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EFFECT OF DIETS OF PATIENTS USING DIETARY GUIDANCE SERVICES IN SOUTH-WESTERN POLAND ON QUALITY OF LIFE

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Purpose: The present paper aims to approximate issues related to the quality of life, which is directly affected by health status and nutrition.
Design/methodology/approach: Over the last years, there has been a noticeable trend towards healthy diets and physical activity. This is crucial for modern civilization with all its inherent lifestyle disorders and chronic diseases. These issues are correlative as demonstrated by the authors based on the empirical study and literature review of the presented problems. An empirical study referring to the problems discussed was conducted on a group of over one hundred respondents (patients of dietetic clinics).
Research limitations/implications: The results directly indicated that people who eat healthy diets, as verified by the regularity and type of products consumed, rate their quality of life relatively higher than those who do not pay attention to their nutrition.
Originality/value: The paper also refers to issues related to health and its impact on the perceived quality of life, which are correlated. An important point to emphasise is that the article points to issues that are a reflection of everyone's life, and learning about the relationships presented can contribute to greater awareness and a relatively higher quality of life.

Keywords: quality of life, healthy lifestyle, diet, health status.

Category of the paper: research paper.

1. Introduction

Many problems are encountered when defining lifestyles and quality of life. Lifestyle is a sociologically grounded concept characterized by multiple points of view (Jensen, 2007). One of the definitions states that it is the way an individual exists or would like to exist (Pulkkinen, Kokko, 2010). Another defines it as the sum of health factors such as diet, physical

activity, and stimulants (Bolt, 2002). Lifestyle is defined as the material expression of an individual's identity (Wilska, 2002) and a set of practices and attitudes that make sense in specific contexts (Chaney, 1996). In order to correctly interpret people's lifestyles, it is important to understand the differences and similarities between the different ways in which individuals encounter reality and lead their lives, how they develop and express their personality and identity, and how they form relationships with other individuals/social groups (Johansson, Miegel, 1992). It is indicated that even small differences in lifestyles can have a large impact on a person's health (Khaw et al., 2008).

Leading a healthy lifestyle, including eating a healthy diet and staying physically active has an effect on a higher perceived quality of life. A literature review reveals often divergent and mutually exclusive views, which is due to both the interdisciplinary approach of the science and the broad spectrum of interest. WHO defines the quality of life as "the individual's perception of the position of life of individuals in the context of the culture and value system in which they live and in relation to their goals, expectations, and standards" (WHO, 1996). The homogeneous nature of definitions of economic sciences, attempts to conceptualize psychological sciences, and approaches from the perspective of medicine, pedagogy, and sociology show the importance of addressing this problem. Table 1 presents the predictors of quality of life as looked at by the different fields of study (Trzebiatowski, 2011; Wnuk, Marcinkowski, 2012).

Table 1.
Predictors of quality of life by field of study

Field of study	Predictor of quality of life
Economy	Objective living conditions (financial wealth of representatives of the society)
Psychology	Quality of adolescence, positive interpersonal relations, capacity for self-actualization, self-realization, self-expression and self-transcendence, adaptive habits, and cognitive schemas
Pedagogy	Education and values
Sociology	Interpersonal relations
Medicine	Mental, physical, and social well-being

Source: Wnuk, Marcinkowki, 2011, 21-26.

Health is a concept inextricably linked to the quality of life and is one of the most important values. It is defined by WHO as "a complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO, 2007). It is a multidimensional term, sociologically defined as a dynamic balance between the opportunities and constraints of daily life dependent on external factors on the social and environmental levels (Huber et al., 2011). Although the assessment of the quality of life has become increasingly important in health care over the past few decades (Ferrans et al., 2005) underestimation and underutilization of preventive lifestyle treatments (Angell, 2009) are still common.

