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ORIGINAL ARTICLE

Lifestyle of the elderly living in rural and urban areas measured by the FANTASTIC Life Inventory

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Abstract

Introduction. A healthy lifestyle can help older people maintain their functional ability and, therefore, satisfaction with life. An important aspect of health promotion is the assessment of lifestyle factors over which patients have some control.
Objective. The aim of this study was to analyze the lifestyle of the elderly in urban and rural areas using the Fantastic Life Inventory (FLI).
Materials and method. The research group comprised 138 people aged 65–94 years (M=72.41, SD=6.90). Participants were recruited from urban 78 (56.5%) and rural 60 (43.5%) areas. The FLI used in this study has 25 closed-ended questions that explore nine domains, including physical, psychological, and social lifestyle components.
Results. The overall lifestyle of most seniors was 'excellent' (45.7%) or 'very good' (41.3%); none of the respondents scored in the lowest category – 'needs improvement'. The domains that mostly demonstrated the need for a change were related to activity, nutrition, insight, sleep, stress. Participants from rural areas tended to have lower scores in the activity (p= 0.017) and nutrition (p= 0.015) domains. The lifestyle of the elderly is determined by several factors, including age, gender, health status, level of education, and the place of residence.
Conclusion. The majority of older persons demonstrated an 'excellent' or 'very good' lifestyle with healthy habits. The adoption of healthy lifestyle patterns, in particular a regular balanced diet and proper physical activity, can help prevent functional limitations among the elderly in rural areas.

Key words

lifestyle, the elderly, the Fantastic checklist, village, city

INTRODUCTION

During the last 25 years in Poland, there has been observed a decreased pace in demographic growth and substantial changes in the age structure of the country's population. At the end of 2013, Poland had a population of 38.5 million, of which 5.7 million were aged 65 and over. In the years 1989–2013, the number of elderly citizens grew by nearly 1.9 million, with their share in the overall population increasing by 4.7 percentage points, i.e. from 10% in 1989 to 14.7% in 2013. The share of the immediately younger group (65–79) had increased in the same period by 8% to 11% of the overall population [1]. The ageing process is affected by various factors of a social, demographic, cultural, economic, genetic, and health-related nature. One of the most important factors determining the health of society, including its older members, is lifestyle and the associated health behaviours [2]. Milio defines lifestyle as "the patterns of behavioural choices made from among alternatives available to people depending on their socio-economic situation …" [3]. Other authors believe that lifestyle is comprised of the patterns of conscious health-related behaviour, as well as values and attitudes represented by people in response to the conditions of their social, cultural and economic environments [4, 5]. Regarding health behaviours, these determine the maintenance and strengthening of the health of individuals and the population as a whole.

Among the many available divisions, there can be distinguished behaviours that are conducive to health (health behaviours), in addition to anti-health and mixed behaviours [6]. Blaxter indicates four classic modes of health-related behaviour: diet, physical activity, smoking, and alcohol consumption [7]. The above-listed behaviours are in line with the concept of a healthy lifestyle, as proposed by the World Health Organization [8]. An extensive list of health behaviours is provided by Wardle and Steptoe, who mention behaviours such as non-smoking, limited

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alcohol consumption, physical activity, balanced diet (with particular regard to proper breakfasts and refraining from eating between meals), safe sexual behaviours, avoiding and effectively managing stress, moderate exposure to sunlight, observing traffic safety rules, and performing prophylactic examinations and self-examination [9]. Another division of health behaviours has been proposed by Wojnarowska, who distinguishes between behaviours related to physical and psychosocial health, preventive and risk-avoidance behaviours [10].

The ageing and old age period is characterized by the intensification of changes to the person's physical state, largely manifested in troublesome ailments and multiple simultaneous diseases [11]. The reinforcement of correct and the correction of adverse behaviours, which affect the functioning of elderly people, might substantially encourage the undertaking of appropriate educational, care and treatment measures in respect of such individuals [12].

To-date, a large number of studies have been published on the health behaviours of the elderly with the use of different research methods and tools measuring people's lifestyle [13–15]. In Poland, tools created by Juczyński and purchased by Psychological Test Laboratory of the Polish Psychological Association are very popular, e.g. a standardized questionnaire such as the Health Behaviour Inventory (HBI) [16]. Using reliable scales for the measurement of health behaviours of the elderly population can contribute to the process of adjusting health education and promotion, according to the needs of this group, promote active and healthy ageing, and minimalize health deterioration in the future.

