

## PHYSICAL FUNCTIONING AND GENERAL HEALTH OF WOMEN FROM URBAN AND RURAL AREAS

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### Abstract

Women generally live longer than men because of both biological and behavioural advantages; still women's longer lives are not necessarily healthy lives. Considering that women from rural areas are often recognized as particularly vulnerable social groups concerning quality of life and physical activity, the study was conducted aiming to determine physical functioning and general health of women from urban and rural areas, as well as to examine differences between them in these health domains. Sample comprises of females aged 30 to 60 yrs, totally 146 participants (73 from urban areas, 73 from rural areas). For the purposes of this study two scales, Physical functioning and General health perceptions, from the SF-36 Health Survey. The results obtained show that significant differences between two groups of participant exist in both domains, with more positive self-perceptions of physical functioning in urban females and more positive global health perceptions in rural females. These results confirm that personal satisfaction and perception of one's global health are affected not merely by the physical functioning, but by other health components as well.

**Keywords:** women, health, physical functioning, rural areas, urban areas

### Introduction

According to a traditional definition, health means the absence of diseases. The Constitution of the World Health Organization defines health as "A state of complete physical, mental, and social well-being not merely the absence of disease or infirmity". The examination of health and the effects of health care must also include the evaluation of well-being, which can be estimated by measuring the improvements of the quality of life. WHO defines the Quality of Life as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. „It

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is a broad ranging concept affected in a complex way by the person's physical health, psychological state, personal beliefs, social relationships and their relationship to salient features of their environment“ (WHOQOL, 1997) .

Women generally live longer than men because of both biological and behavioural advantages, still women's longer life is not necessarily a healthy one (WHO, 2009). They lack basic health care, especially in the teenage and elderly period of life, in spite of the fact that they live on average six to eight years longer than men, warns WHO.

The problem of women's quality of life and health acquires an additional dimension when observed from the aspect of how urban the area they live in is. The women in the rural areas represent a specific subpopulation and not often do they stay out of sight of the scientist working in the field of physical education and sport. The efforts which, on the global level, are put in achieving the equality of women in society have brought about an increased interest in women's health and quality of life. Women from the rural areas constitute a specially vulnerable and marginalized social group .

The survey conducted on the sample of women from the rural areas and the women who live in the remote parts of Australia showed that there are some differences in the health state, health habits and health services (Byles, Mishra & Brookes, 2005). This study was conducted with the purpose of examining the changes in health of the older Australian female population by comparing the abundant key indicators of health and health care in three time points. The factors which were the subject of comparison were: health state (quality of life in comparison to health, symptoms, sight, hearing, help with everyday activities, falling down); healthy way of life (smoking, physical activity); and using health services. Since it can be expected that the women from the rural and remote parts of Australia are different from the ones who live in the urban areas, there was a comparison of these variables for urban and rural populations, or the population living in the remote parts of Australia.

In Australian longitudinal study of women's health- better known as Australian Women's Health (ALSWH) - the participants were aged between 70 and 75 at the time of the first examination in 1996. After that they were asked to fill in the questionnaire twice and the third survey was conducted in 2005. In the survey the women had to answer a large number of closed-type questions about their health and the way of life. 12.432 women aged between 70 and 75 took part in the first survey (in 1996), 8647 women took part in the survey 3 (69% of the sample), while 8397 women took part in all surveys. All in all, there were few differences in the health state between the women who live in urban areas, big rural, small rural and other rural and remote areas and regions in every of the given surveys. Even though the changes in women's health status were relatively small, they started occurring more often in the second survey. Even though the need for the formal health protection was not significantly higher, it has significantly increased during the period of six years of observation. The main difference between women from different surroundings lay in the fact that the ones from the urban surroundings used, generally, a higher level of health protection. The data from ALSWH also indicated that the women who moved to a more urban area suffered from more symptoms of a bad health state, weaker mental health, a greater desire to have an approach to the system of health care, but at the same time they used health services less than those who never moved. These data indicate the fact that the women who moved from rural to urban areas are more susceptible to diseases and they potentially represent a group of endangered elderly women who require a special treatment by politics and planning, as well as the analysis of the problem in comparison to the spatial distribution of inequality.