Health-seeking behavior has a huge impact on the perceived quality of life. The concepts of quality of life and health are often found in the literature as interchangeable terms. Quality of life is a broader term, encompassing a greater number of determinants. The concept of quality

of life was introduced into medical science by Schipper, who defined it as "the functional effect of the disease and its treatment as perceived (experienced) by the patient" (Schipper, 1990). This term represents the patient's physical and mental state and mobility, social and economic situation, and somatic experiences (Trzebiatowski, 2011). Quality of life can be a measure of health (Wonjeong, Eun-Cheol, Sung-In, 2020) (Table 2).

Table 2.
Model of health-related quality of life

Patient's sphere of life	Criteria to be assessed
Physical	- basic physiological needs, - self-care abilities, - mobility, - physical activity, - performing social roles (in the family, at work)
Psychological	- the degree of adaptation to the disease, - experiencing negative and positive feelings, - presence of mental disorders
Social	- interpersonal contacts (type and quality), - social activity, - receiving support from the immediate environment
Somatic	- presence of disease symptoms (type, severity, and frequency), - their possible effect on changing the existing quality of life

Source: Kurpas, Czech, Mroczek, 2021, 717-181.

The effect of physical activity on human health is becoming an increasingly important topic in both research and practice of individuals due to a range of physical, psychological, and social benefits (McConell-Nzunga et al., 2020; Shuremu, Belachew, Hassen 2023), and reduction of non-communicable diseases (Sun et al., 2021). Its absence is a predictor of chronic disease development (Galle et al., 2020). Physical activity improves human health (Bruseghini et al., 2020) regardless of age, gender, ethnicity, or weight (Nocon et al., 2007). Another determinant of human quality of life is diet (Mann, Truswell, 2002). Food intake is a prerequisite for the existence of any living organism as it requires a regular supply of energy and nutrients regardless of age, sex, or location (Whitney, Rolfes, 2019), taking into account individual health, genetic, and cultural determinants. Nutrition is the process of providing or obtaining the food necessary for health and growth. Among the elements that influence the healthy character of a diet are energy balance, the regularity of meals, and their variety (Mann, Truswell, 2002). Proper nutrition promotes health and well-being, influences the mental balance of a person, his or her perception of reality, and interpersonal relations. Food choices and behavior depend on biologically determined behavioral predispositions (taste, hunger, and satiety mechanisms), food experiences (psychological and social conditioning), personal determinants (intrapersonal and interpersonal factors), and social factors (Remick, Polivy, Pliner, 2009). This behavior depends largely on the environment in which the individual lives and the cultural norms that form and limit individual decisions. Nowadays, the conscious consumer is interested in the origin of the product and its quality (Cantarelli, 2016). Increased consumer motivation and engagement have been shown to be a key driver of healthy and sustainable eating (Wonjeong, Eun-Cheol, Sung-In, 2020). Unbalanced diets and insufficient physical activity are major

threats to health worldwide (Adhikari et al., 2022). The growing epidemic of chronic diseases, affecting both developed and developing countries, is linked to changes in diets and lifestyles (WHO, 2003; Laster, Frame, 2019). These diseases significantly reduce the quality of life of society, while burdening the budget of states through the cost of treatment of citizens (Ilan, 2021). For this reason, the governments of some countries, including Denmark, Hungary, and France, collect taxes on unhealthy (Bruce, 2012). Studies show that socioeconomic conditions and quality of life have a strong effect on the BMI of the population (Banterle, Cavaliere, 2014; WHO, 2006). It is debatable whether income level affects food choices. Based on empirical findings, Carlson A. and Frazao E. demonstrated that there is no basis for the conclusion that people with lower income cannot afford healthy eating. Age and education undoubtedly have a significant effect on the quality of diets (Carlson, Frazao, 2012). People with higher education are healthier and live longer. Studies by Koc and Kipperluis showed that their diets are of higher quality (Koc, Van Kippersluis, 2017). The aim of the present study is to approximate issues related to the quality of life, which is directly affected by health status and nutrition.