OBJECTIVE

The aim of this study was to analyse the lifestyle of the elderly aged 65+ with the use of the Fantastic Life Inventory (FLI) designed by Wilson, Nielsen and Ciliska [17]. Although this tool is also effectively used in research on the lifestyle of young people [18, 19, 20], to the best knowledge of the authors of the current study there is no research with the use of this tool among people aged 65+. Additionally, to-date the FLI has not been used in Poland.

MATERIALS AND METHOD

The study was conducted from December 2015 – March 2016 as part of the project "Healthy lifestyle for aging well" (HLAW) within Erasmus +. It involved 200 seniors aged 65+, living in the city of Lublin and in the rural areas of the Lubelskie Province. The research sites for the study included day care centres for the elderly, seniors' clubs, the University of the Third Age, and the communities in which the respondents lived. The response rate was 69%, with a total of 150 submitted questionnaires, 138 of which were correctly completed. The study was conducted in accordance with the principles of the Declaration of Helsinki and the research protocol approved by the Ethical Committee at the Medical University of Lublin (No. KE-0254/31/2016).

Before commencement of the study, every respondent gave his or her informed consent in writing and was given information on the aim of the study. The seniors were qualified for the study on the basis of the Montreal Cognitive Assessment (MoCA) scale, designed as a rapid screening instrument for mild cognitive dysfunction [21]. The subjects admitted to the next stage of the study were those who had scored at least 26 points.

The research tool used to collect the material was the FANTASTIC checklist by Wilson, Nielsen and Ciliska, as a tool designed to examine lifestyle [17]. Permission was obtained from authors to use the questionnaire in studies implemented as part of the HLAW project. Cronbach's alpha coefficient measured the correlation between items, total – 0.682 (for the Polish version). The FLI comprises 25 closed-end questions that explore nine domains, physical, psychological, and social lifestyle components, identified with the acronym FANTASTIC:

F – family and friends,
A – physical activity,
N – nutrition,
T – tobacco,
A – alcohol and other drugs,
S – sleep/stress,
T – type of personality,
I – insight,
C – career.

Each item has three options as answers, with numeric values ranging from 0–2. The scores from all domains are added together to produce a global score, which ranges from 0–50 points, stratifying the individual into five levels of behaviour: 0–19 (needs improvement), 20- 29 (regular), 30–34 (good), 35–41 (very good), and 42–50 (excellent). The lower the score, the greater the need for a change. So-called 'personal data' questions were added to the questionnaire, pertaining to factors such as age, gender, education, place of residence, participation in activities at daily centres, and health situation.

All information obtained during data collection was stored in Microsoft Excel software and then transferred to IBM SPSS Statistics for Windows to calculate absolute and relative frequencies. Quantitative variables were described by mean and standard deviation. To analyze the variables, the Mann-Whitney nonparametric test was used, while the Kruskal-Wallis test was used for several groups. A 5% non-sequitur and the related significance level of $p<0.05$ were assumed.

RESULTS

Participants were predominantly female (65.2%). Ages ranged from 65–94 years (M=72.41; SD=6.90). Regarding the highest level of educational attainment of respondents, 40.6% had only primary education, 42.8% had secondary and 16.7% had higher education; 56.5% were from urban areas. In personal health self-assessment, 61% of respondents rated their personal health as 'good' or 'very good', in comparison to 39% of respondents who rated their personal health as 'bad' or 'fair' (Tab. 1).

More than 58% of the respondents revealed that they never or rarely engaged in 30-minute physical exercise twice a week. Balanced diet was followed regularly by 51.4% of the respondents, 47% – once in a while, and 14.5% – rarely. Frequent fast-food consumption and an excessive intake of salt and sugar was found in 13% of the respondents. Overweight was found in 55.8%, among whom 28.3% exceeded the norm by 5–8 kg and 27.5% by more than 8 kg.

