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Quality of life of patients after a myocardial infarction

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Introduction

A Latin adage says that "good health is better than the greatest wealth." [3] It has been known for a long time that the heart is the most important organ that works continuously throughout life to properly nourish all tissues, and thus determines the proper functioning and health of the entire human body. Meanwhile, despite the development of science, the advancement of diagnosis and treatment techniques, cardiovascular diseases, often leading to a heart attack, are the leading cause of death in most developed countries. [4]. Estimates of the National Centre For Heart Statistic say that 143 million people worldwide suffer from ischemic heart disease. [6]. A past of myocardial infarction, despite the high mortality, also affects the quality of life of patients. According to the definition of the World Health Organization (WHO), quality of life is an individual way in which an individual perceives his or her position in life in relation to the culture and value system in which he or she functions, as well as in the context of expectations, tasks and standards set by environmental determinants. [5]. The medical approach to the quality of life consists in identifying the patient's problems related to his physical, mental and social activity resulting from the disease and the treatment used, as well as describing his views on health and subjective well-being.

Aim of research

The aim of the study is to assess the quality of life of patients after myocardial infarction.

Material and methods

The research was conducted in the Department of Cardiology. The study included a group of 100 patients over 18 years old, who had suffered a myocardial infarction. The collected research material was statistically processed using the IBM SPSS Statistics (v. 25) statistical package. During the research necessary to write this work, the following tools were used: standardized questionnaire for the WHOQOL-BREF quality of life survey and Mini - COPE – Stress Coping Inventory. In order to determine the correlation between quantitative variables, the Pearson linear correlation coefficient was used, which is used to study the linear relationship between two features.

Results

The obtained results of the analysis were considered statistically significant at $p < 0.05$. 34% of people aged up to 65, 37% aged 66 to 75 and 29% aged over 75 participated in the study.

Key words: Quality of life; myocardial infarction

Table 1. Age of people in the study group (own elaboration).

| Age | N | % |
|--------------------|-----|-------|
| Until 65 years old | 34 | 34.0 |
| 66 -75 years | 37 | 37.0 |
| Over 75 years old | 29 | 29.0 |
| Overall | 100 | 100.0 |
| | | |

Most of the respondents were men.

Table 2. Sex of people in the study group (own elaboration).

| Sex | N | % |
|---------|-----|-------|
| Man | 62 | 62.0 |
| Woman | 38 | 38.0 |
| Overall | 100 | 100.0 |

Most of the respondents lived in a city with more than 100,000 inhabitants (41%). The village was inhabited by 36% of the respondents. A city with 50 to 100 thousand residents were inhabited by 14% of people, and 9% of people lived in a city with less than 50 thousand residents.

Table 3. Place of residence of the respondents (own elaboration).

| Place of residence | N | % |
|---------------------------------------|-----|-------|
| City over 100,000 residents | 41 | 41.0 |
| City from 50,000 to 100,000 residents | 14 | 14.0 |
| Town below 50,000 residents | 9 | 9.0 |
| Village | 36 | 36.0 |
| Overall | 100 | 100.0 |
| | | |

The WHOQOL-BREF questionnaire was used to assess the quality of life of the respondents. Table 4 below shows the descriptive statistics of individual domains. The scoring of each domain is between 4 and 20 points, has a positive direction (the greater the number of points, the better the quality of life) and shows the sense of the quality of life of the respondents within a given domain. The respondents assessed their quality of life the worst in the physical health [DOM1], the best in the environmental domain [DOM4]. The respondents obtained slightly lower results compared to the environmental domain in the social relationships [DOM3] and psychological domain [DOM2].

The scoring of questions on the overall quality of life and self-assessment of health also has a positive direction, ranging from 0-5 points. The respondents were more satisfied with their quality of life [WHO1] than with their health [WHO2].

