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Happy and Long Life of the Elderly

Summary: Happiness is defined as a status of the stable, global quality of life, and the extent, to which a person evaluates positively the overall quality of present life. This concept means overall assessment of life, instead of a specific areas (e.g., work, marriage, physical condition), and indicates a stable state of mind and life's appreciation. Satisfaction related to living conditions and subjective well-being are two dimensions of happiness.

The aim of the paper is to evaluate Happy Life Expectancy (HapLE) for the elderly (60+).The paper presents the impact of depression on elderly's quality of life, and determinants influencing the risk of mental disorder's occurrence. Depression is one of the most important disorder, that lowers the quality of life.

We have found, that men might expect the more years of happy life, not only in absolute value, but also, as a percentage of total Life Expectancy. Along with age, HapLE values deteriorate, and this diminution is faster for women.

Keywords: happiness, quality of life, elderly, depression, HappyLife Expectancy (HapLE).

Introduction

Over past decades, a significant increase in life expectancy can be observed, not only in developed countries, but also developing ones. However, longer life is not only related to the extended period of social and economic activity. Studies indicate, that an increase in life expectancy is often accompanied by stagnant life expectancy without disability (see [29]).

This creates a huge challenge and an economic burden for ageing societies, by the need to ensure the retirement benefits, health care services and nursing care for the growing strength of seniors

Along with age the risk of serious disability increases, limiting not only keeping an active life, but also making daily activities, including self-service, more difficult. What is the essential, not only somatic illnesses are the source of

disability, but also mental disorders, especially depression. Mental diseases and disorders are one of the main factors, which reduce the activity of the elderly (see [11]) affecting women more than men (see [5]; [16]).Mental disorders, such as signs and symptoms of anxiety or depression, through reducing of daily activities of the elderly (see [1]) significantly lower seniors' quality of life. Mental health has an important impact on seniors' daily activity, and even physical strength, which is of particular importance for the elderly (see [8]; [22]).

Diagnosis and treatment of mental disorders is, thus, of vital importance for preservation of, possibly high, quality of life, and prolonging of elderly's activity, what has an important impact both on social and economic environment.

Mental disorder, which occurs relatively often in old age, is depression (see [8]; [9]; [16]) that can increase generalmortality (Trainor, Mallett & Rushe 2013). In the case of the elderly disorders related with mood disorder are far more common, among others, as a result of greater exposure to several losses in personal and professional life (see [1]).

Depression is so a common, chronic disorder among the elderly. Moreover, symptoms of social dysfunction and depression generally worsen with age (see [8]), although usually are less severe than for younger people (see [25]). Studies on prevalence of depressive disorders, carried out on different populations are not clear-cut. It is estimated, that this problem affects 7%–25% of people over 60 years. Older people are reluctant to report symptoms of depression, they often perceive light or medium problems with lowered mood, as an integral part of the aging process, and believe, that they should resolve this type of problems primarily on their own (see [9]). In Switzerland, 15.7% of people over 65 years old experience mental disorder of medium or heavy degree, like dementia or sleep disorders (see [3]). Other studies show, that 14% of older people, visiting primary care doctor,fullfil diagnostic criterion for depression (see [9]). Morbidity indicators for mental disorders, however, show considerable variation, not only between different populations, but also geographically (see [21]).

Factors influencing the risk of depression among the elderly are very diverse-somatic, mental, economic and social. One of the most important factor, that strongly favors the occurrence of mental disorders, particularly depression, is coexistence of other, heavy, especially chronic, diseases (see [1]; [6]; [13]; [23]; [25]; [27]; [28]). Old age is, usually accompanied by development of chronic diseases, the general deterioration of health, it's the period, when the risk of development of mental health problems, in a natural way, increases. In the same way, disability affects development of mental disorders, including disability which limit daily activities, often resulting from ongoing medical conditions (see [5]; [13]; [23]; [27]). Not only low ability, both mental and physical, is a factor of depression, but also declining ability (see [18]; [27]).

Another factor of depression's development is also a lowering of economic status, most commonly associated with the retirement and the loss of revenue

(see [1]; [7]; [12]; [13]). In this context, early retirement, as well as frequent absenteeism, are factors of depression's occurrence (see [13]).

Financial dystres also affects negatively the use of mental health's benefits by reducing funding opportunities (see [18]). Poverty and mental health are then negatively correlated, especially in developed countries (see [7]). Retirement means not only a reduction in income, but often changes of the social status, and, as a result, a reduction in social activity (see [27]). Decline of social status can also be a serious impetus to the development of mental disorders (see [1]; [11]). Changes in social status are also linked to social isolation and lost of a partner (see [13]). Other factors, that favor depression's occurance, these ars: low social status (see [11]), the female gender, low education, the loss of a partner, loss of cognitive ability (see [7]).