Table 1. Demographic and socio-economic variables [n=138]

Demographic and socio-economic variables		n	%
Gender	Male	48	34.8
	Female	90	65.2
Age	Up to 70	65	47.1
	71 and older	73	52.9
Education	Primary education	56	40.6
	Secondary education	59	42.8
	Tertiary education	23	16.7
Place of residence	Rural residents	60	43.5
	Urban residents	78	56.5
Household living situation	Alone	44	31.9
	With spouse or partner	6	4.3
	With family	55	39.9
	With spouse or partner and with family	33	23.9
Participated in activities run by the Daily Centre for the Elderly or other organizations/institutions	Yes	44	31.9
	No	94	68.1
Health condition	Very good	9	6.5
	Good	52	37.7
	Fair	68	49.3
	Bad	9	6.5

n – frequency; % – percent

Moreover, 26.8% of respondents were found to rarely or only occasionally (10.9%) sleep for 7–9 hours at night, and 55.2% had experienced major stressful events in the past year. The vast majority of seniors (89.1%) had a very good relationship with those around them; 81.9% rarely exhibited aggressive behaviour, and 76.1% had feelings of anger and hostility. A significant proportion of seniors (75.4%) did not smoke cigarettes and rarely abused drugs (87.7%) (Tab. 2).

Those aged over 71 years were found to make significantly less use of stimulants (p=0.050), be more satisfied with their social roles, and maintained good relationships with those around them (p=0.031) and had a better relationship with family and friends (p=0.046). Younger respondents significantly more frequently to exhibited positive thinking (p=0.049) (Tab. 3).

There was a statistically significant difference between men and women in the global score (p= 0.011) and the domains of nutrition (p=0.017), tobacco and toxins (p=0.022), and alcohol (p < 0.0001). Women were significantly more likely than men to lead healthier lifestyles by following a balanced and healthy diet, and made less use of stimulants (Tab. 4).

There were statistically significant differences between groups with different levels of education in the domains of global score (p =0.031), nutrition (p=0.015) and alcohol (p=0.022). Higher-educated individuals tended to have higher scores (Tab. 5).

Persons participating in activities run by the Daily Centre for the Elderly or other organizations/institutions tended to have higher scores in the global score (p=0.013) and the following domains: activity (p=0.005), nutrition (p=0.006), tobacco & toxins (p=0.010), and alcohol (p=0.047) (Tab. 6).

Participants from urban areas tended to have higher scores in the domains of aqctivity (p=0.017) and nutrition (p=0.015). No statistically significant differences were found between the overall lifestyles of those living in rural and urban areas (Tab. 7).

Table 2. Scores and percentages of Fantastic Life Inventory (FLI) Items

FLI	2 pts.		1 pts.		0 pts.	
	n	%	n	%	n	%
Communication with others is open, honest and clear	112	81.2	25	18.1	1	.7
I give and receive affection	96	69.6	29	21.0	13	9.4
I get the emotional support that I need	94	68.1	36	26.1	8	5.8
Active Exercise – 30 minutes, twice a week, e.g. running, cycling, fast walk – weekly or never	24	17.4	33	23.9	81	58.7
Relaxation and enjoyment of leisure time	77	55.8	52	37.7	9	6.5
Balanced meals	71	51.4	47	34.1	20	14.5
Breakfast daily	113	81.9	20	14.5	5	3.6
Excess sugar, salt, animal fats, or junk foods	77	55.8	43	31.2	18	13.0
Ideal weight	61	44.2	39	28.3	38	27.5
Tobacco in the past year	104	75.4	1	.7	33	23.9
Abuse of drugs, prescribed and non-prescribed	121	87.7	16	11.6	1	.7
Coffee, tea, cola	87	63.0	50	36.2	1	.7
Average intake per day	130	94.2	8	5.8	0	0.0
Alcohol & driving	135	97.8	3	2.2	0	0.0
7–9 hrs. sleep per night	86	62.3	37	26.8	15	10.9
Frequency of seat belt use	122	88.4	13	9.4	3	2.2
Major stressful events in the past year	62	44.9	59	42.8	17	12.3
Sense of time urgency; impatience	74	53.6	56	40.6	8	5.8
Competitive and aggressive	113	81.9	24	17.4	1	.7
Feelings of anger & hostility	105	76.1	33	23.9	0	0.0
Positive thinker	96	69.6	38	27.5	4	2.9
Anxiety, worry	57	41.3	71	51.4	10	7.2
Depression	107	77.5	30	21.7	1	.7
Satisfied in job or role	97	70.3	34	24.6	7	5.1
Good relationships with those around	123	89.1	13	9.4	2	1.4