Table 4. General description of domains (own elaboration).

| Domain | M. | SD | Min | Max | Q1 | Me | Q3 |
|--|-------|------|------|-------|-------|-------|-------|
| Overall perception of quality of life [WHO1] | 3.42 | 0.87 | 1.00 | 5.00 | 3.00 | 4.00 | 4.00 |
| Self-assessment of health condition [WHO2] | 2.61 | 0.89 | 1.00 | 5.00 | 2.00 | 2.00 | 3.00 |
| Physical health [DOM1] | 12.31 | 1.90 | 8.00 | 17.14 | 10.86 | 12.00 | 13.71 |
| Psychological [DOM2] | 14.25 | 1.91 | 8.00 | 18.00 | 13.33 | 14.67 | 15.33 |
| Social relationships [DOM3] | 15.11 | 2.80 | 8.00 | 20.00 | 13.33 | 16.00 | 17.33 |
| Environment [DOM4] | 15.23 | 2.11 | 9.50 | 19.50 | 14.00 | 15.50 | 16.50 |

M-medium; Me - median; SD - standard deviation

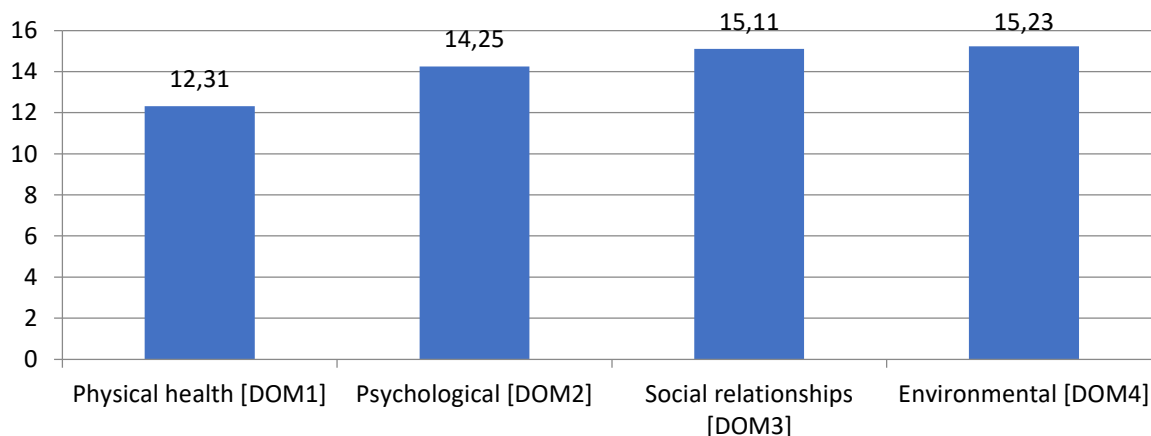


Figure 1. general description of domains (own elaboration).

The impact of age on the assessment of the quality of life of the respondents was not demonstrated.

Table 5. Assessment of the quality of life depending on age (own elaboration).

| Domain | Up to 65 | | 66-75 years | | Over 75 years old | | Statistics | |
|--|----------|------|-------------|------|-------------------|------|------------|-------|
| | M. | SD | M. | SD | M. | SD | H. | p |
| Overall perception of quality of life [WHO1] | 3.59 | 0.82 | 3.35 | 0.95 | 3.31 | 0.81 | 2.721 | 0.257 |
| Self-assessment of health condition [WHO2] | 2.82 | 0.97 | 2.54 | 0.87 | 2.45 | 0.78 | 3.150 | 0.207 |
| Physical health [DOM1] | 12.81 | 1.69 | 12.18 | 2.10 | 11.90 | 1.78 | 4.317 | 0.115 |
| Psychological [DOM2] | 14.59 | 2.01 | 14.15 | 1.70 | 13.98 | 2.04 | 0.799 | 0.671 |
| Social relationships [DOM3] | 14.86 | 3.06 | 15.50 | 2.83 | 14.90 | 2.44 | 0.882 | 0.643 |
| Environment [DOM4] | 14.80 | 2.37 | 15.39 | 2.11 | 15.53 | 1.75 | 2.325 | 0.313 |

The impact of the place of residence on the assessment of the quality of life of the respondents was not demonstrated.