Cleary and Howell (2006) conducted a research with the purpose of examining the experience that people from the rural area of the state of Idaho, aged 65 and over, had about a high quality of life. SF-36 questionnaire was filled in by 95 people in total. The obtained results were compared to the normative values of general American adult population and the specific

normative values for the people aged 65 and over. Women aged 75 and over had a lower level of the physical health component. The results showed that the participants in the survey aged 75 and over had a higher quality of life in comparison to the expected values. That also shows that living in rural areas is not an indicator of a lower quality of life for elderly people (Cleary & Howell, 2006).

Taking into account that the women from the rural areas were often recognized as a specially vulnerable group when it comes to the quality of life and taking part in physical activity and sport, the goal of this study was to establish the physical functioning and general health of women from urban and rural areas, as well as to examine the differences between them in the two observed aspects of health.

## Method

The research was conducted within the frameworks of a project at the Faculty of Sport and Physical Education in Novi Sad called “*Improve your health by exercising*”, aimed at women and directed at following the influence of physical activity on their health. The participants from cities were surveyed at the beginning of the project, while the ones from the rural area were surveyed separately in the field.

### *Participants*

The sample of participants consisted of women aged between 30 and 60, in total 146 participants. The sample of participants was divided in two subsamples: 1) participants from urban area (in total 73 participants) and 2) participants from rural area (in total 73 participants). The sample of the women from the rural area was convenient; it consisted of the women who voluntarily applied for the project “*Improve your health by exercising*” at the Faculty of Sport and Physical Education in Novi Sad. The participants from the rural area were recruited in the village Svilojevo.

### *Measuring instruments*

In this research the general health questionnaire SF-36 (Short Form Health Survey) was used. The past experience with this questionnaire has been recorded in 4000 publications. It covers eight aspects of health (eight subscales) or 36 items (questions). What is obtained is an eight-dimensional profile of functional data about health conditions and the level of well-being, as well as the summary of measures of physical and mental health based on psychometric data and the index of general health conditions. There are eight health concepts chosen out of forty covered by the Medical Outcomes Study or MOS (Stewart & Ware, 1992). The chosen concepts are the ones which are widely used for health examinations and at the same time those which have the strongest influence on diseases and their treatment (Ware, Snow, Kosinski, & Gandek, 1993; Ware, 1995). It is assumed that eight subscales form two separate sets on a higher level because of the variance of physical and mental health which is mutual for them. **Physical components** are: physical functioning, physical role, physical pain and general health. **Mental components** are: mental health, emotional role, social functioning and vitality. This research included two aspects of the physical component of health, or two subscales with the appropriate items: *Physical functioning* and *General health*.

Three subscales (Physical Functioning, Physical Role and Physical Pain) mostly correlate with the physical component and add to the result of Physical Component Summary or PCS (Ware, Kosinski, & Keller, 1994). The mental component mostly correlates with the scales mental health, emotional role and social function, which also add to the Mental Component Summary or MCS. There are three subscales (Vitality, General Health and Social Functioning)

which show noticeable correlations with both components. Scoring in the subscales is done in accordance with the original key, so for the items with three possible items a participant can get 0,25 or 50 points, depending on the chosen answer, while for the items with five possible answers a participant can score 0, 25, 50, 75 or 100 points. The direction of scoring depends on the orientation of the item; higher score always indicates a more positive aspect of health. The total result on a subscale represents an average score on items which form that scale. The internal consistency of Physical Functioning and General Health subscales is relatively high (0.824 and 0.834 respectively).

