557/AN.2020.0010>
22. Szyguła-Jurkiewicz B, Kowalska M, Mościński M. Jakość życia jako element oceny stanu zdrowia i efektywność leczenia chorych ze schorzeniami układu sercowo-naczyniowego. *Fol Cardio Exc.* 2011;6(1):62–71.
23. Arvanitakis Z, Shah Raj C, Bennett DA. Diagnosis and Management of Dementia: A Review. *JAMA* 2019;332(16):1589–1599. <https://10.1001/jama.2019.4782>
24. Rojas I, Moreno-Grau S, Tesi N, et al. Common variants in Alzheimer's disease and risk stratification by polygenic risk scores. *Nat Commun.* 2021;12(1):3417. <https://10.1038/s41467-021-22491-8>
25. Huang L, Chao S, Hu C. Clinical trials of a new drug for Alzheimer disease. *J Bio Sci.* 2020;(18):1–3. <https://10.1186/s12929-019-0609-7>
26. Sawyer RP, Rodriguez-Portel F, Hagen W, et al. Diagnosis the frontal variant of Alzheimer's disease a clinician's yellow brick road. *J Clin Mov Dis.* 2017;4(2):3–6. <https://10.1186/s40734-017-0052-4>
27. Barczak A. Wczesne rozpoznawanie choroby Alzheimerera. *Med Rodz.* 2018;14(2):157–166. <https://10.15557/PiMR.2018.0016>
28. Binert-Kusztal Ż, Starek M, Dąbrowska M. Choroby neurodegeneracyjne – aspekt farmakoterapeutyczny choroby Alzheimerera. *Farma Pol.* 2021;77(7):451–457. <http://dx.doi.org/10.32383/farmopol/142108>

29. Parnowski T, Borzym A, Broczek K, et al. Rekomendacje leczenia pobudzenia u chorych z otępieniem dla lekarzy POZ. *Lek POZ*. 2018;4:239–246.
30. Muszalik M, Kędziora-Kornatowska K, Balas E, et al. Pielęgnowanie pacjentów w starszym wieku. Warszawa: PZWL; 2018. p. 317–336.
31. Postrożny D, Żuralska R, Mziray M, et al. Ocena poziomu samodzielności funkcjonalnej powyżej 65 roku życia. *Geront Pol*. 2020;28:17–22.
32. Sokołowska N, Sokołowski R, Polak-Szabela A, et al. Porównanie skuteczności Montreal Cognitive Assessment 7.2 z Mini-Mental State Examination w wykrywaniu łagodnych zaburzeń neuropoznawczych u osób po 60. roku życia. *Doniesienia wstępne. Psych Pol*. 2018;52(5):842–857. <https://doi.org/10.12740/PP/68611>
33. Kózka M, Gibadło E, Padykuła M. Uwarunkowania występowania zaburzeń funkcji poznawczych u pacjentów w wieku geriatrycznym hospitalizowanych na oddziale chorób wewnętrznych. *Pielęg Pol*. 2018;3(69):277–283. <http://dx.doi.org/10.20883/pielpol.2018.34>
34. Podhorecka M, Turska A, Gębka D, et al. Cognitive disorders and fitness of the elderly in residential homes in Bydgoszcz. *J Edu Health Sport*. 2017;7:306–321. <http://dx.doi.org/10.5281/zenodo.1133973>
35. Dellara FT, Paola S, Andersen SL, et al. Disentangling the Roles of Disability and Morbidity in Survival to Exceptional Old Age. *Arch Intern Med*. 2008;168(3):277–283. <https://10.1001/archinternmed.2007.75>
36. Markocka-Mączka K, Grabowski K, Taboła R. Choroby przewlekłe – problem XXI wieku. *Dobrostan a edukacja. NeuroCentrum*; 2016. p. 177–186.
37. Ostrzyżek A. Jakość życia w chorobach przewlekłych. *Probl Hig Epidemiol*. 2008;89(4):467–470. <http://polona.pl/item/45257101>
38. Oliveira A, Nossa P, Mota-Pinto A. Assessing Functional Capacity and Factors Determining Functional Decline in the Elderly: A Cross-Sectional Study. *Acta Médica Portuguesa*. 2019;10:654–660. <https://10.20344/amp.11974>
39. Wieczorkowska-Tobis K. Specyfika pacjenta starszego. *Geriatry i gerontologia*. Warszawa: Wydawnictwo Lekarskie PZWL; 2011. p. 18–20.
40. Doolan DM, Froelicher ES. Smoking cessation interventions and older adults. *Prog Cardiovasc Nurs*. 2008;23:119–127. <https://10.1111/j.1751-7117.2008.00001.x>
41. Muszalik M, Biercewicz M. Problemy opiekuńcze u osób w wieku starszym. *Pielęgniarstwo w opiece długoterminowej. Podręcznik dla studiów medycznych*. Warszawa: Wydawnictwo Lekarskie PZWL; 2010. p. 132–133.
42. Danaei G, Ding EL, Mozaffarian D, et al. The preventable causes of death in the United States: comparative risk assessment of dietary, lifestyle, and metabolic risk factors. *PLoS Med*. 2009;6:e1000058. <https://10.1371/journal.pmed.1000058>
43. Bembom O, Laan M, Haight T, et al. Leisure-time physical activity and all-cause mortality in an elderly cohort. *Epidem*. 2009;20:424–430. <https://10.1097/EDE.0b013e31819e3f28>
44. Skalska A. Ograniczenie sprawności funkcjonalnej osób w podeszłym wieku. *Zdr Pub Zarząd.* 2011;9:50–59. <https://10.4467/20842627OZ.11.003.0340>