

Effect of fitness classes on the physical and mental health of 35-55-year-old women living in Australia, Ukraine, and the UAE

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Abstract:

The article illustrates the proof of the scientific guess about that physical and mental health of women, who do fitness, is better than those women, who don't do fitness. There are results of the conducted survey (SF-36 questionnaire) of target group – women in the second period of maturity (aged 35-55) in Australia, the United Arab Emirates and Ukraine. Comparing empiric data according to Student's criterion, the authors justify that there are statistically valid differences between all of the findings in all points and charts of the SF-36 questionnaire ($p < 0,05$), this proves that women (aged 35-55) who do fitness, evaluate their physical and mental health condition higher, than those female respondents who do not attend health-improving fitness classes. At the same time, the level of respondents' satisfaction with physical and mental well-being in the samples (first sample is represented by women who do fitness, and the second one – by women who do not attend fitness classes) differs in accordance with the country, where the respondents live. The study reports, that among those women who do fitness, Ukrainian women are more satisfied with their physical condition, the least satisfied respondents of this sample are the women from the United Arab Emirates. There are the same tendencies among those women who do not attend fitness training classes. The key findings proved that fitness classes have a positive impact on women's perception of their physical and mental health. Due to the data of the conducted survey such a conclusion can be made that those social and cultural conditions of the country, where women live, influence respondents' subjective perception of their health. It is less relevant to women who do fitness, and more relevant to those women, who do not attend fitness training. Conducting more surveys on the basis of the SF-36 questionnaire is considered as a follow-up study trend.

Key Words: physical health, mental health, second period of maturity, women, SF-36, fitness.

Introduction

Vital activity of the majority of modern women in second period of maturity (aged 35-55) reflects complicated conditions of intensive social collaboration due to working, family and social duties fulfillment.

Women's second period of maturity has some certain features such as a stable career path, clarity of marital status. At this period of time women experience first signs of ageing – first wrinkles, decreasing sexual and physical activity. In most cases these women are mothers of teenage children, and parents of the respondents are senior or aged people. Difficulty of communicating with children and necessity of taking care of parents are extremely time and energy-consuming. This period of life is featured with “midlife crisis”, when there is evaluation of the current life experience, achievements and failures analysis. Sometimes a person makes a decision about necessity of changes in life or correcting previous mistakes.

It is essential to stress that women's life conditions are shaped by negative environmental factors, social and economic crises, and rapid growth of technologies, ecological environment, and social competitiveness.

Along with this, social and economic well-being of any country depends on satisfaction of women with conditions of their life including the satisfaction with their health conditions. That is why problems of saving and improvement of women's health have been in the focus of researchers from different countries. These scientists deal with theoretical and practical issues in organizing physical activity of different groups of population.

Today effectiveness of person's social functioning is deeply related to one's life quality that is formed by combination of biological (functional state of body, level of physical qualities development etc.), psychological (thoughts, emotions and behavior), and social (roles, functions and statuses etc.) factors (Guérin, 2012).

Taking into account that nowadays the meaning of the notion “life quality” has been changed according to the context of the research, where it is used, we consider it necessary to clarify the characteristic of bio-, psycho- and social functioning of women in second period of maturity in framework of integrative indicator “health related quality of life HRQL” (Mishra&Schofield, 1998; Pavlova et al., 2016, 2017).

At the same time, we share the opinion of those scientists who consider that quality of life, first of all, reflects subjective well-being, and this, in its turn, is based on life experience of a certain person (Zautra&Goodhart, 1979).

Currently person's health related quality of life has become the subject of numerous scientific researches. Nowadays scientists have proved some positive impact of systematic physical activity on people's life quality (Perales et al., 2014; Church, et al., 2007; Wendel-Vos et al., 2004; Wolin et al., 2007). In some studies there is a focus on issues of impact of elderly women's physical activity on their life quality (de Vreede et al., 2007; Spirduso&Cronin, 2001; Martin et al., 2009; Moratalla-Cecilia et al., 2016). The other researches justify that regular physical exercise greatly improve life quality of people with severe illnesses and diseases (Burnham&Wilcox, 2002; Emery et al., 1998).

There are some publications that mainly deal with physical training, physical features development, functioning state of female body physiological system, they take into consideration data from different-aged women (Wolin et al., 2007). Besides, scientists have justified that improvement of life quality does not directly correlate with improvement of fitness level. In some studies authors stress that intensive deliberate training can even have negative influence on life quality (Brown et al., 2004).