Depression also generates significant costs for health system. Older people, experiencing symptoms of depression, are twice as likely to use emergency medicine and hospital services. The cost of care for the elderly with depressive symptoms can be ,up to 50%–100% higher, than for comparable patients without depression (see [13]). This also applies to outpatient services (see [17]). Thereby depression becomes one of the most costly disorder (see [13]; [17]; [24]). To conclude, the problem of depression and its impact on elderly's quality of life, and, consequently, a sense of happiness (see [25]). Studies of other authors (see [29]) indicate, that the *Happy Life Expectancy* (*HapLE*) is the most important determinant of the quality of life and provides information particularly important for social policy (see [26]). Happiness is formally defined as a state of stable, overall quality of life and a personal, subjective evaluation of present life (see [26]). This means overall assessment of life instead of evaluation of specific areas of life (e.g., work, marriage, physical condition). That's also indicates a stable state of mind and life's appreciation. The satisfaction of living conditions and subjective well-being are dimensions of happiness. Life satisfaction means, basically, the same sense as happiness, while subjective well-being is a broader notion, that incorporate happiness and overall satisfaction (see [29]).

According to increasing longevity and an increase in the number of elderly people, effective and precise measurement of depression in old age seems to be particularly important.

Happy Life Expectancy (HapLE) is a measure can be estimated using data on longevity (mortality rates and life tables) and subjective appreciation of life/happiness (survey data) (see [2]; [29]).

The aim of the study is to determine the impact of mental disorders, especially depression, among the elderly on Happy Life Expectancy (HapLE). Hypotheses, formulated on the basis of literature review, concern the influence of gender and age on the value of the HapLE. We used data coming from a survey on N = 1538 people aged 60+.

1. Method

The aim of the study is to estimate the Happy Life Expectancy (HapLE) for the elderly in Poland.Other studies indicate, that older women report lower happiness than older men, and this gender inequality deepens with age (see [10]; [19]). Trend analysis shows a change of gender differences in time – women were happier than men in the 1970s and less happy than men in the 1990s (see [26]), what might be associated with dynamic social changes during last decades. Previous studies also suggest, that age is a significant demographic variable determining Happy Life Expectancy (HapLE).

On this basis, the research two hypothesis has been constructed:

H1: gender is one of the most important factors determining elderly's sense of happiness, life satisfaction, serenity and optimism;

H1 hypothesis is based on the results of reseach, indicating differences between the sens of happiness by women and men. Notwithstanding reasons for this phenomenon, of psychical or physical nature, men, also in old age, are more likely to feel happiness (see [20]). That can cause differences in the share of HapLE in LE.

H2: the sense of happiness in the elderly population deteriorates with age.

H2 hypothesis assumes that, with age, the sense of happiness worsens, as a result of deteriorating mental and physical health (see [29]). This phenomenon manifests in lowering of the share of HapLE in LE.

The study was carried out on the elderly population (N = 1539). Women represented (N = 891; 58%) and males (N = 645; 42%) of research's population. Because there were no selection criterion for respondents, the set of surveyed patients can be considered astherandom sample, representative for age groups of elderly's population, for patients searching medical advice in primary care centers, in 2013.

In the survey questionnaire, prepared by the authors, in the section concerning positive measures of well-being, a question about the sense of happiness in the past life, was put. Knowing the percentage of women and men, who declared one of the three states of well-being (happy, pretty happy, unhappy), the number of years lived in happiness (by a person), for every age group, has been estimated YWD_x:

$$YWD_x = (1 - \pi_x) \times L_x \qquad (1)$$

and then the total number of years lived by a person in happiness, in the age [x, $x+5$):

$$D_x = \sum_{y \geq x} {}_n L_y \qquad (2)$$

On the basis of the total number of years lived in happiness experienced by people aged [x, $x+5$) happy life expectancy has been estimated – HapLE in age [x, $x+5$):

$$HapLE = \frac{D_x}{l_x} \tag{3}$$

2. Results

Happiness is far more frequent in men's population. Among young men (60–64 years) only 18.7% declared, that they are unhappy, just as 42.0% of women at this age. The percentage of unhappy people definitely increases with age – 42.4% of the oldest men (85+) and 70.6% of the oldest women feel unhappy.

The analysis indicates, that there are differences in the share (%) of Happy Life Expectancy in Life Expectancy (LE) in the population of women and men in Poland (Tables 1 and 2).

Table 1. Estimated Happy Life Expectancy (HapLE) for elderly men

Age	Life Expectancy		Percentage of persons who declared "unhappy" in given age group	Happy Life Expectancy	
$x, x+n$	e_x	$S(e_x)$	π_x	$HapLE_M$	$HapLE_M/e_x$
60–64	18.73	0.02	0.187	13.65	**72.89%**
65–69	15.50	0.02	0.208	10.86	**70.06%**
70–74	12.53	0.02	0.288	8.29	**66.19%**
75–79	9.82	0.02	0.308	6.23	**63.47%**
80–84	7.48	0.02	0.404	4.42	**59.15%**
85+	5.60	0.01	0.424	3.27	**58.40%**

Source: own study.

