

Gender and quality of life and coping over one year after myocardial infarction: do men really have the upper hand?

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Abstract

Background: Multiple reports have confirmed that quality of life (QoL) in women after myocardial infarction (MI) is worse compared to men of the same age but some variation depending on QoL dimension was also reported. A less studied issue is coping after MI.

Aim: The present study examined whether gender affected the level and dynamics of QoL and coping over 1 year after MI.

Methods: This questionnaire-based study included 3 stages, at the beginning and the end of a rehabilitation programme (n = 222, 163 [73%] men) and 1 year later (n = 140, 98 [70%] men). The MacNew questionnaire was used for evaluating cardiac patient-specific QoL in 3 dimensions: physical, emotional and social. Coping was examined using a modified COPE scale that allows assessment of seven coping strategies.

Results: Compared to women, men had higher levels of emotional and physical QoL at the first and second stage of the study. At the third stage, men and women did not differ in any QoL aspect. Significant gender-time interactions were found for physical QoL ($F(2.137) = 8.66$; $p = 0.001$, $\eta^2 = 0.07$) and for 2 of 7 coping strategies: sense of humour ($F(2.137) = 4.10$; $p = 0.02$, $\eta^2 = 0.06$) and turning to religion ($F(2.137) = 3.55$; $p = 0.03$, $\eta^2 = 0.05$).

Conclusions: Men demonstrated higher levels of physical and emotional QoL during inpatient rehabilitation but no gender-related differences in any QoL dimension were seen at 1 year. The dynamics of physical QoL changes was related to gender, with improvement seen in women and deterioration seen in men. There were also gender-related differences in the dynamics and levels of certain coping strategies. The observed changes in QoL and coping suggest that some of the beneficial effects of rehabilitation could not be maintained over 1 year. These unfavourable changes are more frequent in men.

Key words: quality of life, coping, gender, myocardial infarction

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INTRODUCTION

Interest in the quality of life (QoL) is one of the manifestations of a holistic approach to the patient that is increasingly seen in medicine. Despite controversies surrounding the QoL concept itself (lack of a consistent theoretical background, multiple definitions and measurement tools), it is an area of an active research [1]. One important advance has been an introduction and widespread acceptance of the concept of health-related QoL, defined as the perceived effect of a disease and its treatment on patient functioning [2]. A distinction can be made between general QoL (regardless of the disease

type) and disease-specific QoL. It is evaluated in 3 dimensions: physical, social, and emotional. Although it can be measured both subjectively and objectively, the highest priority is currently given to subjective individual assessment.

Multiple studies indicate that gender affects QoL after a myocardial infarction (MI) but the data on the role of gender are inconsistent. Numerous reports confirmed worse QoL in women after MI compared to men of the same age, and although QoL improves with time in both genders, this effect is more pronounced in men [3–5]. Some differences have also been noted in relation to QoL dimension, with

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some studies indicating that the improvement in men mostly involves the physical dimension of QoL [6]. Other studies showed that over 12 months after MI, both physical and emotional QoL dimension improved in men, while women showed an improvement only in the physical dimension [7]. Some other studies reported no gender-specific differences in QoL at 1, 4, and 12 months after MI, with improvement seen regardless of gender [8]. Difficulties in interpretation of these data are related not only to sociodemographic and clinical differences between the study groups but also variation in tools used to evaluate QoL and operational indices for specific QoL dimensions [9].

A less studied issue in the context of patient functioning after MI is coping with consequences of the disease. An acute coronary syndrome is also a psychological stressor, as the event is a threat for life, health, and future patient functioning. The ability to control the situation increases with time, followed by a return to temporarily withheld professional and family duties, albeit in altered health condition circumstances. New challenges also occur, related to secondary and tertiary prevention [10]. Coping with the disease has 2 functions: instrumental (focused on problem solving) and self-regulatory in regard to patient's emotions [11]. Gender-related differences in coping with the disease in post-MI patients have rarely been evaluated and clear conclusions cannot be offered. The only identified study indicated the coping with the disease was relatively stable over 1 year after MI. The only change seen in both genders was related to a reduction in fatalistic thoughts. Higher levels of avoidance coping and seeking support were noted in women [8].