It should be emphasized that nowadays scientific publications represent different data about the life quality of residents of different countries (Aliyev, 2014; Pavlova et al., 2016; Libanova et al., 2013 Butterworth&Crosier, 2004; Wagner et al., 1998; Ambrey&Fleming, 2014; Ware&Gandek, 1998; Chang et al., 2019).

Nevertheless, having analyzed scientific researches, we have made a conclusion that currently there are no answers for such a question: does subjective perception of one's physical and psychological health of women aged 35-50 depend on doing fitness only, or also on the country where they live?

The search for the answer to this question was initiated by us in previous studies (Mazin&Bytsiuk, 2019; Mazin&Terentieva, 2020). Hypothesis of this research can be represented in the point that although doing fitness in general has a positive impact on life quality of women in second period of maturity, their perception of life quality depends on social and economic peculiarities of the country where they live. Verification of this hypothesis is the main aim of our research.

As objectives and purpose of the study we highlight the following: to verify the assumption that in general, physical and psychological health of women aged 35-55, who do fitness, is better than those, who do not attend fitness classes, and also define peculiarities of health level perception among women from different countries.

Material & methods

Participants

The participants of our study were socially active women aged 35-55, who at the particular moment of the survey had permanent employment and lived in big cities with extensive infrastructure. The first sample consists of women attending fitness classes (Ukraine, Australia, the UAE) (n=95). These women usually did physical exercise not less than 150 minutes per week. The second sample consists of the women who did not do fitness (Ukraine, Australia, the UAE) (n=67). Overall, 162 women took part in the survey.

The age was defined according to respondents' statements. The age midpoint of the first sample is 39 years old; the age midpoint of the second sample is 42.

The Research Design

In our research we compared two samples of respondents who belonged to clusters similar in accordance with physical activity criterion. These clusters were:

- first sample – the women who do fitness activities: fitness club Level 4 Health Club (n=23), fitness club Athlete Lab (n=20) (Sydney, Australia); fitness club “Anna Vyrova's Studio” (Dnipro city, Ukraine) (n=22); fitness club “Golds Gym” (n=30) (Abu Dhabi, the UAE);

- the second sample – the women who do not attend fitness classes: Kingsford Smith Airport (n=22) (Sydney, Australia); Zaporizhzhia Polytechnic National University (n=15) (Zaporizhzhia, Ukraine); office of the sports city “Zayed Sports City” (n=30) (Abu Dhabi, the UAE).

The survey was conducted from May 2019 till July 2020.

Data collection instrument

For the empiric data collection we used the SF-36 questionnaire, which enables to define in a differentiated way the impact of life conditions on state of psychological, social, physical well-being and spiritual welfare of a person (Moratalla-Cecilia et al., 2016; Butterworth&Crosier, 2004; Wagner et al., 1998; Ware&Gandek, 1998). The respondents filled in the SF 36 forms in their spare time.

Let us stress, that the issue of correctness of SF 36 questionnaire usage in different cultural contexts has been analyzed in the range of studies (Wagner et al., 1998; Chang et al., 2019). Overall, the scientists justify the possibility to compare data results gained due to this tool, because it is adapted in different countries.

Statistical analysis

The empiric data were compared according to Student's criterion ($p < 0.05$), Levene's test ($p < 0.05$). Also we used generalized linear model (GLM), analysis of variance (ANOVA). Program Software STATISTICA 10 was used during statistical data processing.

Results

First of all, we compared the data, obtained in the international samples of women, who do fitness activity and do not attend any fitness classes, according to Student’s criterion ($p < 0.05$). The result of this comparison is depicted in the Table 1.

Table 1. Results of comparing the data, obtained due to the SF-36 questionnaire, among the female respondents who do fitness activity ($n=95$) and those who do not ($n=67$).

Scale	Mean	Mean	t	p	SD	SD
SF-36	Fit	NoFit			Fit	NoFit
1. PF	89.01	71.15	5.77	<0.01	14.73	26.33
2. RP	84.91	62.30	5.47	<0.01	22.01	33.04
3. BP	79.90	65.89	4.81	<0.01	17.85	20.55
4. GH	73.68	56.27	6.58	<0.01	15.38	19.71
5. VT	65.57	50.64	6.14	<0.01	15.04	16.98
6. SF	86.79	69.28	6.18	<0.01	15.22	22.52
7. RE	82.71	64.38	4.21	<0.01	26.52	31.06
8. MH	72.15	62.33	3.88	<0.01	15.20	18.23
Physical health	52.29	44.71	6.74	<0.01	5.56	9.39
Mental Health	49.54	44.40	4.11	<0.01	8.01	8.37