Table 6. Assessment of the quality of life depending on the place of residence (own elaboration).

| Domain | City | | Village | | Statistics | |
|--|-------|------|---------|------|------------|-------|
| | M. | SD | M. | SD | WITH | p |
| Overall perception of quality of life [WHO1] | 3.34 | 0.88 | 3.56 | 0.84 | -1.182 | 0.237 |
| General perception of health [WHO2] | 2.56 | 0.81 | 2.69 | 1.01 | -0.570 | 0.568 |
| Physical health [DOM1] | 12.32 | 1.89 | 12.29 | 1.93 | -0.296 | 0.767 |
| Psychological [DOM2] | 14.15 | 1.74 | 14.44 | 2.18 | -1.220 | 0.222 |
| Social relationships [DOM3] | 14.92 | 2.87 | 15.44 | 2.67 | -0.954 | 0.340 |
| Environment [DOM4] | 15.11 | 2.05 | 15.45 | 2.23 | -1.139 | 0.255 |

If higher was the quality of life in the psychological and social relationships domain, the more often the active coping strategy is used.

If higher was the quality of life in the physical and social field, the more often the strategies of planning and positive re-appraisal are used.

If higher was the quality of life in the social field, the more often the acceptance strategy is used.

If higher was the quality of life in the social relationships and environmental domain, the more often the strategy of seeking emotional support was used.

If higher was the quality of life in the social and environmental field, the less frequently used the denial strategy.

If higher was the quality of life in the psychological and environmental domains, the less common the suppression for activities strategy. (Table 7)

Table 7. Correlation between the assessment of the quality of life in particular domains and the preferred strategies of coping with stress (own elaboration).

| Coping with stress strategy | | WHO 1 | WHO 2 | DOM1 | DOM2 | DOM3 | DOM4 |
|-------------------------------|---|--------|--------|--------------------|--------------------|--------------------|---------------------|
| Active coping | r | -0.138 | -0.025 | 0.149 | 0.288 ** | 0.312 ** | 0.166 |
| | p | 0.169 | 0.802 | 0.139 | 0.004 | 0.002 | 0.099 |
| Planning | r | 0.019 | 0.060 | 0.339 ** | 0.134 | 0.317 ** | 0.018 |
| | p | 0.855 | 0.550 | 0.001 | 0.183 | 0.001 | 0.859 |
| Positive Reappraisal | r | 0.073 | 0.160 | 0.365 ** | 0.192 | 0.197 * | 0.004 |
| | p | 0.469 | 0.113 | 0.000 | 0.056 | 0.050 | 0.967 |
| Acceptance | r | -0.012 | 0.077 | 0.138 | 0.044 | 0.314 ** | 0.104 |
| | p | 0.905 | 0.449 | 0.171 | 0.661 | 0.001 | 0.302 |
| Sense of humor | r | 0.020 | 0.140 | 0.144 | 0.120 | 0.005 | -0.044 |
| | p | 0.845 | 0.165 | 0.153 | 0.234 | 0.958 | 0.663 |
| Turning to Religion | r | -0.045 | -0.009 | 0.011 | -0.040 | -0.036 | -0.042 |
| | p | 0.654 | 0.930 | 0.917 | 0.691 | 0.721 | 0.678 |
| Seeking Emotional Support | r | -0.010 | -0.077 | 0.062 | 0.156 | 0.445 ** | 0.303 ** |
| | p | 0.923 | 0.449 | 0.537 | 0.120 | 0.000 | 0.002 |
| Seeking Instrumental Support | r | -0.077 | -0.073 | 0.073 | -0.007 | 0.170 | 0.010 |
| | p | 0.448 | 0.471 | 0.475 | 0.947 | 0.093 | 0.919 |
| Dealing with Something Else | r | -0.048 | 0.018 | -0.004 | -0.023 | 0.041 | 0.017 |
| | p | 0.634 | 0.858 | 0.968 | 0.817 | 0.687 | 0.867 |
| Denial | r | 0.132 | 0.090 | -0.061 | -0.001 | -0.252 * | -0.073 |
| | p | 0.189 | 0.373 | 0.543 | 0.992 | 0.012 | 0.471 |
| Venting of Emotions | r | 0.056 | 0.008 | 0.041 | 0.060 | 0.039 | 0.067 |
| | p | 0.577 | 0.939 | 0.683 | 0.550 | 0.702 | 0.510 |
| Using Psychoactive Substances | r | 0.155 | -0.051 | -0.082 | -0.030 | -0.083 | -0.047 |
| | p | 0.124 | 0.611 | 0.416 | 0.770 | 0.413 | 0.641 |
| Suppression for Activities | r | -0.032 | -0.135 | -0.094 | -0.226 * | -0.102 | -0.264 ** |
| | p | 0.749 | 0.181 | 0.354 | 0.024 | 0.312 | 0.008 |
| Self-blame | r | 0.007 | -0.036 | -0.167 | -0.171 | -0.194 | -0.130 |
| | p | 0.942 | 0.723 | 0.097 | 0.089 | 0.053 | 0.199 |

