# Relationship Between Functional Disabilities and Home Care Needs of Elderly in the City of Zagreb

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## ABSTRACT

The demographic profile of the Republic of Croatia is changing intensively. According to published research, it is estimated that soon every fourth resident in Croatia including the City of Zagreb will be older than 65 years. Increased number of the elderly also increases the need for elderly care. Long-term care services make people dependent on someone else's help over a longer period. Help most usually involves satisfying basic daily activities such as feeding, bathing, dressing, moving, maintaining personal hygiene, doing housework, and other similar activities. The aim of this work was to determine the functional status of the elderly in the City of Zagreb, and to investigate whether there are differences in self-assessed personal quality of life and functional status depending on whether the health care in the home of the elderly is provided. The study was conducted on elderly of both sexes (N = 100) from the City of Zagreb divided into the group of those who receive health care at home and those who have no need for such care. Structured questionnaire with sociodemographic issues of WHOQOL-BREF and scale of Barthel's daily activity index were assessed. The study showed statistically significant differences in functional ability between the observed groups. The elderly receiving home health care have grater functional disability compared to the group of elderly not receiving home health care despite no statistically significant differences between groups in self-assessed quality of life.

Key words: elderly, home health care, self-assessed quality of life, functional disability

## Introduction

Serious demographic changes, including accelerated aging and demographic decline among others, are taking place in the European countries, and all of which strongly affect economic development and social affairs<sup>1</sup>. When comparing the age structure of the Croatian population with the ones of the other countries, we arrive at a conclusion that Croatia belongs to a group of countries with a high percent of elderly<sup>2</sup>. According to the Eurostat data, Croatia is in the group of European countries with the highest share of persons over 65 years of age (17.7%) of the total population<sup>3</sup>. Numerous definitions and interpretations of the concept of age exist. When trying to answer the question of what makes a person old, Duraković<sup>4</sup> emphasizes eight groups of age-based theories that are often used: three genetic (e.g.programmed aging, somatic mutations), three physiological theories (e.g.free radicals, accumulation of waste materials) and the theory of changes in organ function (like immune and neuroendocrinological).

The settings of these theories are complementary and intertwined with clarifications, but none provides satisfactory explanation on the phenomena of aging and age. According to Durakovic and Žarkovic<sup>5</sup>, the definition of age and aging is based on the age of 65 and over. Same source states that such a definition has no medical justification because biological and chronological age are not necessarily compatible. Schaie and Willis<sup>6</sup> state that a certain biological drop in abilities can be observed in elderly and, according to some theoreticians, the same can be said for intellectual abilities. Research conducted among 7401 elderly averaging 73.1 years from 22 countries, concluded that there are significant differences regarding the importance of different aspects on quality of life, dependent on sex, age, and general health. In the same research, using multiple regression analysis, authors were able to arrive at the conclusion that the most important aspects of quality of life are subjective benefits, happiness, functional independence, and life without pain7.

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For Tomek-Roksandić et al.<sup>8</sup> aging is a progressive process of decreasing structural and functional integrity of the organism, while age is episode of life associated with chronological age. The latest census from 2011 of Croatian Central Bureau of Statistics<sup>2</sup> lists 758,633 people aged 65 and above living in Croatia, accounting for 17.7% of the total population. Demographic projections for the period from 2011 to 2014 show an increase in the share of the elderly to 18.6% (789.124 inhabitants), and more than 19% by mid-2016. It is estimated based on projections that every fourth resident in Croatia and the City of Zagreb will be older than 65 in very near future<sup>9</sup>. Share of people in the age group over 65 in the total number of inhabitants of the City of Zagreb is 18.04% (N = 144.057), with the share of older men being 14.92% (N = 55.687) of the total male population and the share of older women being 20, 79% (N = 88.370) of the total female population (9). The largest percentage of people over 65 years of age in total population live in the districts of Novi Zagreb - east (9, 4% of the total number of elderly), Tresnjevka - south (8.5% of the total number of elderly) and Maksimir (7.4% of the total number of elderly) according to the research conducted by Puljak<sup>9</sup>.

Entire Europe faces demographic changes that are inherently unprecedented in scale and weight, according to Ramovš<sup>10</sup>. According to the Social Care Strategy for the elderly in the Republic of Croatia for the period of 2017-2020 the Republic of Croatia has accommodating capacities in homes for 29,414 or 3,68% persons aged 65 and over, while Austria for example has accommodating capacities in homes as high as  $4.7\%^{12}$ . Stated data leads us to the conclusion that a significantly larger share of the elderly lives in their own home, where some forms of formal and informal care are provided.

Reduced functional capabilities of the elderly results in the need for assistance for longer periods of time, also known as long-term care. Long-term care services help people dependent on someone else's help over a longer period. Help most usually involves satisfying basic daily activities such as feeding, bathing, dressing, moving, maintaining personal hygiene, doing housework, and other similar activities.