The aim of the present study was to evaluate whether gender affected the level and dynamics of QoL and coping with disease over 1 year after MI.

METHODS

Study group and procedures

The study was based on questionnaires and included three stages: 1) at the beginning of in-patient (stationary) cardiac rehabilitation (about 2 months after hospital discharge), 2) at the end of cardiac rehabilitation (the duration of which was 3 weeks in all patients), and 3) 1 year after cardiac rehabilitation. The study group included 222 patients, including 163 (73%) men after MI referred for inpatient cardiac rehabilitation. Men and women were very similar in regard to the clinical and sociodemographic criteria (Table 1). The only differences were noted in regard to physical training intensity (more men than women engaged in intensive training), professional status (more men worked prior to MI), and marital status (a significant trend, women were more commonly widowed or divorced) (Table 1).

At 1 year after cardiac rehabilitation, the study included 140 patients including 98 (70%) men. The prospectively fol-

lowed group was very similar in terms of medical and sociodemographic characteristics to those who were not followed up, and thus also to the baseline group. The only differences were noted for the number of concomitant conditions (those followed up had fewer concomitant diseases, $\chi^2 = 10.31$, $p = 0.006$) and the training intensity (among those followed up, more patients engaged in mild-level training during cardiac rehabilitation, $\chi^2 = 8.58$, $p = 0.02$).

During cardiac rehabilitation, the questionnaires were administered individually by psychologists. The patients were informed about the purpose and the nature of the study and gave a written consent for participation in the study. The third step was performed by mail.

Study tools

To evaluate QoL, the MacNew questionnaire for cardiac patient-specific QoL was used [9, 12]. It includes 27 items related to patient wellbeing during the last 2 weeks, considered in the context of cardiac problems. The answers are rated from 1 (all the time) to 7 (never). The questionnaire includes 3 scales corresponding to the emotional, social, and physical QoL dimensions. A higher score indicates better QoL. Psychometric properties of the scale are acceptable, with the alpha Cronbach values for the three study stages of 0.92, 0.93 and 0.93, respectively, for the emotional dimension; 0.85, 0.90 and 0.82 for the social dimension; and 0.81, 0.82 and 0.85 for the physical dimension.

To evaluate coping, a modified version of the COPE scale was used [13]. It includes 46 items that measure 7 coping strategies. The study subjects received the following instruction: "Considering the situation of myocardial infarction, please read the following statements and rate all of them". The answers were rated from 1 (I have never done it) to 4 (I have done so nearly always). A higher result indicates that the given strategy is employed more frequently. This tool allows evaluation of the following strategies: positive reinterpretation, sense of humour, seeking support, problem solving, turning to religion, substance use, and resignation. Reliability indexes for each scale were evaluated at all stages of the study and ranged from 0.84 to 0.93 except for resignation (0.60, 0.71 and 0.58, respectively).

Statistical analysis

Normally distributed quantitative variables were reported as mean values with standard deviation, and nominal variables as numbers and percentages. To evaluate differences between women and men in regard to sociodemographic and clinical variables, depending on the measurement scale, between-group univariate analysis of variance (F statistics) and analysis of independence of 2 variables (χ^2 test) were used. To evaluate differences between men and woman (factor: group) in regard to changes (factor: time) in QoL and coping

Table 1. Sociodemographic and clinical characteristics of the study group in relation to gender