#### *Methods of data processing*

The data were processed by using the descriptive statistics and the differences in the observed aspects of health between the subsamples of the women from urban and rural areas were examined by applying t-tests for two independent samples. The statistical package SPSS was used for data processing. In the chapter Results first of all the differences between two groups of participant on Physical functioning subscale are presented, followed by the results of analyzing the differences in individual items of this subscale. After showing the differences between two groups of females on the subscale General health, the differences in individual items of this subscale are presented.

## Results

#### *Physical functioning*

Table 1 contains basic descriptive indicators of the participants from urban and rural areas on the subscale Physical functioning. Figure 1 shows mean values of the participants from the observed groups on the subscale Physical functioning. As the table 4 shows, the participants from urban areas expressed numerically higher mean values on the subscale *Physical functioning* in comparison to the participants from rural areas (93.56 to 89.79). At the same time, the range of the results is higher in the rural subsample, which, together with higher values of the coefficient of variation, indicates a greater homogeneity of the subsample.

Table 1

#### *Physical functioning: basic descriptive indicators*

	N	M	SD	MIN	MAX	CV%
Rural areas	73	89,79	13,73	45	100	15,29
Town	73	93,56	8,27	70	100	8.84

N – number of participants; M – arithmetic mean; SD – standard deviation; MIN – minimal result; MAX – maximum result; KV% - coefficient of variation

Figure 1. Participants' average scores on the subscale Physical Functioning



The significance of the differences between two arithmetic means was tested by the t-test for small independent tests. The results are shown in the table 2. From the table 2 it can be concluded that the differences between the participants from urban and rural areas are significantly different according to their mean values on the subscale Physical functioning ( $t = -2,008$ ;  $p = 0.046$ ). Women from a urban area usually give significantly higher scores for their physical functioning in comparison to the women from the rural area.

Table 2

*Testing the significance of differences between the subsamples on the subscale Physical Functioning*

SUBSCALE	Subsample	N	M	t-test	p
Physical functioning	Rural area	73	89,79	-2,01	0,05
	Urban area	73	93,56		

N – number of participants; M – arithmetic mean; p – level of significance

The analysis of the answers to individual questions (items) which belong to the subscale Physical functioning gives a full insight in the specific nature of the subsamples. Mean values for the individual items are shown in the table 3.

Table 3

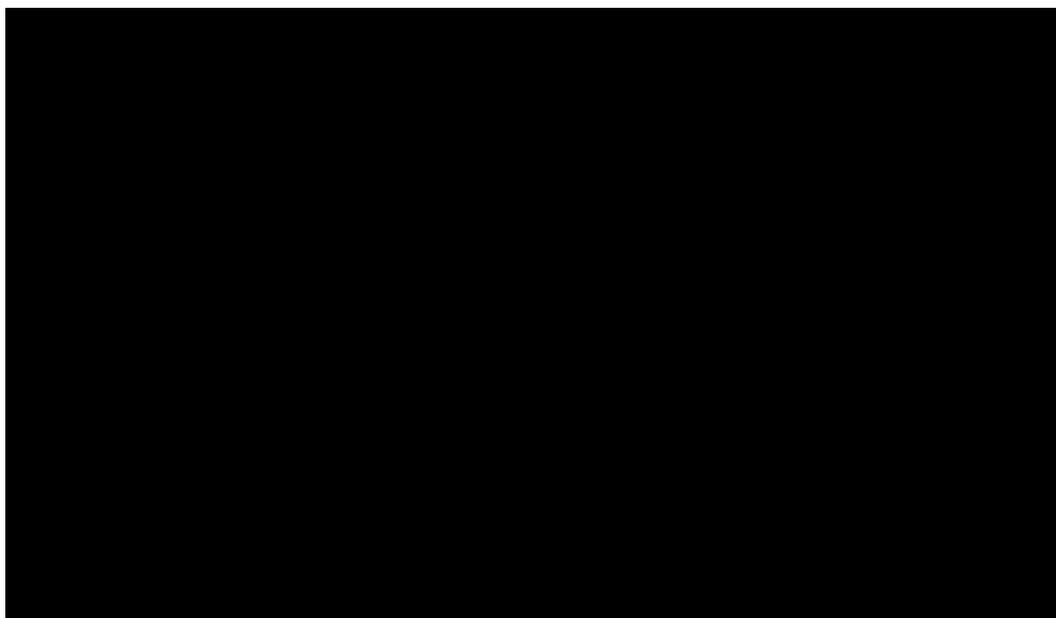
*Testing the significance of differences between the subsamples on individual items of the subscale Physical functioning*