2. Material, Methods and results

The study examined 104 people. The respondents were a group of patients receiving dietary guidance from south-western Poland. The survey was conducted in the second half of April 2019. The research method was a diagnostic survey and the research tool was a survey questionnaire developed for the purpose of the study by the authors. Based on the questionnaire, the respondents assessed their quality of life and answered questions about their diet. The questionnaire consisted of questions referring to subjectively assessed quality of life, specifying individual spheres of life, including physical, mental, social and somatic. Respondents also answered questions related to eating habits. The survey was characterized by anonymity, and respondents were informed about the purpose of the survey, so they did not feel embarrassed and their answers were more honest. The study group was selected using a non-probabilistic distribution with a network nature. The aim of the study was to analyze the correlation between the quality of life and diet. The following elements were considered as proper nutrition: regular meals (quantity and frequency of meals) and paying attention to the type of raw materials and products consumed, and their origin. Quality of life has been evaluated as a general measure of life satisfaction. The results obtained in the study were used for statistical analysis. The chi-square test was used to analyze the relationship between variables. For small expected sizes, Yates' correction or Fisher exact test was used. The significance level was set at $\alpha=0.05$. The results were considered statistically significant when the calculated test probability fulfilled the inequality of $p<0.05$. Calculations were performed using Statistica 10.0 Statsoft Polska software.

A group of 104 people participated in the study, including 78 people who declared to be healthy (75% of the respondents). It is worth emphasizing that the respondents assessed their health status fully subjectively (no criterion of necessity to specify a particular disease). Men constituted a group of 40 people (38% of the study group). The age range was as follows: 66 people aged 26-45, 32 people aged under 25 (31%), and a group of 6 people aged over 45 (6%).

Quality of life was measured on a scale from 0 to 7 (with 0 meaning no satisfaction, 1 - very low satisfaction, 2 - medium-low satisfaction, 3 - low satisfaction, 4 - average satisfaction, 5 - medium-high satisfaction, 6 - high satisfaction, and 7 - very high satisfaction). The results of the empirical survey indicated that more than half of the respondents (51%) describe their quality of life as high, 27% as very high, 17% as medium-high, and only 4% declared their quality of life as average (table 3).

Table 3.
Perception of quality of life by respondents

Variable	Mean	Standard Deviation	Minimum	Maximum
Quality of Life	6	0.800485	4	7

Source: author's own study based on the empirical research.

Respondents who described themselves as unhealthy additionally assessed their quality of life in relation to physical, psychological, social, and somatic factors (according to Table 2) (Kurpas, Czech, Mroczek, 2012). The lowest scores were found for somatic factors (M = 4.88) whereas the highest - for physical factors (M = 5.92), as shown in Fig. 1.