Elderly in Croatia that are users of formal care programs can use home-based health care and physical rehabilitation services. No research has been conducted to assess the use of informal care. In the Primary Health Care System in Croatia, the formal care of the elderly in homes is carried out by teams consisting of general practice doctors, nurses, physiotherapists and nurses from the Home Care Institution. The purpose of care is to help elderly in the community in ensuring the quality of life in their home through treatment as well as methods of primary, secondary and tertiary prevention measures<sup>13</sup>. A nurse/medical technician performing health care at home has a clear goal: to encourage patients to be more autonomous in satisfying basic lifestyle needs and to preserve and improve patient's quality of life<sup>14</sup>.

By the time when elderly become dependent on others resulting in inability to carry out self-care, community nurses in correspondence with general practice doctors, determine the need for a specific category of health care in the home of elderly, which is then carried out by nurses from a home care institution. The primary goal in the implementation of primary health care for the elderly, where crucial geriatric health care is of crucial importance, becomes the geroprophylaxis of the geriatric syndrome in the geriatric patient. Geriatric syndrome refers to the prevention of immobility, instability, incontinence, dependence and negative outcome of treatment with polypragmasia, as stated in the Action Plan and Tasks of the Reference Center of the Ministry of Health of the Republic of Croatia for the Protection of the Elderly Health for the 2017/2018 year.

The purpose of this paper was to determine whether the health status of elderly in whom home health care was required had an impact on life satisfaction.

Primary goals of the research were to: I. establish the level of functional state of the elderly in the City of Zagreb and II. investigate whether there are differences in the self-assessed personal quality of life and the functional state between the group of elderly who receive home health care and those who do not.

Based on previously published research results and on the basis of theoretical background, it is possible to set hypotheses for the problems encountered.

Our first hypothesis is that there are differences in self-assessment of health, quality of life, satisfaction of obtaining the necessary help and functional status among elderly between the observed groups, while our second hypothesis states that there is a difference in the observed groups of elderly with respect to socio-demographic variables and functional ability.

## **Material And Methods**

## Methods and techniques of data collection

The empirical research of this paper is based on a quantitative research paradigm, using modified structured questionnaires. The research tools used in this research were a structured standardized personal data questionnaire and the following standardized measurement instruments: I. Barthel index of daily life activities (functional ability) and II. Questions about selfassessment of health, quality of life and satisfaction of receiving the necessary help obtained using the World Health Organization's Quality of Life Questionnaire, WHOQOL-BREF. The responses for each particle are shown on a scale of Likert type from 1 to 5, where 1 signifies the least agreement with the individual statement, while 5 signifies the highest agreement with the statement.

#### Description of questionnaires

In order to collect data, structured questionnaires and scales were used. The first part of the questionnaire refers to sociodemographic data: age, gender, dwelling (family house, residential building), level of education, way of living, marital status, monthly income and self-assessed material condition.

Questions intended for respondents who are provided with health care in the home which are related to the data on the leading medical diagnosis, category of home care, duration of home care, and frequency of visits during week are also in the first part of the questionnaire.

The second part of the questionnaire, BI-ADL (Barthel Index of Activities of Daily Living) was selected to measure functional capacity. BI-ADL measures the functional (non) dependence of the respondents on personal care and mobility in ten common daily activities, combing and washing teeth, going to the toilet, eating, moving from bed to chair, moving around the house, dressing, moving down the stairs, bathing and controlling the sphincter. Each part has a range of two to four responses (0 to 3 points), resulting in the maximum number of points of 20. The interpretation of the sum of points is:

0 to 4 points signifies total dependence, 5 to 12 severe dependence, 13 to 18 moderate dependence, 19 small dependence, while 20 points signifies complete independence.

### Sample description

The sample consisted of respondents of both sexes, aged 65 and more, who live in the City of Zagreb. The study involved 100 elderly (N = 100). Respondents were grouped into two groups. Exclusion criteria for involvement into research was terminal state of illness or presence of mental illness.

The first group of respondents consisted of 50 elderly from the City of Zagreb who were provided with health care in their homes. Health care is provided by a family doctor and carried out by a nurse at the expense of the Croatian Health Insurance Institute.

The second group of respondents consisted of 50 elderly who have no need for such care.

The random sampling method was applied in the study. Measuring instruments were in the native Croatian language. From the position of ethical standpoint, respondents received information on research, goals and procedure. Permission of ethics committees of all institutions where research was conducted was obtained.

#### Data processing description

During the statistical processing, the methods of descriptive data representation and the method of inferential statistics were used. As part of the descriptive analysis, the data will be presented in a table in the form of absolute frequencies, percentages and measures of the central tendency, and graphically using the diagrams. In order to determine whether the observed parameters of the analysis affect the selected indicators, the Kruskal-Wallis test, t-test, Mann-Whitney U test and the hi-square test for variables of ordinal and nominal characteristics were performed.