	Men (n = 163)	Women (n = 59)	P
Age [years] range; mean \pm SD	24–64; 53.44 \pm 7.05	32–65; 54.94 \pm 5.58	NS
Marital status: married	143 (88%)	46 (78%)	NS/0.07
Employment prior to MI	114 (70%)	26 (44%)	0.003
Education:			NS
Vocational	78 (48%)	27 (45%)	
High school	59 (36%)	27 (45%)	
University-level	26 (16%)	5 (10%)	
Place of residence:			NS
Rural	39 (24%)	13 (22%)	
Town	71 (44%)	25 (42%)	
City	53 (32%)	21 (36%)	
Duration of hospitalisation [days], mean \pm SD	7.42 \pm 2.94	7.08 \pm 3.43	NS
First MI	131 (80%)	53 (90%)	NS
STEMI	110 (68%)	39 (66%)	NS
Uncomplicated MI	153 (94%)	52 (88%)	NS
PTCA + stent	143 (87%)	48 (81%)	NS
Angina before MI:			NS
No	79 (48%)	38 (64%)	
< 1 month	27 (17%)	10 (17%)	
> 1 month	57 (35%)	11 (19%)	
Concomitant disease:			NS
No	53 (32%)	15 (25%)	
Single	39 (24%)	16 (27%)	
Multiple	71 (44%)	28 (48%)	
Anxiolytic drugs	15 (9%)	8 (14%)	NS
Angina:			NS
No	124 (76%)	41 (69%)	
Mild	35 (21%)	17 (29%)	
Severe	4 (3%)	1 (2%)	
Training:			0.001
Breathing exercises	15 (9%)	7 (12%)	
Mild	96 (59%)	48 (81%)	
Intensive	52 (32%)	4 (7%)	
Recurrent MI (n = 140)	5 (5%)	1 (2%)	NS
Rehospitalisation (n = 140)	21 (21%)	9 (21%)	NS
Employment at 1 year (n = 140)	46 (47%)	14 (33%)	NS

MI — myocardial infarction; PTCA — percutaneous transluminal coronary angioplasty; SD — standard deviation; STEMI — ST segment elevation MI

(outcome variables), 2-factor mixed-design analysis of variance (multivariate model) was used. This approach allowed evaluation of the effects of interactions between studied factors and the main effects of each of them. $P < 0.05$ was considered statistically significant. Analyses were performed using the SPSS 20 package.

RESULTS

Gender and QoL dynamics over 1 year after MI

Table 2 shows comparison of various QoL dimensions in women and men at each of the study stages. In the study group, men had higher emotional and physical QoL than women at the first and second study stage. At the third stage,

Table 2. Gender and quality of life (QoL) at subsequent study stages

QoL dimension	Gender	Stage I (n = 222)		Stage II (n = 222)		Stage III (n = 140)	
		Mean (SD)	F (p)	Mean (SD)	F (p)	Mean (SD)	F (p)
Emotional	F	4.55 (0.97)	17.97	5.23 (1.01)	6.84	4.95 (0.97)	1.82
	M	5.20 (1.01)	(0.001)	5.61 (0.93)	(0.01)	5.20 (1.02)	(0.17)
Social	F	4.11 (1.23)	1.59	5.17 (1.11)	0.16	5.17 (1.23)	0.32
	M	4.35 (1.23)	(0.21)	5.10 (1.22)	(0.68)	5.29 (1.20)	(0.57)
Physical	F	4.67 (1.04)	31.18	5.27 (0.97)	7.58	5.11 (1.20)	0.39
	M	5.60 (1.11)	(0.001)	5.73 (1.13)	(0.006)	5.26 (1.28)	(0.53)

F — females; M — males; SD — standard deviation

no differences in any QoL dimensions were noted between women and men (Table 2).

A significant interaction was found between gender and the timing of evaluation for the physical dimension of QoL ($F(2,137) = 8.66, p = 0.001, \eta^2 = 0.07$) (Fig. 1). The physical dimension of QoL in men was higher at the first and second stage compared to the third stage ($p = 0.01$ and $p = 0.001$, respectively), and in women it was higher at the second stage compared to the first stage ($p = 0.001$), indicating different dynamics of changes in the two genders. In women, a significant increase in this QoL dimension was seen between the first and the second stage, and in men a significant reduction between the second and the third stage (Fig. 1).

A major effect of gender and time (a curvilinear relationship) was found for the emotional dimension ($F(2,137) = 43.61, p < 0.001, \eta^2 = 0.39$; and $F(2,137) = 9.19, p = 0.003, \eta^2 = 0.06$, respectively). At the first and second stage, men had a higher emotional dimension of QoL compared to women. In men, the emotional dimension was higher at the second stage compared to the first and third stage ($p = 0.001$), while in women a difference was noted only between the first and the second stage ($p = 0.001$). In addition, a major linear effect of time was found to be significant for the social dimension of QoL ($F = 39.63, p < 0.001, \eta^2 = 0.37$). Both in men and women social functioning at the second and third stage was higher than at the first stage.