Range: 0–2 pts.
n – frequency; % – percent

Table 3. Mean Scores for FLI global score and domains by Age

FLI	Up to 70			71 and older			Statistic	
	M	*Me*	*SD*	*M*	*Me*	*SD*	*Z*	*p*
Global	40.15	41.00	4.29	39.56	41.00	5.37	-0.233	0.816
F	5.29	6.00	1.04	4.79	5.00	1.43	**-1.991**	**0.046**
A	2.15	2.00	1.06	2.01	2.00	1.14	-0.756	0.450
N	5.46	6.00	1.68	6.00	6.00	1.72	-1.877	0.060
T	4.77	5.00	1.32	5.22	6.00	1.04	**-1.958**	**0.050**
A	3.92	4.00	0.27	3.92	4.00	0.40	-0.816	0.414
S	4.74	5.00	1.14	4.67	5.00	1.16	-0.366	0.715
T	5.11	5.00	0.99	5.00	5.00	1.09	-0.367	0.713
I	5.02	5.00	0.91	4.56	5.00	1.28	**-1.968**	**0.049**
C	3.69	4.00	0.58	3.38	4.00	0.88	**-2.158**	**0.031**

F – Family and friends; **A** – Activity; **N** – Nutrition; **T** – Tobacco, toxins; **A** – Alcohol; **S** – Sleep, seatbelts, stress; **T** – Type of personality; **I** – Insight; **C** – Career.
M – mean; Me – median; SD – standard deviation; p – asymptotic significance (2-tailed); Z – test statistic for the Mann-Whitney U Test

Table 4. Mean Scores for FLI global score and domains by Gender

FLI	Male			Female			Statistic	
	M	*Me*	*SD*	*M*	*Me*	*SD*	*Z*	*p*
Global	38.35	39.00	5.20	40.63	42.00	4.54	**-2.548**	**0.011**
F	4.88	5.00	1.25	5.11	6.00	1.30	-1.317	0.188
A	2.06	2.00	1.10	2.09	2.00	1.11	-0.380	0.704
N	5.23	5.00	1.92	6.02	6.00	1.54	**-2.390**	**0.017**
T	4.67	5.00	1.33	5.19	6.00	1.09	**-2.294**	**0.022**
A	3.77	4.00	0.56	4.00	4.00	0.00	**-3.974**	**0.000**
S	4.83	5.00	0.95	4.63	5.00	1.23	-.583	0.560
T	4.92	5.00	1.13	5.12	5.00	0.99	-.900	0.368
I	4.60	5.00	1.27	4.87	5.00	1.06	-1.022	0.307
C	3.40	4.00	0.76	3.60	4.00	0.76	-2.002	0.045

M – mean; Me – median; SD – standard deviation; p – asymptotic significance (2-tailed); Z – test statistic for the Mann-Whitney U Test

Table 5. Mean Scores for FLI global score and domains by Education

FLI	Primary education			Secondary education			Tertiary education			Statistic	
	M	*Me*	*SD*	*M*	*Me*	*SD*	*M*	*Me*	*SD*	*Chi²*	*P*
Global	39.45	40.50	4.54	39.66	41.00	4.62	41.26	43.00	6.17	**6.980**	**0.031**
F	5.16	6.00	1.12	4.86	5.00	1.37	5.13	6.00	1.42	1.351	0.509
A	2.07	2.00	1.06	2.15	2.00	1.16	1.91	2.00	1.08	0.992	0.609
N	5.30	5.50	1.80	5.88	6.00	1.51	6.48	7.00	1.75	**8.393**	**0.015**
T	4.93	5.00	1.20	4.98	5.00	1.20	5.26	6.00	1.21	2.334	0.311
A	3.84	4.00	0.46	3.97	4.00	0.26	4.00	4.00	0.00	**7.636**	**0.022**
S	4.66	5.00	1.07	4.71	5.00	1.22	4.78	5.00	1.17	0.541	0.763
T	5.09	5.00	1.01	4.92	5.00	1.09	5.30	6.00	0.97	2.707	0.258
I	4.82	5.00	1.13	4.73	5.00	1.16	4.78	5.00	1.17	0.241	0.886
C	3.57	4.00	0.66	3.46	4.00	0.88	3.61	4.00	0.72	0.579	0.749