In the descriptive part, the data are shown separately for the BI-ADL in table display of data through absolute frequencies and percentages of the average value and the interquartile range of individual variables, or in graphic way using the diagram. For each observed questionnaire, the thematic units, the main factors of analysis, were determined, and the data were grouped and presented with respect to the observed thematic units and the hypotheses determined in the research. For the relationship between the observed scales and variables in the study, tests of the Pearson or Spearman correlation coefficient on a closed scale -1 <r <1 were used to confirm the intensity and direction of the association of the observed categories. For the purpose of statistical analysis, the statistical program SPSS (version 21.0, SPSS Inc., Chicago, IL, USA) was used.

### Results

The study involved elderly of both sexes, 44 males and 56 females divided into two groups of 50. The first group consisted of users of home care, while the second group did not use it. All respondents lived in Zagreb.

The average year of birth in group 1 was 1939.70 with a standard deviation of 7.799, the minimum observed year of birth was 1926, and the maximum was the year of 1955. (Table 1.)

#### TABLE 1

YEAR OF BIRTH IN GROUP 1 (N=NUMBER OF PARTICIPANTS,  $\overline{X}$  - MEAN, SD – STANDARD DEVIATION, MIN. – MINIMUM YEAR OF BIRTH, MAX. – MAXIMUM YEAR OF BIRTH)

| Ye | Year of birth in group 1 |         |  |  |  |  |  |
|----|--------------------------|---------|--|--|--|--|--|
| Ν  | Valid                    | 50      |  |  |  |  |  |
|    | Missing                  | 0       |  |  |  |  |  |
|    | x                        | 1939,70 |  |  |  |  |  |
|    | Sd                       | 7,799   |  |  |  |  |  |
|    | Min                      | 1926    |  |  |  |  |  |
|    | Max                      | 1955    |  |  |  |  |  |

The average year of birth in group 2 was 1942,44 with a standard deviation of 7,169, the minimum observed year of birth was 1924, and the maximum was the year 1951. (Table 2.)

No statistically significant difference between the groups regarding the level of education and marital status was observed.

The health care complexity is determined by DTP (Diagnostic and therapeutic procedure) from CARE1 to CARE 8. The time range of home care is varying from a minimum of 30 minutes to a maximum of 120 minutes per day. Health care types are defined by procedures from the

|                            |          | TABLE 2       |           |               |
|----------------------------|----------|---------------|-----------|---------------|
| YEAR OF BIRT               | TH IN GI | ROUP 2 (N     | =NUMBE    | R OF PARTICI- |
| PANTS, $\overline{X}$ - ME | AN, SD   | – STANDA      | RD DEVI   | ATION, MIN. – |
| MINIMUM YI                 | EAR OF   | BIRTH, MA     | AX. – ΜΑΣ | KIMUM YEAR    |
|                            |          | OF BIRTH      | [)        |               |
|                            | Year     | of birth in g | roup 2    |               |
|                            | Ν        | Valid         | 50        |               |
|                            |          | Missing       | 0         |               |
|                            |          | x             | 1942,44   |               |
|                            |          | Sd            | 7,169     |               |

1924

1951

health care program (here in after DTP 1, 2, 3 or 4). In this research, we obtained the data on the type of health care used by the respondents, number of nurses' weekly visits and the duration of the nursing care (Figures 1, 2, and 3).

Min

Max



Figure 1. type of health care used by the respondents (DTP - Diagnostic and therapeutic procedure).



Figure 2. Number of nurses' weekly visits (wk-week).

When the functional capacity of an elderly is disrupted, help and care from all sources, both formal and informal is required. We estimated whether respondents receive support from others if needed (Table 3).



Figure 3. Duration of the nursing care.

#### TABLE 3

DESCRIPTIVE DISPLAY AND SIGNIFICANCE OF THE RESPONSES TO THE ASSESSMENT OF THE SUPPORT THAT ELDERLY RECEIVE (N=NUMBER OF PARTICI-PANTS, P – P VALUE)

|   |            |   | SUPI    | SUPPORT |       |
|---|------------|---|---------|---------|-------|
|   |            |   | Group 1 | Group 2 |       |
| Do you receive the                      | Not at all | Ν | 3       | 3       |       |
| needed amount of<br>support from others |            | % | 6,0%    | 6,0%    |       |
|   | A bit      | Ν | 8       | 8       |       |
|   |            | % | 16,0%   | 16,0%   |       |
|   | Partially  | Ν | 24      | 17      | 0,547 |
|   |            | % | 48,0%   | 34,0%   |       |
|   | A lot      | Ν | 7       | 13      |       |
|   |            | % | 14,0%   | 26,0%   |       |
|   | Completely | Ν | 8       | 9       |       |
|   |            | % | 16,0%   | 18,0%   |       |
| Total                                   |            | Ν | 50      | 50      |       |
|   |            | % | 100,0%  | 100,0%  |       |