Table 2. Estimated Happy Life Expectancy (HapLE) for elderly women

Age	Life Expectancy		Percentage of persons who declared "unhappy" in given age group	Happy Life Expectancy	
$x, x+n$	e_{2x}	$S(e_{2x})$	π_{2x}	$HapLE_K$	$HapLE_K/e_x$
60–64	23.86	0.02	0.420	9.34	**39.14%**
65–69	19.80	0.02	0.630	6.79	**34.29%**
70–74	15.94	0.02	0.642	5.33	**33.42%**
75–79	12.30	0.01	0.650	3.99	**32.44%**
80–84	9.10	0.01	0.680	2.82	**31.04%**
85+	6.55	0.01	0.706	1.99	**30.41%**

Source: own study.

Results show, that men can expect, on average, from 3.27 years in happiness, for men over 85 years, to 13.65 years form age group 60–64 years. For women, those values are equal to 1.99 and 9.34 respectively. Despite the fact, that life expectancy for men is generally lower, even a simple comparison of absolute values of life expectancy in happiness, shows higher expectancies for men, in every age group.

Verification of adopted hypotheses requires, however, the analysis of relation of HapLE (Happy Life Expectancy) to LE (Life Expectancy), what determine, what part of life expectancy can potentially be happy. That allows the comparison not only between the sexes in the various age groups, but also between age groups.

The share of years in happiness in total life expectancy for women ranges from 30.41% in age group 85+, to 39.14% for women aged 60–64 years. For men, these values equal, respectively, 58.4% and 72.79%.Men, not only, are to live shorter, but they experience more years of happiness. It can be assumed, that, partly, differences between sexes may be explained by the fact, that men, don't reach the very advanced age, when subjective well-being significantly lowers. Sex turns out to be a very important factor, affecting feeling of happiness. Obtained results allow to accept the hypothesis H1.

The share of "happy life" in total life expectancy also decreases with age, and this relationship can be observed in, both, women's and men's population, but pace of decline of this share is definitely faster in case of men. This results allow to prove the hypothesis H2.

3. Discussion

Many studies shows, that satisfaction with life (happiness, well-being) seem to be very high, among the elderly, despite their declining physical health and life with a disability. In United States, 94.4% of older people report, that there are satisfied or very satisfied with their lives, in China 77.8% is fairly or very satisfied, in Canada, more than 90% of the elderly claim to be satisfied or very satisfied with life. The elderly in Italy and Germany assessed their happiness (life satisfaction) as 7,5 in 10 point scale (see [4]). The results, obtained in this study, seem to deviate significantly from those connoted above. Only among the young men the percentage of "happy" and "pretty happy" can be compared with other studies – 81.3% (in age group 60–64) and 79.2% (in age group 65–69).

The difference is also visible in the relationship of HapLE to LE. Yang found, that for persons at the age of 65, 90.6% of LE (for men) and 86.6% of LE (for women) can be potentially happy. It's definitely higher value than results obtained in this study for the comparable age groups, both women and men. For person at the age of 85, this difference is even more significant. Yang found that

the relationshipHapLE /LE was equal to 91.7% for men and 87.2% for women (see [29]).

Conclusions

The old age is related to many changes, that often cause depression and other mood disorders, that affect the assessment of elderly's well-being. Deteriorating health and lower social and material status are basic factors of mental health status's deterioration.

This is reflected in life expectancy in happiness and, especially, in the relationship of lifespan in happiness to the total life expectancy. These values clearly differ from those obtained in other studies (USA, Western Europe). The causes of this phenomenon may be various and, certainly, require further research, but it may be supposed, that poor health and low social and economic status of the elderly in Poland are important factors.

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Szczęśliwe i długie życie osób starszych

Synopsis: Szczęście jest definiowane jako stan stabilnej, globalnej jakości życia i stopnia, w jakim dana osoba ocenia pozytywnie ogólną jakość swojego obecnego życia. Ta koncepcja oznacza ogólną ocenę życia, zamiast w określonej dziedzinie życia (np. praca, małżeństwo, kondycja fizyczna). Wyraża również stabilny stan umysłu i doceniania życia. Zadowolenie z warunków życia i subiektywne samopoczucie są podstawowymi wymiarami szczęścia.

Celem prowadzonego badania jest oszacowanie oczekiwanej długości życia w szczęściu (HapLE) dla osób starszych (60+). W artykule zaprezentowano wpływ depresji na jakość życia osób starszych oraz czynniki zwiększające ryzyko wystąpienia zaburzeń psychicznych w starszym wieku.

Badania pokazały, że mężczyźni mogą oczekiwać dłuższego życia w szczęściu, zarówno wyrażonego w latach, jak i w relacji do całkowitej oczekiwanej długości życia. Wraz z wiekiem, wartości HapLE obniżają się zarówno wśród mężczyzn, jak i kobiet, jednak w przypadku kobiet następuje to szybciej.

Słowa kluczowe: szczęście, jakość życia, osoby starsze, depresja, oczekiwana długość życia w szczęściu (HapLE).