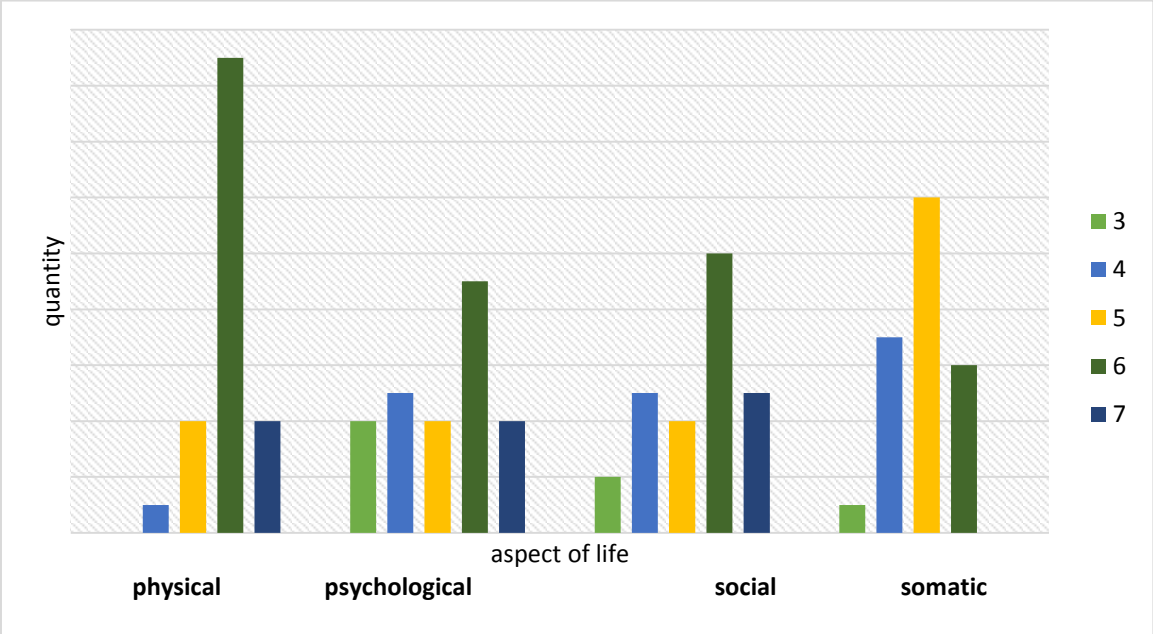

Figure 1. Health-related quality of life according to patients in aspects of physical, psychological, social, and somatic life (with 0 meaning no satisfaction, 1 - very low satisfaction, 2 - medium-low satisfaction, 3 - low satisfaction, 4 - average satisfaction, 5 - medium-high satisfaction, 6 - high satisfaction, and 7 - very high satisfaction).

Source: author's own study based on the empirical research.

The diet considered according to the study assumptions as healthy was declared by 51% of the respondents. These respondents showed that they paid a lot of attention to the meals they had and their regularity. The analysis revealed is a correlation between the quality of life and diet. The result is statistically significant (p = 0.017) (table 4). This observation is confirmed by the arithmetic means: for the group of respondents without a balanced diet M = 5.81 (SD = 0.92), while for those following a balanced diet M = 6.20 (SD = 0.60). Analysis using the Student's t-test indicated a statistically significant result (p = 0.013). It is highly probable that this is related to a greater awareness of both the principles of proper nutrition, leading healthy lifestyles, and self-perception. People with more knowledge in a variety of fields rated themselves and their happiness higher. The proportion of grades 6 or 7 in the group meeting the criteria for healthy nutrition is significantly higher compared to those not meeting the criterion (90.2% vs 66.0%). It is important to note that people who reported healthy nutrition rated their quality of life higher.

Table 4.
Quality of life and nutrition

Total	Chi-squared	df	p
Pearson's chi^2	10.19202	df = 3	p = .01700

Source: author's own study based on the empirical research.

The analysis showed that women who were on healthy diets assessed their quality of life significantly better. In contrast, in the male group, this result was statistically insignificant (p = 0.054) at the level of a noticeable trend. Fisher's exact test was used due to the small group sizes. It is likely that increasing the size of the study group would have a positive effect on the significance of the results, as a correlation similar to that observed in the group of women occurred. However, there is no statistical basis to consider the correlation as significant.

The correlation between an individual's health status and perceived quality of life is statistically significant. No correlations were found in the group of unhealthy people. The Fisher's test showed statistically insignificant results, which may be due to the small sample size as the differences in percentages are noticeable. The correlation found among healthy people is statistically significant based on Yates' correction (p = 0.043). The correlation between the quality of life and age is close to the statistical significance (p = 0.059). There is a tendency for the assessment of the quality of life to decline with the age of respondents (table 5).

Table 5.
Correlations between successive research elements

Quality of Life		Chi-squared	df	p
Criterion	Type of test used			
Women	Pearson's chi^2	4.338376	df = 1	p = .03726
Men	Two-tailed Fisher's exact test			p = .05360
Health status	Pearson's chi^2	25.47433	df = 1	p = .00000

Cont. table 5.