Life satisfaction is one of the most generally accepted subjective indicators of quality of life and successful aging (18). In our survey, personal satisfaction assessment and self-assessment of quality of life was assessed based on questions from the WHOQOL-BREF questionnaire. Results of self-assessment of quality of life and self-assessment of health are shown in tables 4 and 5. (Tables 4 and 5)

Independence in carrying out everyday activities is an important part for satisfaction assessment. The table below shows the results for every individual part of Barthel's index assessment (Table 6).

In order to test the difference in the overall result of BI-ADL, t-test was performed (Table 7 and 8).

The results clearly show that the significance of the test is less than 0.05 and p < .001.< Therefore, it can be said with a confidence level of 95%, there is a statistically significant difference in the overall result of Barthell's activity index between the group of responders who receive and those who don't receive home care.

#### TABLE 4

### DESCRIPTIVE DISPLAY AND SIGNIFICANCE OF THE RESPONSES ON THE QUALITY OF LIFE (N=NUMBER OF PARTICIPANTS, P – P VALUE)

|                                   |            |   | Qualit  | р       |       |
|-----------------------------------|------------|---|---------|---------|-------|
|                                   |            |   | Group 1 | Group 2 |       |
| How would you                     | Very bad   | Ν | 2       | 0       |       |
| describe your<br>quality of life? |            | % | 4,0%    | 0,0%    |       |
| quality of file.                  | Bad        | Ν | 13      | 8       |       |
|                                   |            | % | 26,0%   | 16,0%   | 0.091 |
|                                   | Acceptable | Ν | 22      | 19      | 0,001 |
|                                   |            | % | 44,0%   | 38,0%   |       |
|                                   | Good       | Ν | 13      | 20      |       |
|                                   |            | % | 26,0%   | 40,0%   |       |
|                                   | Very good  | Ν | 0       | 3       |       |
|                                   |            | % | 0,0%    | 6,0%    |       |
| Total                             |            | Ν | 50      | 50      |       |
|                                   |            | % | 100,0%  | 100,0%  |       |

#### TABLE 5

DESCRIPTIVE DISPLAY AND SIGNIFICANCE OF THE RESPONSES ON THE HEALTH SELF-ASSESEMENT (N=NUMBER OF PARTICIPANTS, P – P VALUE)

|                              |                              |   | HEA     | р       |       |
|------------------------------|------------------------------|---|---------|---------|-------|
|                              |                              |   | Group 1 | Group 2 |       |
| How satisfied are            | Very                         | Ν | 10      | 3       |       |
| you with your<br>own health? | unsatisfied                  | % | 20,0%   | 6,0%    |       |
|                              | Unsatisfied                  | Ν | 17      | 12      |       |
|                              |                              | % | 34,0%   | 24,0%   |       |
|                              | Neither                      | Ν | 20      | 17      | 0,002 |
|                              | unsatisfied<br>nor satisfied | % | 40,0%   | 34,0%   |       |
|                              | Satisfied                    | Ν | 3       | 15      |       |
|                              |                              | % | 6,0%    | 30,0%   |       |
|                              | Very                         | Ν | 0       | 3       |       |
|                              | Satisfied                    | % | 0,0%    | 6,0%    |       |
| Total                        | l                            | Ν | 50      | 50      |       |
|                              |                              | % | 100,0%  | 100,0%  |       |