Number of the item	Item	Rural areas		Urban areas		t-test	p
		M	SD	M	SD		
2	Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports	71,23	35,28	73,29	32,36	-0,37	0,71
3	Moderate activities, such as moving a table, pushing a vacuum cleaner, moderate sports	94,52	15,73	93,84	18,53	0,24	0,81
4	Lifting or carrying groceries	91,78	20,44	95,21	14,82	-1,16	0,25
5	Climbing several flights of stairs	81,51	29,47	89,04	20,83	-1,78	0,08
6	Climbing onf flight of stairs	97,26	11,46	99,32	5,85	-1,36	0,18
7	Bending, kneeling, stooping	79,45	32,10	87,67	21,70	-1,81	0,07
8	Walking for several kilometres	86,99	28,90	97,95	9,99	-3,06	<b>0,00</b>
9	Walking several blocks	96,58	12,72	99,32	5,85	-1,67	0,10
10	Walking one block	98,63	8,22	100,00	0,00	-1,42	0,16
11	Bathing or dressing yourself	100,00	0,00	100,00	0,00		

N – number of participants; M – arithmetic mean; p – level of significance

From the table 3 it can be concluded that the statistically significant differences on the level of individual items exist only for the item number 8 (“Walking for several kilometers”) in favour of the participants from a urban areas, who are very close to the maximum results with their average score 97.95. The participants from both subsamples are completely independent in taking care of their personal hygiene and putting on clothes (item 11). The lowest average scores are obtained on the item number 2 which refers to physically demanding activities, where the participants from the rural areas achieved a score 71.23 and the participants from a urban areas 73.39. Figure 2 shows regularity in the item which refers to walking as the most frequent exercise: the longer it is, the lower their scores are (they see their physical functioning in more negative light). Even though there are no statistically significant differences, except for walking for several kilometers, it can be concluded that the participants from a urban areas achieved numerically higher values in 9 out of 10 items which belong to the subscale Physical functioning, which affected a significantly higher average score on this subscale in comparison to the participants from the rural areas.

*Figure 2.* Participants' average scores for the items refer to walking: Walking for several kilometres (A), walking several blocks (B) and walking one block (C)



#### *General health*

Basic statistic indicators of the subsamples of women from urban and rural areas on the subscale General health are shown in the table 4. Average scores for both subsamples are also shown in the Figure 3. The participants from the rural areas achieved higher numeric values of the total scores on the subscale General health (78.92 in comparison to 72.53 for the participants from a urban areas). At the same time, the subsample of women from the rural area contained lower minimal result, even though values of the coefficient of variation indicate equal homogeneity of the subsample.

Table 4

#### *General health: basic descriptive indicators*

Sample	N	M	SD	MIN	MAX	KV%
Rural areas	73	78,92	19,60	10	100	24,83
Urban areas	73	72,53	17,50	30	100	24,13

N – Number of participants; M – arithmetic mean; SD – standard deviation; MIN – minimal result; MAX – maximum result; CV% - coefficient of variation