Gender and coping dynamics over 1 year after MI

An interaction between gender and the timing of evaluation was found for 2 of the 7 strategies: sense of humour ($F(2,137) = 4.10, p = 0.02, \eta^2 = 0.06$; Fig. 2) and turning to religion ($F(2,137) = 3.55, p = 0.03, \eta^2 = 0.05$; Fig. 3). The direction of changes in regard to the use of sense of humour differed between the two genders. In men, its level was significantly higher compared to women at the first and the second stage but the difference between genders was not significant at the third stage. With time, the level of the sense of humour increased in women and decreased in men. As a result, the level of the sense of humour in women at the

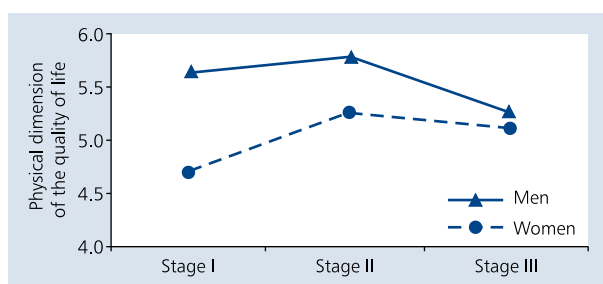


Figure 1. Interaction between gender and the timing of evaluation for the physical dimension of the quality of life

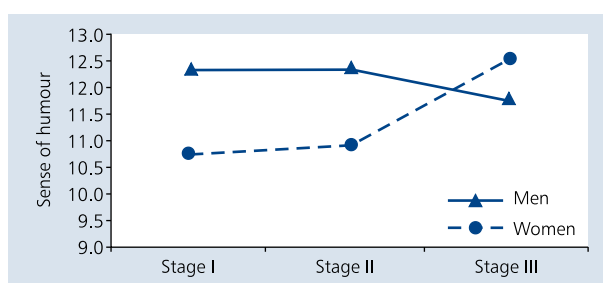


Figure 2. Interaction between gender and the timing of evaluation for the sense of humour strategy

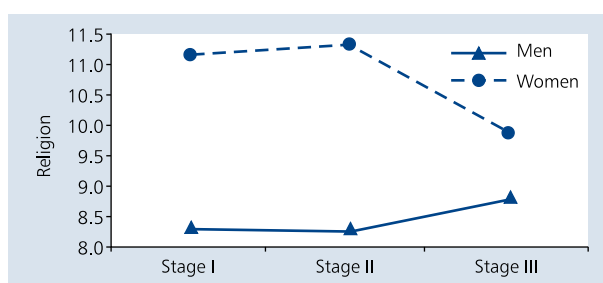


Figure 3. Interaction between gender and the timing of evaluation for the religion strategy

third stage was significantly higher compared to the first stage ($p = 0.04$) (Fig. 2).

It was found that at the first and the second stage, women turned to religion significantly more frequently than men ($p = 0.001$) but the use of this strategy decreased slightly between the second and the third stage, while a growing trend was noted in men. Differences between the second and the third stage were not significant either in men or in women but resulted in no significant difference between the two genders at the third stage (Fig. 3).

We also found major effects of gender for the strategies of positive reinterpretation ($F(2.137) = 5.75, p = 0.02, \eta^2 = 0.04$) and resignation ($F(2.137) = 6.89, p = 0.01, \eta^2 = 0.05$). Higher levels of the use of positive reinterpretation strategy were noted in women at the first and the second stage. At the second stage, a higher level of resignation was also noted in women. In addition a significant major quadratic effect of time was found for the strategy of problem solving ($F(2.137) = 4.81, p = 0.01$; mean values at subsequent steps: $23.68 \pm 5.45, 24.52 \pm 5.09$ and 23.86 ± 5.1). The effects were not significant for the strategies of seeking support and substance use.