#### TABLE 6

# DESCRIPTIVE DISPLAY AND SIGNIFICANCE OF THE RESPONSES ON THE BI-ADL SCALE (N=NUMBER OF PARTICIPANTS, P – P VALUE)

|             |      |         | STOOL EL | MINATION  | р        |              |      |           | MOVE     | MENT      | р       |
|-------------|------|---------|----------|-----------|----------|--------------|------|-----------|----------|-----------|---------|
|             |      |         | Group 1. | Group 2.  |          |              |      |           | Group 1. | Group 2.  | _       |
| Stool       | ,00  | Ν       | 13       | 0         |          | Movement     | ,00  | Ν         | 15       | 0         |         |
| elimination |      | %       | 26,0%    | 0,0%      |          |              |      | %         | 30,0%    | 0,0%      |         |
|             | 1,00 | Ν       | 23       | 15        | p<0,001  |              | 1,00 | Ν         | 8        | 2         | p<0,001 |
|             |      | %       | 46,0%    | 30,0%     |          |              |      | %         | 16,0%    | 4,0%      |         |
|             | 2,00 | Ν       | 14       | 35        |          |              | 2,00 | Ν         | 11       | 6         |         |
|             |      | %       | 28.0%    | 70,0%     |          |              |      | %         | 22,0%    | 12,0%     |         |
| TOTAL       |      | Ν       | 50       | 50        |          |              | 3,00 | Ν         | 16       | 42        |         |
|             |      | %       | 100.0%   | 100.0%    |          |              |      | %         | 32,0%    | 84,0%     |         |
|             |      | 70      | TRAN     | ISFER     | n        | TOTAL        | ı    | N         | 50       | 50        |         |
|             |      |         | Group 1  | Group 2   | P        |              |      | %         | 100,0%   | 100,0%    |         |
| Transfer    | .00  | Ν       | 9        | 0         |          |              |      |           | Crown 1  | Crown 9   | _ p     |
|             | ,    | %       | 18.0%    | 0.0%      |          | Porconal     | 00   | N         | 94       | Group 2.  |         |
|             | 1.00 | N       | 15       | 0,070     |          | higiene      | ,00  | 1N<br>0/2 | 68.0%    | 4<br>8.0% |         |
|             | 1,00 | 0/      | 10       | 6.0%      | n<0.001  | 0            | 1.00 | N         | 15       | 41        | <0.001  |
|             | 0.00 | 70<br>N | 30,0%    | 6,0%      | p <0,001 |              | 1,00 | %         | 30.0%    | 82.0%     | p<0,001 |
|             | 2,00 | IN      | 13       | 7         |          |              | 2.00 | N         | 1        | 5         |         |
|             |      | %       | 26,0%    | 14,0%     |          |              | 2,00 | %         | 2.0%     | 10.0%     |         |
|             | 3,00 | Ν       | 13       | 40        |          | TOTAL        |      | N         | 50       | 50        |         |
|             |      | %       | 26,0%    | 80,0%     |          |              |      | %         | 100,0%   | 100,0%    |         |
| TOTAL       |      | Ν       | 50       | 50        |          |              |      |           | TOILET   | USAGE     | р       |
|             |      | %       | 100,0%   | 100,0%    |          |              |      |           | Group 1. | Group 2.  | - ^     |
|             |      |         | URINE EL | IMINATION | р        | Toilet usage | ,00  | Ν         | 18       | 0         |         |
|             |      |         | Group 1. | Group 2.  |          |              |      | %         | 36,0%    | 0,0%      |         |
| Urine       | ,00  | Ν       | 16       | 1         |          |              | 1,00 | Ν         | 19       | 9         | p<0,001 |
| elimination |      | %       | 32,0%    | 2,0%      | p<0,001  |              |      | %         | 38,0%    | 18,0%     |         |
|             | 1,00 | Ν       | 25       | 19        |          |              | 2,00 | Ν         | 13       | 40        |         |
|             |      | %       | 50,0%    | 38,0%     |          |              |      | %         | 26,0%    | 80,0%     |         |
|             | 2,00 | Ν       | 9        | 30        |          |              | 3,00 | Ν         | 0        | 1         |         |
|             |      | %       | 18,0%    | 60,0%     |          |              |      | %         | 0,0%     | 2,0%      |         |
| TOTAL       |      | Ν       | 50       | 50        |          | TOTAL        | ı    | Ν         | 50       | 50        |         |
|             |      | %       | 100,0%   | 100,0%    |          |              |      | %         | 100,0%   | 100,0%    |         |

TABLE 6 Continued

|          |      |     | FEE      | DING     | р       |
|----------|------|-----|----------|----------|---------|
|          |      |     | Group 1. | Group 2. | _       |
| Feeding  | ,00  | Ν   | 6        | 0        |         |
|          |      | %   | 12,0%    | 0,0%     |         |
|          | 1,00 | Ν   | 19       | 3        | p<0,001 |
|          |      | %   | 38,0%    | 6,0%     | -       |
|          | 2,00 | Ν   | 25       | 47       |         |
|          |      | %   | 50,0%    | 94,0%    |         |
| TOTAL    | L    | Ν   | 50       | 50       |         |
|          |      | %   | 100,0%   | 100,0%   |         |
|          |      |     | DRES     | SING     | р       |
|          |      |     | Group 1. | Group 2. |         |
| Dressing | ,00, | Ν   | 16       | 2        |         |
|          |      | %   | 32,0%    | 4,0%     |         |
|          | 1,00 | Ν   | 19       | 5        |         |
|          |      | %   | 38,0%    | 10,0%    |         |
|          | 2,00 | Ν   | 15       | 43       | n<0.001 |
|          |      | %   | 30,0%    | 86,0%    | P 0,001 |
| TOTAL    | L    | Ν   | 50       | 50       |         |
|          |      | 0/2 | 100.0%   | 100.0%   |         |