Unhealthy	Two-tailed Fisher's exact test			p = .22797
Healthy	Yates' chi^2	4.087765	df = 1	p = .04319
Age	Pearson's chi^2	5.666452	df = 2	p = .05882

Source: author's own study based on the empirical research.

3. Discussion and conclusions

Human potential is a predictor of the dependence of the quality of human life depends on awareness, health status, and knowledge and life experiences. It consists of such factors as competencies (knowledge, qualifications), internal motivations and the physical dimension understood in terms of such aspects as health or fitness (Gableta, 2003). The quality of life of the elderly, similarly to those chronically ill, is assessed relatively lower compared to younger and healthy people (WHO, 2002). Similarly to empirical studies conducted by the authors of the present article, the analysis of studies by other authors performed in the area of Poland shows that more than half of women suffering from chronic diseases assessed the quality of life as bad, while in the group of men, bad and very bad assessment was declared only by 32% of respondents (Pufal et al., 2004). Banaszkiewicz points out that while in gastrointestinal diseases that impede physiological functions (intestinal stoma), poor quality of life occurs in both sexes in a very similar percentage, very good quality of life was observed in the group of men 3 times more often (Banaszkiewicz et al., 2007). A high sense of the quality of life among unhealthy people facilitates coping with the disease (Sęk, 1993). It is indicated that quality of life deteriorates as the disease progresses (Glińska et al., 2021). It should also be noted that there is a correlation between regular physical activity and a higher quality of life (Watson et al., 2023, pp. 359-363). In addition, the 2030 Agenda for Sustainable Development draws attention against the background of sociological conditions, in which a new framework for the quality of life of residents is proposed. This document draws attention to the quality of life discussed in this article, as well as places great emphasis on pro-social behavior affecting pro-environmental behavior (McGuine et al., 2022). It should be pointed out that Puciato et al. when surveying the residents of Wrocław indicated that they rated their health-related quality of life in the social domain highest and in the physical domain lowest. They declared that the people surveyed indicated their quality of life to be average or below average. It should be pointed out that this is the same study site as that of the authors of this article (Puciato et al., 2023). It is worth noting the upward trend in the assessment of the quality of life among older adults and those chronically ill with higher education compared to those with lower education (Wysokiński et al., 2011). Social status correlates with diets. Nowadays, meals are used by consumers not only to satisfy their basic physiological needs but also those of a higher order related to displaying their social position, social contacts, or personal development (Grębowiec, 2012).

The analysis of the study by Chanduszko-Salska and Chodkiewicz indicated that, with respect to healthy dietary behavior that directly affects body weight, overweight and obese women were less satisfied with all aspects of their lives than those from the control group (with normal body weight) (Chanduszko-Salska, Chodkiewicz, 2010).

Our empirical studies confirmed that subjectively assessed quality of life correlates with diets. People who eat healthy diets (51% of respondents) indicated higher life satisfaction. This is determined by many factors. The correlation between healthy nutrition and health status does not show significance but a trend of healthy eating among healthy respondents using dietary guidance services is observed.

In addition, it should be noted, based on the results of empirical studies, that healthy nutrition can influence by increasing the subjectively assessed quality of life on the productivity of a person's activities, but also increases the productivity of employees, as well as the company as a whole, putting these relationships from an economic point of view. A team of researchers from the Health Enhancement Research Organization (HERO), Brigham Young University and the Center for Health Research at Healthways found that employees who eat a healthy diet and exercise regularly perform better at work. In their research, they showed that employees who ate healthy throughout the day were 25% more likely to perform better at work (HERO, 2016). It is therefore recommended, also from the employer's perspective, that employees take care of a healthy diet, which can increase their quality of life, willingness to perform their job duties and productivity.

It is worth considering further research in the areas of healthy eating, quality of life as well as the introduction of the factor of productivity and efficiency of work activities.

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