M – mean; Me – median; SD – standard deviation; p – asymptotic significance (2-tailed); Chi² – test statistic for the Kruskal Wallis H Test

Table 6. Mean Scores for FLI global score and domains by groups specified due to participation in activities run by the Daily Centre for the Elderly or other organizations/institutions

FLI	Yes			No			Statistic	
	M	*Me*	*SD*	*M*	*Me*	*SD*	*Z*	*p*
Global	41.18	42.00	4.74	39.21	40.00	4.85	**-2.485**	**0.013**
F	4.91	5.00	1.39	5.09	6.00	1.23	-0.700	0.484
A	2.48	2.00	1.19	1.89	2.00	1.01	**-2.817**	**0.005**
N	6.34	6.00	1.51	5.47	6.00	1.74	**-2.733**	**0.006**
T	5.36	6.00	1.04	4.84	5.00	1.24	**-2.590**	**0.010**
A	4.00	4.00	0.00	3.88	4.00	0.41	**-1.986**	**0.047**
S	4.57	5.00	1.34	4.77	5.00	1.04	-0.396	0.692
T	5.11	5.00	0.92	5.02	5.00	1.10	-0.138	0.890
I	4.82	5.00	1.17	4.76	5.00	1.13	-0.385	0.700
C	3.59	4.00	0.73	3.50	4.00	0.79	-0.863	0.388

M – mean; Me – median; SD – standard deviation; p – asymptotic significance (2-tailed); Z – test statistic for the Mann-Whitney U Test

Participants who assessed their health as 'very good' or 'good' tended to have higher scores in the al score (p=0.009) and the following domains: fmily & friends (p=0.003), type of personality (p=0.008) and insight (p < 0.0001).

Table 7. Mean Scores for FLI global score and domains by Place of residence

FLI	**Rural area**			**Urban area**			**Statistic**	
	M	*Me*	*SD*	*M*	*Me*	*SD*	*Z*	*p*
Global	39.27	41.00	4.64	40.28	41.00	5.05	-1.502	0.133
F	5.18	6.00	1.10	4.91	5.50	1.41	-0.905	0.365
A	1.83	2.00	1.06	2.27	2.00	1.10	**-2.389**	**0.017**
N	5.35	5.50	1.72	6.05	6.00	1.66	**-2.421**	**0.015**
T	4.88	5.00	1.22	5.10	6.00	1.18	-1.132	0.258
A	3.87	4.00	0.43	3.96	4.00	0.25	-1.835	0.067
S	4.62	5.00	1.06	4.77	5.00	1.21	-1.170	0.242
T	5.17	5.00	0.92	4.96	5.00	1.12	-0.835	0.404
I	4.73	5.00	1.18	4.81	5.00	1.12	-0.297	0.766
C	3.63	4.00	0.58	3.45	4.00	0.88	-0.853	0.394

M – mean; Me – median; SD – standard deviation; p – asymptotic significance (2-tailed); Z – test statistic for the Mann-Whitney U Test

The lifestyles of most seniors ranked within the 'excellent' (45.7%) and 'very good' (41.3%) categories. Only 4.3% of the respondents were classified in the 'regular' category, which required the introduction of substantial modifications to one's health behaviours. No respondent was classified in the lowest, 'needs improvement' category (0–19 points) (Fig. 1).

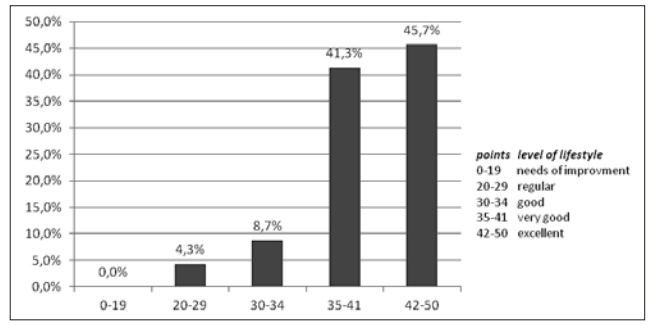

Figure 1. Number of points obtained by the respondents in the FLI global score

DISCUSSION

Studies on the lifestyle patterns of the elderly are especially important in view of the fact that the impact of health-related behaviours on human health increases as the person ages, with many chronic conditions occurring in advanced old age [22]. The presented study indicates that most seniors assess their lifestyles as 'very good'. It is difficult to compare this result with the results of other studies because the Fantastic Life Inventory has never been used to address the lifestyles of the 65+ age group.