|            |          |   | MOVING UP | р                 |         |
|------------|----------|---|-----------|-------------------|---------|
|            |          |   | Group 1.  | Group 2.          |         |
| Moving up  | ,00      | Ν | 24        | 2                 |         |
| the stairs | e stairs |   | 48,0%     | 4,0%              |         |
|            | 1,00     | Ν | 16        | 8                 |         |
|            |          | % | 32,0%     | 16,0%             |         |
|            | 2,00     | Ν | 9         | 40                | n<0.001 |
|            |          | % | 18,0%     | 80,0%             | p 0,001 |
|            | 3,00     | Ν | 1         | 0                 |         |
|            |          | % | 2,0%      | 0,0%              |         |
| TOTAL      |          | Ν | 50        | 50                |         |
|            |          | % | 100,0%    | 100,0%            |         |
|            |          |   | BATI      | BATHING           |         |
|            |          |   | Group 1.  | Group 1. Group 2. |         |
| Bathing    | ,00      | Ν | 35        | 6                 |         |
|            |          | % | 70,0%     | 12,0%             |         |
|            | 1,00     | Ν | 13        | 44                |         |
|            |          | % | 26,0%     | 88,0%             |         |
|            | 2,00     | Ν | 1         | 0                 | <0.001  |
|            |          |   | 2,0%      | 0,0%              | p<0,001 |
|            | 3,00     | Ν | 1         | 0                 |         |
|            |          | % | 2,0%      | 0,0%              |         |
| TOTAL      |          | Ν | 50        | 50                |         |
|            |          | % | 100,0%    | 100,0%            |         |

| TABLE 7   |
|---|
| GROUP STATISTIC OF BI-ADL RESULTS (N=NUMBER           |
| OF PARTICIPANTS, $\overline{X}$ - MEAN, SD – STANDARD |
| DEVIATION, SE)  |

|              |         |    | ,,    |       |      |
|--------------|---------|----|-------|-------|------|
|              |         | Ν  | x     | Sd    | SE   |
| Total result | Group 1 | 50 | 9,20  | 5,925 | ,838 |
|              | Group 2 | 50 | 18,28 | 3,435 | ,486 |

# TABLE 8T-TEST OF BI-ADL RESULTS

|                 |                                  | Leven's<br>equal va | test of<br>triances | t-test |        |                    |
|-----------------|----------------------------------|---------------------|---------------------|--------|--------|--------------------|
|                 |                                  | F                   | Sig.                | t      | df     | Sig.<br>(2-tailed) |
| Total<br>result | Equal variances suspected        | 16,809              | ,000                | -9,375 | 98     | ,000               |
|                 | Equal variances<br>not suspected |                     |                     | -9,375 | 78,594 | ,000               |

## Discussion

Family functioning is determined by the factors of the social environment, while the structure of the family can significantly influence the quality of life of the elderly (15). Erikson's theory of reciprocity and generational coexistence signifies the importance of participation of different generations in developmental problems associated with aging (16). Respondents of the observed groups showed statistically significant differences in the way of housing / family structure, as evidenced by the fact that the level of significance of the respondents is 0.015 (Fisher's exact test p < 0.05). 26 (52.0%) respondents with home care live with their families and other family members, while only 12 (24.0%) of those without home care live with family members. According to Imanishi et al. (16) family structure and intergenerational interaction can improve the quality of life among elderly.

In present research we were able to prove that there is no statistically significant difference between the observed groups regarding the question "do you receive help from others?", although it's of limited significance. The largest number of respondents responded that the support was partially granted (see Table 3).

We found that there was no statistically significant difference between the groups regarding the self-assessed quality of life. It is interesting that elderly who receive home care assess their own quality of life just as responders who don't receive home health care, although they fare much lower in BI-ADL rating scale.

Health perception is a valuable indicator of health and an important indicator of quality of life, so health is a generally accepted category when assessing the quality of life. In the research carried out by Vuletic and Mujkic<sup>17</sup>, the respondents emphasized the difference between psychic and physical health and most respondents mentioned the importance of physical and mental health in defining the personal quality of life. For those surveyed, the health of their loved ones is also important in assessing their own quality of life. In our survey, the assessment of satisfaction with personal health was evaluated on the basis of WHOQOL-BREF questionnaires. The level of significance with regard to the question of how satisfied you were with your health was 0.002 (Fisher's exact test p < 0.05), which means that a statistically significant difference in the respondents was observed with respect to the observed question, whereby the percentage of satisfaction was higher in group not receiving home care (30.0% claiming satisfaction) compared to the other group (6.0% claiming they were satisfied). Self-assessment of health involves a subjective assessment of your own health status while functional ability refers to the possibility of self-care in daily life. We used the BI-ADL to evaluate functional abilities.