DISCUSSION

The results of the present study in regard to QoL are partially consistent with the results of previously reported studies. Similarly to previous studies, it was found that men were characterised by a higher level of the physical and emotional aspect of QoL [4–6] but these differences were seen relatively early after MI, and no difference was seen between the genders at 1 year after cardiac rehabilitation. Of note, women and men in this study were very similar in regard to age and many clinical and sociodemographic variables. Thus, the differences were likely not related to patient selection but it cannot be excluded that the effect of a specific factor on QoL may differ between genders, e.g. tolerance to pain or subjectively perceived angina severity may be different in men and women, or available social support may be valued differently [14].

This study provided new data showing different dynamics of the physical dimension of QoL in relation to gender. Men had initially better physical dimension of QoL but it worsened significantly over the next month. In contrast, this aspect of QoL was worse in women than in men shortly after MI but the improvement associated with cardiac rehabilitation was stable at 1 year. During cardiac rehabilitation, men also functioned better in regard to the emotional aspect, with curvilinear changes of this QoL dimension seen in both genders. No differences between the two genders were seen in regard to social functioning, and the achieved improvement persisted in the following months regardless of gender.

Worsening of physical and emotional QoL dimension seen in men at 1 year after rehabilitation is an important study finding. This worsening is also reflected by the fact that over the year, the proportion of working men decreased from 70% to 47%, compared to a reduction from 44% to 33% in women, resulting in no significant difference between the two genders at 1 year, while such a difference was present

prior to MI. This is a worrying finding that indicates loss of benefits gained from rehabilitation (in women, a similar effect was seen for the emotional QoL dimension). These benefits include the ability to control disease, reduction in anxiety and depression, and increased self-competence regarding modification of health-related behaviours [15]. Perhaps with good functioning of men, the therapeutic team is not alert enough and believes that the treatment goes well and prognosis is good. This might translate to specific drug choices and minimisation of physician intervention targeted at motivating the patient for lifestyle changes. On the other hand, this good (perhaps too good) QoL shortly after MI may be a problem. In our culture, physical disability has a strong stigmatising effect and reduces self-esteem in men. Men are also more likely to employ the strategy of denying unpleasant facts or thoughts [16]. Some denial may help in adaptation but strong denial manifesting by disease negation, treatment non-compliance and unhealthy lifestyle may be deleterious in the long-term. The present study does not allow any conclusions regarding the reason for this QoL worsening.

Regardless of the dynamics of QoL changes, no differences were noted between the two genders at 1 year. The questions that remain unanswered are whether QoL in women could be better early after MI and whether any efforts might result in more rapid QoL improvement in women. Further studies to explore this issue should clarify what proportion of the QoL variance in women and men can be explained by clinical variables and psychosocial factors. Recent studies suggest that gender defined socially and culturally and not biologically is more important for understanding QoL after MI, particularly in younger age groups [7]. These studies have highlighted the importance of specific factors related to social role, available resources, and social support [17].

The present study also provides new data on the role of gender in coping with the disease following MI. Initially, women were more likely to turn to religion and showed less sense of humour compared to men but these trends tended to decrease with time and no differences were seen at 1 year after MI. The finding of a higher level of resignation in women at the end of rehabilitation is consistent with other study findings, showing higher use of avoidance among women [8]. Coping strategies seen in women clearly reflected their physical, emotional, and social functioning, which was characterised by worse subjective perception of health, low mood, lack of confidence, a sense of helplessness with the disease, and more dependence on others compared to men. Women in the study group needed more time to develop active coping. However, they showed more readiness for positive reinterpretation, or seeing positive aspects of their situation or making lessons from this difficult experience. Perhaps due to this factor, improvement in physical QoL persisted in women, and the decrease in emotional QoL was smaller compared to men.

Another important and disturbing finding was that in the study group, the level of task-oriented approach and focus on health-related goals decreased significantly at 1 year regardless of gender. This might result in a reduced motivation for both continuing drug therapy and maintaining healthy lifestyle changes. As known from studies on behaviour changes, consolidation of new health-related habits requires several months, from the preparation phase (achieved during inpatient cardiac rehabilitation in most patients) through the action phase, e.g. consuming low-fat diet for at least 6 months, to the maintenance phase when low-fat-diet becomes a regular element of the lifestyle [18]. Thus, it may be again suspected that health-promoting effects of rehabilitation were not maintained in the study group.