Figure 3. Participants' average scores on the subscale General Health

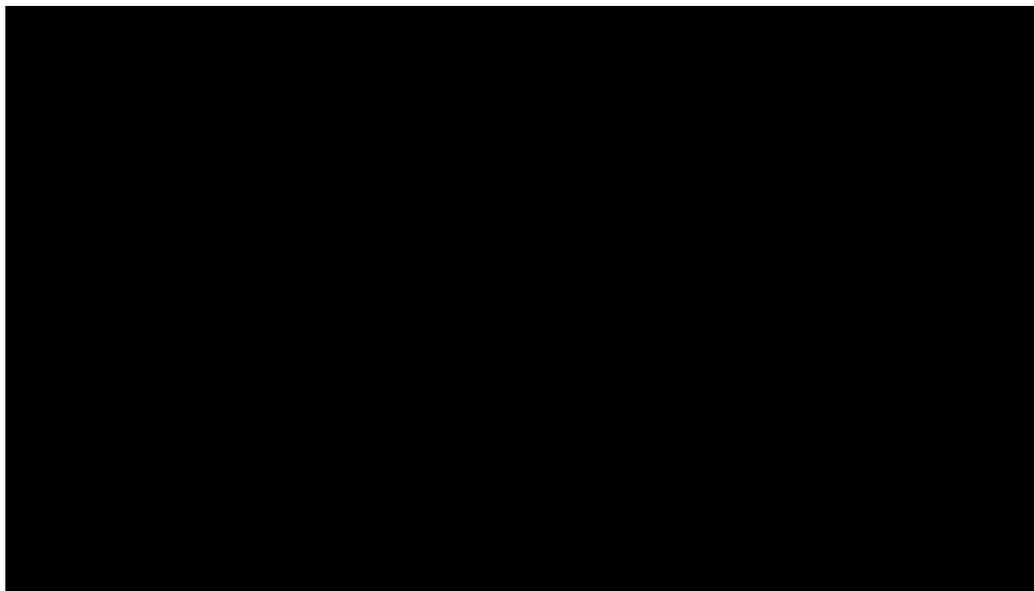


Table 5 shows the results of testing the significance of differences between the subsamples on the subscale *General health*. It can be concluded that there are statistically significant differences in the self-estimation of health in favour of the participants from the rural area (78,92 to 72,53).

Table 5

*Testing the significance of differences between the subsamples on the subscale General health*

SUBSCALE	Subsample	N	M	t-test	p
General health	Rural area	73	78.92	2,08	0,04
	Urban area	73	72,53		

N – number of participants; M – arithmetic mean; p – level of significance

Descriptive indicators and t-test on the level of individual items (indicators) of General health are shown in the table 6. Out of 5 items which belong to this subscale, there are statistically significant differences for only 2 items (“I am as healthy as anybody I know’ and “My health is excellent”). In both cases the participants from the rural areas showed higher agreement with these claims in comparison to the participants from a urban areas. The highest scores were achieved for the items number 12 and 14 which refer to suffering from illnesses or expectations with reference to deteriorations of their health, where the participants from the rural area denied the claim that they get sick easier than other people (AM= 84.93), while the participants from a urban areas deny the claim that they expect their health to be deteriorated (with the same average score). The lowest average score was expressed for the item number 13 (“I am as healthy as anybody I know”) in the subsample of the women from the urban area (AM= 59.93) which shows that the majority of women were hesitant about agreeing with this statement.

Table 6

*Testing the significance of differences between the subsamples on individual items of the subscale General health*

Number of item	Item	Rural areas		Urban areas		t-test	p
		M	SD	M	SD		
1	Health now	65,48	28,30	67,47	27,22	-0,43	0,67
12	I seem to get sick a little easier than other people	84,93	29,39	78,77	27,22	1,32	0,19
13	I am as healthy as anybody I know	79,79	23,81	59,93	28,18	4,60	<b>0.00</b>
14	I expect my health to get worse	80,14	29,45	84,93	21,94	-1,12	0,26
15	My health is excellent	84,25	20,63	71,58	26,78	3,20	<b>0,00</b>

M – arithmetic mean; SD – standard deviation; p – level of significance

## Discussion

The examination of the differences in self-evaluation of physical health and general health of the participants from the rural and urban surroundings indicated the existence of statistically significant differences in both domains. When taking physical functioning into account, women from the urban surroundings, who scored on average 93.56 in comparison to 89.79 (the score of the participants from the rural surroundings), have a significantly better perception of their own physical capacities

On the other hand, the participants from the rural subsample were significantly better at the evaluation of their general health (78.92 to 72.53 ).