We were able to prove that elderly in the group of receivers of home care scored significantly lower in all indicators of BI-ADL questionnaire. Health care in the home is carried out as part of the overall care in situations where an elderly need home treatment or assistance in satisfying basic human needs. It could also be expected that elderly in the group 1 would show a poorer functional capacity, mostly because of the introduction of health care in the home. How many needs of elderly are actually met by this practice could be the subject of further research.

## Conclusion

The quality of life is a complex construct measured by subjective and objective indicators. Subjectivity describes the quality of life from the perspective of an individual. According to the analysis of objective factors such as poor

### REFERENCES

1. PHILLIPSON C, BERNARD M, PHILLIPS J, OGG J, Ageing & Society, 18 (1998) 259, DOI: 10.4324/9780203459058 - 2, DRŽAVNI ZAVOD ZA STATISTIKU Popis stanovništva, kućanstva i stanova 2011. stanovništvo prema spolu i starosti. accessed: 10.01.2019. Available from: http://www.dzs.hr/Hrv/censuses/census2011/results/censustabshtm.htm - 3. NEJAŠMIĆ I, TOSKIĆ A, Hrvatski geografski glasnik, 75 (2013) 89. DOI: 10.21861/HGG.2013.75.01.05 - 4. - DURAKOVIĆ Z, Liječnički vjesnik the jurnal of the Croatian medical association suplement 2 (2016) 16. CODEN LIVJAS ISSN 1330-4917 - Antropologijske promjene uzrokovane starenjem. In: PUNTARIĆ D, ROPAC D, JURČEV SAVIČEVIĆ A et al. Javno zdravstvo (Medicinska naklada, Zagreb) - 5. DURAKOVIĆ Z, ŽARKOVIĆ N, Biologija starenja i gerijatrija. In: VRHOVAC B et al. Interna medicina (Naklada Ljevak, Zagreb, 2008). - 6. SCHAIE KW, SHERRY LW, Psihologija odrasle dobi i starenja (Naklada Slap, Jastrebarsko, 2001). - 7. MOLZAHN, A, SKEVINGTON SM, KALFOSS M, MAKAROFF KS, Qual Life Res 19 (2010) 293. DOI: 10.1007/s11136-009-9579-7 - 8. TOMEK-ROKSANDIĆ S et al. Četiri stupnja gerijatrijske zdravstvene njege sa sestrinskom dokumentacijom i postupnikom opće/obiteljske medicine u domu za starije osobe. (Centar za gerontologiju Zavoda za javno zdravstvo, Zagreb, 2012). - 9. PULJAK A, Stanovništvo i vitalni događaji. In: ŠOSTAR Z, POLIĆ VIŽINTIN M, MARIĆ-BAJS M Zdravstveno statistički ljetopis Grada Zagreba za 2016. godinu (Zagreb: Nastavni zavod za javno zdravstvo "Dr. Andrija Štampar", Zagreb, 2017). - 10. RAMOVŠ J, Kakovostna starost, Inštitut Antona Trstenjaka 12 (2009) 22. - 11. MINISTARSTVO SOCIJALNE health and reduced functional capacity, it may be concluded that the quality of life is lower in the group of elderly that require health care in the home. However, if we analyze the self-assessed quality of life in groups of respondents, there is no statistically significant difference between groups. By the means of home care service in the home of the elderly, medical staff contributes to reduction of the feelings of social isolation due to regular visits and establishing communication. According to the data obtained in this survey, the most represented category of health care procedures, carried out by the Croatian Health Insurance Institute (HZZO), is NJEGA (CARE) 2 for the duration of 60 minutes. It was represented in 78% of cases. Additionally, by comparing the results we came to a conclusion that there are statistically significant differences in the individual socio-demographic and socioeconomic indicators among the observed groups. Results obtained in this work provide valuable information in presenting the actual situation and the position of elderly who need long-term home care. Long-term care of elderly in the home by the primary health care system is largely carried out by teams consisting of general practice doctors, nurses and nursing staff from health care institutions to the house. Whether this model of home health care is sufficient for the needs of an increasing number of elderly could be the subject of further research. Poor functional capacity of the elderly leads to increased dependence on the others, which results in inclusion of informal care primarily carried out in Croatia by the relatives of users. The capacities of such care are unknown and should be further assessed in future research. The health and social systems should provide adequate care directed primarily towards individual needs of its users. In conclusion, both hypotheses of the research were confirmed.