As we see in the Table 1, as a result of comparison of the obtained data, we are able to define these facts. There are valid differences between the women who do fitness and those who do not in frameworks of all SF-36 scales. Besides, such differences have been defined according to the following settings:

- (Physical Functioning – PF), which reflects the rate where physical activity of a respondent is limited by one’s health condition;
- (Role – Physical Functioning – RP), gives the evaluation of physical state impact on social roles and functions fulfillment;
- (Bodily pain – BP), which represents the rate of physical activity limits of a person due to pain;
- (General Health – GH), which reflects the respondent’s evaluation of one’s current health condition and also some prospects in its improving;
- (Vitality – VT), which reflects vitality and energy resources of a respondent, one’s physical activity;
- (Social Functioning – SF), which defines level of social activity limitation because of emotional and physical condition of a person;
- (Role Emotional – RE), which evaluates the level of emotional state can be an obstacle for work duties fulfillment or other everyday activity (including increase of time-consuming demands, reduction of workload and decrease of work quality etc.);
- (Mental Health – MH), which characterizes mood of a person, stress and depression levels, anxiety, positive emotions.

It is obvious that there are reliable differences in summarized scales of the questionnaire:

- (Physical health), which evaluates general state of health, physical and social functioning, that, in its turn, relates to physical state as well as pain intensity;
- (Mental Health), which reflects psychological (mental) health, social functioning, that, in its turn, relates to emotional state, life activity.

We used methodological approach ANOVA to define peculiarities of data share in the samples; the data were obtained from different countries in way of summarized scales of the SF-36 questionnaire.

The obtained data are represented in the Figure 1.

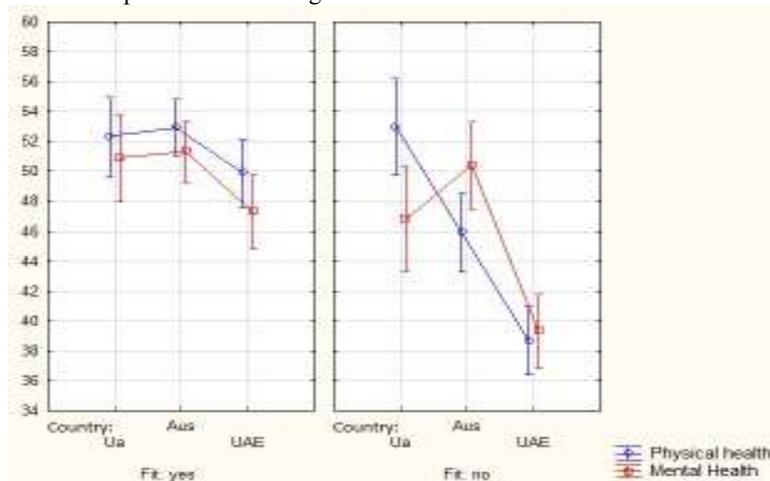


Figure 1. The data about Physical health and Mental health components of general health state of women from Australia, the United Arab Emirates and Ukraine, who do fitness and those who do not.

Due to the analysis of the Figure 1 we are able to define the following.

Among the women who do fitness activity – the highest level of satisfaction about their physical health is common for Australian respondents (the average value of the relevant scale is 53).

There are no significant differences in the data comparing with Ukrainian respondents of the survey (the average value of the relevant scale is 52.2). At the same time the lowest value of physical health satisfaction is about the women from the United Arab Emirates (the average value of the relevant scale is 50).

We would like to highlight that the analyzed data variance peculiarities in groups of respondents, which are related to the named countries in the sample, represents the women doing fitness, are not statistically reliable according to Levene’s test ($p < 0.05$). Such results demonstrate that women from Australia, Ukraine and the United Arab Emirates, who attend fitness classes, do not have significant differences in satisfaction level about Physical Health component in their overall health condition. Although, it is necessary to stress, that women from the UAE are less satisfied with this component of their health than the female respondents from Australia and Ukraine. Now let us turn to the satisfaction level of women, who do fitness, with their Mental Health component. The results of our research justify that the highest level of satisfaction is common for the Australian women (the average value of the relevant scale is 51.4). The results of the Ukrainian women are quite near (the average value of the relevant scale is 50.9). The results gained from the women-residents of the UAE are significantly less comparing to the others (the average value of the relevant scale is 47.4).

The analyzed data variance peculiarities in groups of female respondents, which are related to the named countries in the sample, are not statistically reliable according to Levene’s test ($p < 0.05$).