This result, which may seem somewhat illogical at first sight, actually can be interpreted in many ways. It is assumed that the subsamples of women included in this research are significantly different in the way of life, systems of value, roles they play, expectations of the surroundings they live in and other. It is possible that women who live in cities have a better coordination of their budget of time in comparison to the ones living in the rural areas, which is supported by the fact that the participants from the urban subsample chose organized recreational exercising.

On the other hand, the fact that the women from the rural areas included in this research achieved significantly higher average scores on our subscale General health can be a proof in favour of a multidimensional health concept, where physical functioning is just one of components of good health and subjective feeling of well-being.

As pointed out in the chapter about the measuring instruments, the subscale General health shows significant correlations with the mental and physical component, which means that some other factors (apart from physical functioning) could improve the results of the rural

subsample on this scale. To mention just a few, there is a different speed of life, less exposure to stress, noise, pollution; greater and closer contact with the nature and its rhythms, stronger social connection inside a family and neighbourhood and similar. All of them are the factors which can improve the psycho-physical balance of the women from the rural areas. That indicates that subjectively and/or objectively weaker physical functioning does not necessarily have to have a negative influence on self-evaluation of general health.

It must be mentioned that the choice of sports and recreational activities of women in the rural areas is extremely obscure. In a recent study about the position of female sport in Vojvodina, it has been shown that all local government, except for Žitište as the most underdeveloped rural area, give certain amounts of money for financing sports clubs (Đorđić, 2011). According to that research, percent of female sports clubs is 9%. Male clubs 47% and both male and female 44%, which indicates an element of discrimination of women in the field of taking part in sports clubs. Žitište as a small rural area has the greatest percent of male sports clubs (85%), which suggests that the problem is even more expressed in smaller areas. The presence of the clubs which are available to women (female and mixed clubs) is significantly smaller than those available to men (male and mixed clubs). Unequal opportunities for taking part in any sport are the most obvious in Žitište where one club covers 2618 women or 414 men. The authors make a conclusion that women, especially in rural areas, have no adequate possibilities for taking part in sports (Đorđić, 2011).

An interesting research which dealt with the problem of rural areas not being present enough was made by surveying a stratified sample consisting of 1621 village households (Cvejić, Babović, Petrović, Bogdanov and Vuković, 2010). The existence of differences between sexes in many aspects of life and work is supported by the finding that in their free time much more women travelled and did some handicraft, while men chose recreation, hunting and fishing (Cvejić et al., 2010). At the same time the research showed that, inspite of certain losses, there is a significant social capital of people living in the rural areas. 80% participants confirmed that they have a close social support in giving advice or emotional help. Observed from the point of view of sexes, it is noticeable that men somewhat more rely on the closest social surroundings when it comes to working habits and borrowing money, while women are ahead of them when it comes to emotional support and the approach to institutions. These results support a possible explanation of the results obtained in our research.

Women in the rural areas are traditionally tied to house chores socially acceptable ways of spending free time (spending time in the neighbourhood, in a “female” organization, handicraft, etc). So, on one hand there is no adequate offer of recreational activities, support from a family or wider community, while on the other it is not in accordance with the traditional role of a woman to direct her free time towards sports-recreational activities. Women from Svilojevo, who were members of the rural subsample, have no recreational activities they could choose, or any professional help they could get in their individual exercising. All that could have an influence on their negative perception of physical functioning in comparison to the participants from a urban areas.

It is interesting that average scores of the participants from both subsamples are higher on the subscale Physical functioning than on the subscale General health, which is also a confirmation that personal satisfaction and perception of general health influence other aspects of health as well.

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