Discussion

The ailments associated with ischemic heart disease and myocardial infarction, as well as the need for multi-faceted therapy, affect individual aspects of patient's lives. The quality of life, understood as the difference between the needs and expectations of patients and the possibility of satisfying them, is changing significantly.

In order to assess the quality of life of patients after a myocardial infarction, 100 patients of different sex, age, education, place of residence, living alone or with other people were examined. The results of the conducted analysis indicate a higher overall assessment of the quality of life than the general perception of the state of health by the respondents, which is confirmed by the studies conducted by D. Kurpas et al. Among patients of the invasive cardiology department (general perception of the quality of life -3.80 ± 0.75 , general perception of health $- 3.02 \pm 0.88$). The comparison of own research and the research of B. Kurpas et al. Also showed the similarity in the assessment of the quality of life in the physical / somatic domain. on the other hand, patients of the invasive cardiology department rated the quality of life the highest in the social domain, while in the author's own research this place was taken by the environment [2]. On the other hand, J. Bieniek, A. Brończyk - Puzoń and P. Jagielski performed studies which aimed at assessing the quality of life of a group of 62 patients over 60 years of age suffering from unstable coronary heart disease and undergoing coronary angioplasty. They showed that the study group also assessed their quality of life higher (3.41) than satisfaction with health (2.89). As in the author's own research, the environmental domain was rated the highest and the social domain - the lowest [1].

Conclusions

1. The quality of life of patients after a myocardial infarction is the lowest in the physical domain and the highest in environmental domain. Among patients, the overall assessment of the quality of life is higher than the overall self - assessment of health condition.
2. There are many correlations between the quality of life of patients after a myocardial infarction and their coping with stress strategies:
 - the higher the quality of life in the social relationships domain, the more often patients try to actively cope with stress;
 - the higher the quality of life in the physical and social fields, the more often patients use a strategy of planning and positive re-appraisal;
 - the higher the quality of life in the social relationships domain, the more frequently the respondents use the acceptance strategy;
 - the higher the quality of life in the social and environmental domain, the more often patients seek emotional support;
 - the higher the quality of life is assessed in the social and environmental domain, the less often patients use the denial strategy;
 - the higher the respondents assess the quality of life in the psychological and environmental domains, the less often they use the suppression for activities strategy.
3. The type of education has no impact on the quality of life of patients after a myocardial infarction. Living with the family increases the quality of life in the social domain.
4. Age, sex and place of residence do not affect the quality of life of patients after a myocardial infarction.

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