POLITIKE Strateški plan za razdoblje od 2015. – 2016. godine. accessed: 10.01.2019. Available from: http://www.mdomsp.hr/UserDocsImages/ iftopolko/Strate%C5%A1ki%20plan%20MSPM%202015-2017-s%20 tablicama.pdf. - 12. MINISTARSTVO ZA DEMOGRAFIJU, OBITELJ, MLADE I SOCIJALNU POLITIKU Strategija socijalne skrbi za starije osobe u Republici Hrvatskoj za razdoblje od 2017. do 2020. godine accessed: 10.01.2019. Available from: http://www.stampar.hr/sites/  $default/files/Arhiva/strategija\_socijalne\_skrbi\_za\_starije\_osobe\_u\_rh\_istarije\_istarije\_istarije\_osobe\_u\_rh\_istarije\_osobe\_u\_rh\_istarije\_osobe\_u\_rh\_istarije\_osobe\_u\_rh\_istarije\_istarije\_osobe\_n\_rh\_istarije\_osobe\_istarije\_osobe\_n\_rh\_istarije\_osobe\_istarije\_istarije\_osobe\_istarije\_osobe\_n\_rh\_istarije\_istarije\_osobe\_istarije\_osobe\_istarije\_osobe\_istarije\_osobe\_istarije\_osobe\_istarije\_osobe\_istarije\_osobe\_istarije\_osobe\_istarije\_osobe\_istarije\_osobe\_istarije]istarije\_istarije\_ista$ za\_razdoblje\_od\_2017.-2020.\_g.pdf. - 13. JEDVAJ S, ŠTAMBUK A, RUSAC S, Časopis za pitanja socijalnog rada i srodnih znanosti 1 (2014) 135. - 14. BAN I, CAR-ČULJAK I, DOMITROVIĆ DL, SVIBEN B, TIKVIĆ M, ŽUPANIĆ M, Smjernice za provođenje zdravstvene njege u patronažnoj djelatnosti (Hrvatska komora medicinskih sestara, Zagreb, 2013). - 15. MRZLJAK V, Zdravstvena njega bolesnika u kući (Udruga medicinskih sestara zdravstvene njege u kući, Zagreb, 2016). - 16. MORTIMER JT, MOEN P, The Changing Social Construction of Age and the Life Course: Precarious Identity and Enactment of "Early" and "Encore" Stages of Adulthood. In: SHANAHAN M, MORTIMER J, KIRKPATRICK JOHNSON M, Handbook of the Life Course. (Springer, Cham, 2016) DOI: 10.1007/978-3-319-20880-0\_5 - 17. BENC G, LJUBOTINA D, SLAVICA B, Sociologija sela 42 (2004) 23. - 18. IMANISHI M, TOMOHISA H, HIGAKI K, Springerplus 4 (2015) 381. DOI: 10.1186/s13104-017-2836-x - 19. VULETIĆ G, MUJKIĆ A, Liječnički Vjesnik 124 (2002) 64. - 20. ERIKSON HOMBURGER E, Identitet i životni ciklus (Zavod za udžbenike Beograd, Beograd, 2008). - 21. DUBEY A, SEEMA B, NEELIMA G, NEERAJ S, 5 (2011) 93. DOI: 10.1080/09737189.2011.11885333

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## ODNOS FUNKCIONALNE NE/SPOSOBNOSTI I POTREBA SKRBI U KUĆI STARIJIH OSOBA GRADA ZAGREBA

## SAŽETAK

Demografska slika u Republici Hrvatskoj se intenzivno mijenja. Prema objavljenim predviđanjima, uskoro će u Hrvatskoj i gradu Zagrebu svaki četvrti stanovnik biti stariji od 65 godina. Porastom broja starijih osoba povećava se i potreba za skrbi. Dugotrajna skrb čini osobe ovisne o tuđoj pomoći kroz duži vremenski period. Pomoć se najčešće odnosi na zadovoljavanje osnovnih svakodnevnih aktivnosti kao što su: hranjenje, kupanje, odijevanje, kretanje, održavanje osobne higijene, obavljanje kućanskih poslova i slično. Ciljevi rada su ustanoviti stupanj funkcionalnog stanja starije populacije u gradu Zagrebu i istražiti postoje li razlike u samoprocjeni osobne kvalitete života i funkcionalnog stanja ovisno o tome pruža li se starijoj osobi zdravstvena njega u kući ili se ne pruža. U istraživanju su sudjelovale starije osobe oba spola (N=100) iz grada Zagreba kojima se provodi zdravstvena njega u kući i one kojima takav oblik skrbi nije potreban. Za postavljene hipoteze korišten je strukturirani upitnik sa sociodemografskim pitanjima dijela pitanja iz WHOQOL-BREF, i skala Bartelovog indeksa svakodnevnih aktivnosti. Istraživanje je pokazalo statistički značajne razlike u funkcionalnoj sposobnosti kod promatranih skupina. Stariji ljudi koji su korisnici usluga zdravstvene njege u kući imaju viši stupanj funkcionalne onesposobljenosti u usporedbi s onima koji nisu korisnici iste, iako statistički nemaju značajno manju samporocijenjenu kvalitetu života.