The presented study shows that age is a significant determinant of the respondents' health behaviours. Older persons derive greater satisfaction from their social roles and maintain good relationships with people from their immediate environments. This correlation has been confirmed in studies conducted by other authors [23]. It is emphasised that strong emotional ties with family members and friends exert a significant impact on older adults' satisfaction with life, health and mental wellbeing [14, 24]. In a study by Cybulski et al. [14], carried out on a 200 residents of public nursing homes and 200 members of the University of the Third Age,

it was found that the greater the level of satisfaction with life, the elderly show a greater the level of support they receive from their families.

Physical activity is one of the domains of lifestyle where the health behaviours of the elderly were noted to be in the greatest need of change. Skrzek et al. argue that an active lifestyle constitutes one of the most important factors affecting the health, independence and quality of life of seniors [25]. Statistically significant health behaviours pertaining to physical activity were observed in the group of people living in the countryside and not participating in the activities offered by daily centres for the elderly or the University of the Third Age. A fact worth stressing is that the various types of institutions/organizations which provide services to seniors are usually located in cities, owing to which they effectively foster the development of social activity among the elderly [26, 27]. According to Adamiak, engaging in activities to the benefit of others may reduce the occurrence of deficits in the sphere of social life, especially in the case of seniors [28].

The eating habits of older people play an important role in the shaping of their healthy lifestyles and have an impact of the quality of life [29–31]. Studies have shown that a healthy and balanced diet is systematically followed by only half of the respondents; the rest do it only occasionally, or rarely. It was also found that people living in rural areas exhibited the largest negligence in this area. Different results regarding the lifestyle of people living in rural areas have been presented by Tawares et al. [32], who stated that the residents of rural areas demonstrated significantly more healthy lifestyles in terms of physical activity and diet, than the residents of cities. According to the authors, these differences can be attributed to the higher quality of life of people living in rural areas.

Studies have confirmed that gender is a factor which significantly determines the lifestyle of older people. It has been shown that women are significantly more likely than men to lead healthy lifestyles by following more balanced and healthy diets [13, 33], and consuming less stimulants such as tobacco and alcohol [34]. Substantial differences between the lifestyles of respondents based on their gender were also confirmed by Södergren et al. [35].

A correlation was found between the level of education and lifestyle of the elderly. The higher their level of education, the more likely seniors were to exhibit healthy behaviours regardinget and the consumption of alcohol. Literature provides a number of reports on this subject. In their studies, Zanjani S. et al. have not confirmed any significant correlation between the level of education and the lifestyle of the elderly [22]. Other authors, however, ehave shown that a correlation does exist [15, 36, 37], e.g. the lower the level of education, or even illiteracy, the lower the level of health knowledge and lower scores on health behaviours [15].

The presented study is bound by some limitations, including the relatively small research group and the limited territorial coverage of the studies (one Province). For this reason, the results may not be representative of people aged 65+ living in Poland. Despite these limitations, the study indicates that the Fantastic lifestyle instrument, which has been used in Poland for the first time, can indeed be utilised to assess the lifestyle of the elderly which, in turn, may form a basis for the planning of activities aimed at the promotion of health behaviours among elderly. However, it should be emphasized that the Lublin Province was intentionally selected because it is an area inhabited by a larger number of people from rural areas than any other Province in the country [1].

CONCLUSIONS

1. The majority of the elderly surveyed in the study showed very good lifestyles with healthy habits.
2. The lifestyle of the elderly is determined by several factors including age, gender, health status, level of education and place of residence.
3. The adoption of healthy lifestyle activities, especially a regular balanced diet and proper physical activity, can help prevent functional limitations in the elderly from rural areas; therefore, the results of the study may be useful in organizing health promotion and health education programmes for the elderly from rural and urban areas.
4. Fantastic lifestyle checklist can be successfully used to study the lifestyle of older people

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