Interpreting and giving clarification of the obtained data, we pay attention to the fact that the Ukrainian and Australian women, who do fitness activity, do not have significant differences in perception of their mental health. Moreover, it is obvious that the female respondents from the UAE tend to evaluate their mental health level a little bit lower. Among the women who do not attend fitness classes – particularly the Ukrainian female respondents take the first place, showing the highest level of satisfaction with their physical health (the average value of the scale is 53). The female respondents from Australia demonstrated much smaller ratio (the average value of the relevant scale is 46). The female respondents from the UAE of the relevant group showed the least ratio (the average value of the scale is 38.8).

Let us draw your attention on the fact that the data variance in the groups of the female respondents, that are related to the named countries in the sample, are statistically reliable according to Levene’s test ($p < 0.05$). These results demonstrate that the women from Australia, Ukraine and the UAE, who do not attend fitness classes, have significant differences in the level of satisfaction with physical health component of their general health. Saying about their perception of mental health, we found out that the highest level of the relevant scale is for the Australian female respondents (the average value of the scale is 50.3). The women from Ukraine demonstrated significantly lower level (the average value of the scale is 47). And the lowest level is common for the women from the UAE (the average value of the scale is 39.3).

The data variance in the groups of the female respondents, that are related to the named countries in the sample, are statistically reliable ($p < 0.05$) according to Levene’s test. Such obtained data reveal that the women, who do not do fitness and live in different countries, have valid differences in the perception of their mental health. Consequently, the obtained results prove that the women, who do physical exercise regularly, regardless of country of residence, are more united in evaluation of their mental and physical health than those women, who do not do fitness. We compared the data, obtained in different countries from women who do fitness and those who do not; we performed processing of the data obtained according to summarized scales of the SF-36 questionnaire using GLM methodology. The results are demonstrated in the Fig. 2 and 3.

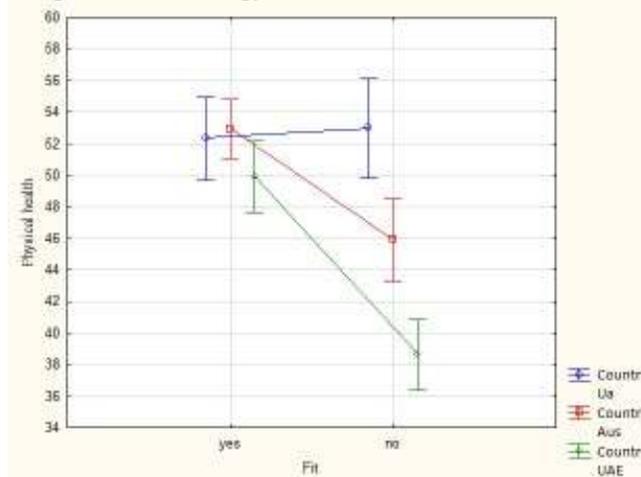


Figure 2. The data about Physical health component of General health of the women from Ukraine, Australia, the UAE, who do fitness and those who do not.

Analysis of the Figure 2 reflects the following.

The comparison of the data, gained using the SF-36 questionnaire among the Ukrainian women, who do fitness and those who do not, revealed that there is almost no difference in perception of their physical health (the average values of the scale are 52.2 and 53). These differences are not reliable according to Student's test ($p < 0.05$).

There is a discrepancy of the results among Australian women who do fitness and those who do not regarding the perception of one's physical health (related values are 53 and 46). These differences are reliable according to Student's test ($p < 0.05$).

The women from the UAE represented even bigger difference between those, who do fitness regularly, and those, who do not do it; their perception of the physical health is totally different (the values of the scale are 50 and 38.5). These differences are reliable according to Student's test ($p < 0.05$).

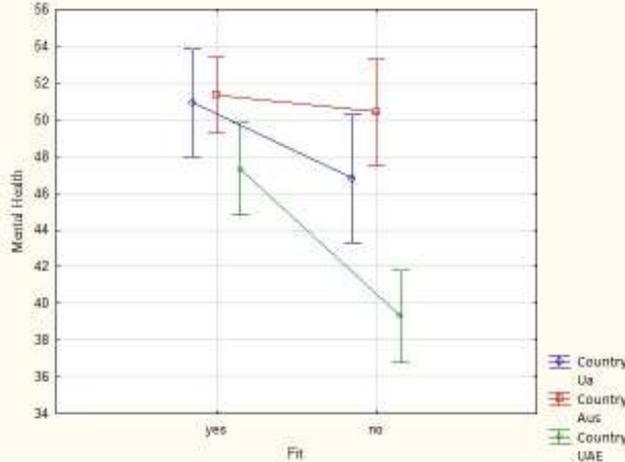


Figure 3. The data about Mental health component of General health of the women from Ukraine, Australia, the UAE, who do fitness and those who do not.