The results of the present study have major importance for the clinical practice. First, monitoring of QoL and coping seems warranted, at least for 1 year after MI. Some form of inpatient rehabilitation aimed at maintaining and reinforcing the effects gained so far would be beneficial. In addition, further follow-up visits (even if only to renew prescriptions) should also be used to evaluate patient functioning, particularly in regard to the motivation to implement and maintain lifestyle changes. This would allow appropriate intervention by a physician (or another member of the therapeutic team) relatively early after worsening. Regardless of the functioning level (especially physical functioning), all patients should be systematically provided with simple but clear information regarding the need and the rationale for permanent behavioural changes. Patients should be provided with support to maintain motivation for health-promoting behaviours. This indicates a need for more intensive physician participation in the motivation process. It would be clearly beneficial to prepare, in cooperation with psychologists, a mini-guide on motivational techniques dedicated to post-MI patients (including such issues as analysis of unsuccessful attempts to introduce changes, identification of barriers to changes, setting realistic targets, search for supportive factors, and achieving success).

Limitations of the study

The present study had some limitations. First, the study group was not selected randomly, and the number of patients decreased with time. Although the study group characteristics was controlled, it cannot be excluded that even small differences had an effect on the results. The study was longitudinal but limited to three evaluations at varying interval. A higher number of evaluation at regular interval would provide more accurate data. The study was limited to 1 year after completion of cardiac rehabilitation, and further patient monitoring, also including medical parameters, would allow more thorough evaluation of the studied issues.

CONCLUSIONS

Men demonstrated higher levels of physical and emotional QoL during inpatient rehabilitation but no gender-related differences in any QoL dimension were seen at 1 year. The dynamics of physical QoL changes was related to gender, with improvement seen in women and deterioration seen in men. There were also gender-related differences in the dynamics and levels of certain coping strategies. The observed changes in QoL and coping suggest that some of the beneficial effects of rehabilitation could not be maintained over 1 year. These unfavourable changes are more frequent in men.

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Płeć a jakość życia i radzenie sobie w okresie roku po zawale serca: czy rzeczywiście mężczyźni góraj?

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Streszczenie

Wstęp: Wiele badań wskazuje, że płeć jest czynnikiem różnicującym jakość życia (QoL) po zawale serca (MI), jednak dane dotyczące roli płci nie są jednoznaczne. Liczne doniesienia potwierdziły, że kobiety po MI charakteryzują się gorszą QoL niż mężczyźni w tym samym wieku. Choć z czasem u obu płci następuje poprawa QoL, to u mężczyzn jest ona większa. Zaobserwowano także pewne zróżnicowanie w zależności od wymiaru QoL. Zagadnieniem mniej poznany w kontekście funkcjonowania po MI jest radzenie sobie z nim.

Cel: W niniejszym badaniu sprawdzano, czy płeć jest czynnikiem różnicującym poziom i dynamikę QoL oraz radzenia sobie w okresie roku po MI.

Metody: Badanie miało charakter ankietowy i składało się z trzech etapów: I) na początku sanatoryjnej rehabilitacji kardiologicznej (ok. 2 miesiące po opuszczeniu szpitala), II) pod koniec pobytu w ośrodku, III) rok po opuszczeniu sanatorium. Grupę wyjściową stanowiły 222 osoby, w tym 163 (73%) mężczyzn po MI, skierowanych na poszpitalną rehabilitację. Grupy mężczyzn i kobiet były bardzo zbliżone pod względem kryteriów klinicznych i socjodemograficznych. Rok po opuszczeniu ośrodka w badaniu wzięło udział 140 osób, w tym 98 (70%) mężczyzn. Do pomiaru QoL zastosowano kwestionariusz MacNew służący do oceny QoL specyficznej dla pacjentów kardiologicznych w trzech wymiarach: fizycznym, emocjonalnym i społecznym. Radzenie sobie badano za pomocą zmodyfikowanej wersji skali COPE, która umożliwia pomiar siedmiu strategii, takich jak: pozytywna reinterpretacja, poczucie humoru, korzystanie ze wsparcia, rozwiązywanie problemu, zwracanie się ku religii, stosowanie substancji i rezygnacja. Oba kwestionariusze mają dobre właściwości psychometryczne.