Analysis of the Figure 3 revealed the next points.

The compared results of the Australian women in framework of mental health scale slightly differ between women who do fitness and those who do not (average values 51.2 and 50.2 of the scale). The noted difference is considered unreliable by Student's test ($p < 0.05$).

We paid attention to the fact, that there is a notable difference in mental health perception between those women in Ukraine who do fitness activity and those who do not train regularly (related scale values are 51 and 47). In this case the difference is considered reliable according to Student's test ($p < 0.05$).

We found out that there is a considerable difference in mental health perception of the UAE women who train regularly and those who do not do fitness (the scale values are 47.4 and 39.4). The noted difference is considered reliable according to Student's test ($p < 0.05$).

Looking through these data we can say that there is a discrepancy in mental and physical health perception between the female respondents from Australia, Ukraine and the UAE who do fitness and those who do not attend fitness classes. At the same time, we noted a small result difference in framework of mental health scale according to the data of Australian women of both groups – who do fitness activity and those who do not train regularly (the average values are 51.2 and 50.2 of the scale), and also there is no valid difference of physical health perception of the Ukrainian women who do fitness activity and do not train regularly (the average values are 52.2 and 53 of the scale).

So we strongly believe that these findings point to a common trend: those women from the UAE who do not train regularly have the least satisfaction level of their physical and mental health in comparison with the women from the other countries. Also, the female respondents from the UAE have the largest difference of their physical and mental health evaluation between two groups – those women who do fitness activity and those who do not train regularly.

Discussion

This research has confirmed the data that regular physical activity has some positive influence on women psychological and physical health (Butterworth&Crosier, 2004; Libanova et al., 2013; Emery et al., 1998). Besides, the average values of the SF-36 questionnaire scales, which are represented in the Table 1, show the expected differences in life quality of two groups of women – those, who do fitness, and those, who do not attend fitness trainings. At the same time, we revealed that the level of satisfaction with women's physical and mental health, in the frames of the certain sample (the first sample consists of the women who do fitness, and the second sample is represented by the women who do not do fitness) differs depending on the country of respondents' residence.

Such obtained data prove some scientists' conclusions about that the life quality perception of women aged 35-55 depends on their health, social and economic peculiarities of the country where they live (Libanova et al., 2013; Aliyev, 2014). But this statement must be clarified. For instance, on the basis of our research we have made a conclusion that this correlation is more common for women, who do not do fitness, than for those ones, who attend fitness classes. It should be stressed that the obtained data do not contradict the researches where the scientists represented approximate SF-36 standards for women aged 35-44 and 45-55 from Southern Australia (Grande&Taylor, 2004), and also for Ukrainian women of these ages (Feshchenko et al., 2002)). Moreover, the obtained results match the rates which are common for the USA (Ware&Kosinski, 2001).

Our scientific guess is that the subjective evaluation of the physical state (including such its aspects as physical functioning, vitality) depends on not only the welfare level or social features of the country, but also on possibility for a person to cope with issues and raise some everyday challenges of one's life.

This idea echoes the conclusions of the scientists about that the respondents, who are employed, are in a better health and socially active if we compare them with those participants of the research, who do not work. It is necessary to highlight, that those participants of the research, who are employed, do not have significant differences in other SF-36 scales comparing to the participants who are unemployed (Martin et al., 2009).

Conclusions

Therefore, the data of our research justify the fact that the women aged 35-55, who do fitness, evaluate their physical health condition higher than the women, who are not involved in fitness training.

The next our finding is that level of satisfaction with women's both mental and physical health in frameworks of the certain samples (the first sample consists of the women who do fitness activity regularly, the second sample – women who do not do any fitness) is different in accordance with the country, where the female respondents live. Moreover, the women who do fitness training are more unanimous in their health evaluation, and the result is less dependent on the country where they live.

Also we found out that among those women, who do fitness, the Ukrainians have higher level of satisfaction with physical health; the lowest rate is about the women from the UAE. The highest level of satisfaction with mental health we found among the women from Australia; and the lowest – the females from the UAE. There are similar tendencies among the women who do not do any fitness training.

Our research represents clear evidence that physical activity has a positive influence on life quality, in this way our conclusions support numerous scientific publications saying about advantages of fitness trainings for women in the second period of maturity.

The research described in the article was conducted with small samples; it leads to high possibility of the fact that obtained results do not fully reflect current patterns. In this case, we consider doing identical research with larger samples and conducting surveys in other countries as a promising trend of scientific research.

Conflicts of Interest.

The authors declare no conflict of interest.

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