Wyniki: W badanej grupie u mężczyzn stwierdzono wyższe niż u kobiet poziomy emocjonalnej i fizycznej QoL na etapach I i II. Na etapie III kobiety i mężczyźni nie różnili się w żadnym z analizowanych aspektów QoL. Zaobserwowano istotny efekt interakcji między płcią i czasem badania dla wymiaru fizycznego QoL ($F(2,137) = 8,66$; $p = 0,001$; $\eta^2 = 0,07$). W grupie mężczyzn poziom fizycznej QoL na etapach I i II był wyższy niż na etapie III ($p = 0,01$ i $p = 0,001$), natomiast u kobiet poziom ten na etapie II był wyższy niż na etapie I ($p = 0,001$). Odnotowano także istnienie efektu głównego płci i efektu głównego czasu (zależność krzywoliniowa) dla wymiaru emocjonalnego, odpowiednio $F(2,137) = 43,61$; $p < 0,001$, $\eta^2 = 0,39$ oraz $F(2,137) = 9,19$; $p = 0,003$, $\eta^2 = 0,06$. U mężczyzn poziom emocjonalnej QoL był wyższy na etapie II niż na etapach I i III ($p = 0,001$), a u kobiet różnica ta wystąpiła tylko między etapami I i II ($p = 0,001$). Ponadto dla wymiaru społecznego istotny był także liniowy efekt główny czasu ($F = 39,63$; $p < 0,001$; $\eta^2 = 0,37$), który wskazuje, że u obu płci poziom funkcjonowania społecznego na etapach II i III był wyższy niż na etapie I. Stwierdzono istnienie efektów interakcji płci i czasu badania dla dwóch (spośród siedmiu) strategii: poczucie humoru ($F(2,137) = 4,10$; $p = 0,02$; $\eta^2 = 0,06$) i zwracanie się ku religii ($F(2,137) = 3,55$; $p = 0,03$; $\eta^2 = 0,05$). U mężczyzn na etapach I i II poziom poczucia humoru był istotnie wyższy niż u kobiet, jednak na etapie III różnica między płciami była nieistotna. Wraz z upływem czasu poziom poczucia humoru u kobiet wzrasta, podczas gdy u mężczyzn spada. Stwierdzono także istnienie efektów głównych płci dla strategii 'pozytywna reinterpretacja' ($F(2,137) = 5,75$; $p = 0,02$; $\eta^2 = 0,04$) i 'rezygnacja' ($F(2,137) = 6,89$; $p = 0,01$; $\eta^2 = 0,05$). Wyższe poziomy strategii 'pozytywna reinterpretacja' odnotowano u kobiet na etapach I i II. Na etapie II stwierdzono także wyższy poziom rezygnacji u kobiet. Ponadto istotny efekt główny czasu o charakterze kwadratowym stwierdzono dla strategii 'rozwiązywanie problemu' ($F(2,137) = 4,81$; $p = 0,01$ (średnie na kolejnych etapach: $23,68 \pm 5,45$; $24,52 \pm 5,09$; $23,86 \pm 5,1$)).

Wnioski: Mężczyźni przejawiali wyższy poziom fizycznego i emocjonalnego aspektu QoL w okresie rehabilitacji sanatoryjnej, jednak po roku różnic między płciami nie stwierdzono w żadnym wymiarze QoL. Płeć różnicowała dynamikę fizycznego aspektu QoL: u kobiet uległ on poprawie, a u mężczyzn pogorszeniu. Wystąpiły także różnice płciowe w dynamice i poziomach niektórych strategii radzenia sobie po MI. Zaobserwowane zmiany w QoL i radzeniu sobie sugerują, że w badanej grupie nie udało się utrzymać niektórych korzystnych efektów rehabilitacji w ciągu roku. Tych niekorzystnych zmian jest więcej w grupie mężczyzn.

Słowa kluczowe: jakość życia, radzenie sobie, płeć, zawał serca

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