

The Croatian Health Survey – SF-36: I. General Quality of Life Assessment

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ABSTRACT

The objective of the Croatian Health Survey was the assessment of population health related quality of life in the transitional environment of Croatia. Health status measures incorporate dimensions such as physical, psychological, and social functioning, role performance and perception of wellbeing. In order to assess health status, »The medical outcome study 36-item short-form health survey (SF-36) model« was used. A total sample of 5048 inhabitants (1983 males and 3065 females), 18 years and over, represents approximately 1% of the general population of Croatia. Mean scores were as follows: physical functioning (PF) 69.94, role-physical (RP) 63.01, bodily pain (BP) 64.51, general health (GH) 53.40, vitality (VT) 51.85, social functioning (SF) 72.96, role-emotional (RE) 72.42, mental health (MH) 61.71 and health transition (HT) 44.79. Results of the SF-36 health survey in Croatia are very much like the results in other European countries with indication that general quality of life is lower in Croatia.

Introduction

Contemporary technologies for population health related quality of life assessment are going beyond the classical approach to morbidity and mortality. The focus is on the burden of illness upon a population and the efficacy of population interventions in terms of daily functioning as valued by individuals.

Usually, health status measures incorporate dimensions such as physical, psychological, and social functioning, role

performance and perception of wellbeing¹⁻³. The literature provides a large number of instruments designed to assess health status but the The Medical Outcome Study 36-item short-form health survey (SF-36) model is the dominant one. This model is widely used as a generic short-form measure of functional health and wellbeing of different population groups. Hundreds of SF-36 studies of diverse patient populations have been published⁴. However, there are scarce SF-36 health studies in the open populations.

TABLE 1
DISTRIBUTION OF RESPONDENTS BY REGIONS (5048)

| Region | County | Number of respondents (%) |
|----------------|----------------------------|---------------------------|
| City of Zagreb | The City of Zagreb | 1196 (23.7) |
| North-west | Zagreb County | 1328 (26.3) |
| | Bjelovar-Bilogora County | |
| | Koprivnica-Krizevci County | |
| North-east | Osijek-Baranja County | 500 (9.9) |
| | Pozega-Slavonia County | |
| | Vukovar-Srijem County | |
| South-west | Primorje-Goran County | 616 (12.2) |
| | Istria County | |
| | Lika-Senj County | |
| South-east | Split-Dalmatia County | 1408 (27.9) |
| | Dubrovnik-Neretva County | |
| | Zadar County | |
| | Šibenik-Knin County | |
| Total | | 5048 (100.0) |

Since the population quality of life is a vulnerable parameter with the highest priority in health care policy, the objective of the Croatian Health Survey was the assessment of population health related quality of life in the transitional environment of Croatia.

Materials and Methods

Croatian Health Survey

Croatian Health Survey covered four specific target populations. The first group was a sample of open population to which the SF-36 instrument were applied. The second population group comprised patients registered by general practitioners, and the third one comprised GPs. The fourth group were the health center managers. This paper deals with the quality of life assessment in the open population sample.

Data of the Croatian SF-36 health survey are presented.

Population and the sampling strategy

The sampling strategy belongs to a stratified multistage sampling in four Croatian regions. A random sample of health centers was made. Within health centers, a ten-percent random sample of the population in care of general practitioners was taken. Health centers in Croatia are organizational units where people satisfy their primary health care needs and demands. The total sample represents approximately 1‰ of the general population of Croatia.

Table 1 shows the distribution of respondents by the regions in Croatia that were selected in the sampling procedure. The geographic locations of health centers reflecting the regionality of Croatia assured a wide range of variations in dimensions of interest for the health survey.

Data on the Croatian general population were collected from February 1997 to

February 1999. The total survey population was 5048 aged 18 years and over. The response rate was 96%.

Methods

The selected inhabitants were interviewed in their homes by trained interviewers. The Croatian Health Survey of the open population consisted of four parts: A. demographic data (gender, age, place of residence, number of children-for women only, number of household members, age of parents or age of death, occupation, working status, education, average monthly income, self- assesment of socio-economic status); B. SF-36 measurement model: a multi-purpose, short-form model containing 36 ordinal scale items on physical functioning (PF), role-physical (RP), bodily pain (BP), general health (GH), vitality (VT), social functioning (SF), role-emotional (RE) and mental health (MH)^{6,7}; C. living habits and D. use of health care.

SF-36 survey was for the first time implemented in the Croatian general popu-

lation. The Croatian version of SF-36 questionnaire was licenced to Andrija Štampar School of Public Health in 1992 as a part of the »Tipping the Balance Towards Primary Healthcare Network«⁸ project. Two professional translators with experience in »health and quality of life terminology« but not in SF-36, produced two independent forward translations and, after multiprofessional discussions, agreed upon a common version. Data were statistically processed using MAP-R for Windows⁹ software.

Results

The respondents' age ranged from 18 to 94 years. The mean age was 48.5 years for males and 49.5 years for females. The survey comprised 60.7% of women, which was more than in the 1991 census (52.0%), and more respondents over 65 years (25.7%) than in the 1991 census (15.5%). (Table 2) The male respondents had more years of education.

Table 3 shows the item frequency distribution for the total population. For all

TABLE 2
SAMPLE CHARACTERISTICS (5048)

| Sociodemographic data | Males | Females | Total |
|---------------------------------|-------------|-------------|--------------|
| No. of respondents (%) | 1983 (39.3) | 3065 (60.7) | 5048 (100.0) |
| Age | | | |
| 18-24 | 205 (10.3) | 305 (10.0) | 510 (10.1) |
| 25-44 | 659 (33.2) | 996 (32.4) | 1655 (32.8) |
| 45-64 | 630 (31.8) | 956 (31.2) | 1586 (31.4) |
| 65-74 | 340 (17.1) | 512 (16.7) | 852 (16.9) |
| 75 | 149 (7.6) | 296 (9.7) | 445 (8.8) |
| Education (years) | | | |
| incomplete primary school (< 8) | 145 (7.3) | 486 (15.9) | 631 (12.5) |
| primary school (8) | 257 (13.9) | 735 (24.0) | 1010 (20.0) |
| industrial or trade school (11) | 396 (20.0) | 218 (7.1) | 614 (12.2) |
| secondary school (12) | 776 (39.0) | 1159 (37.8) | 1935 (38.3) |
| 2-year higher degree (14) | 146 (7.4) | 188 (6.1) | 334 (6.6) |
| university/academy (16) | 245 (12.4) | 279 (9.1) | 524 (10.4) |

TABLE 3
ITEM FREQUENCY DISTRIBUTION IN PERCENTAGES

| Scale | Content (item) | 1 | 2 | 3 | 4 | 5 | 6 |
|---------------------------|---|------|------|------|------|------|------|
| Physical Functioning (PF) | PF01 Vigorous activities | 35.8 | 24.0 | 40.2 | | | |
| | PF02 Moderate activities | 19.9 | 25.7 | 54.4 | | | |
| | PF03 Lifting or carrying groceries | 17.5 | 24.6 | 57.9 | | | |
| | PF04 Climbing several flights of stairs | 23.2 | 25.7 | 51.1 | | | |
| | PF05 Climbing one flight of stairs | 15.7 | 20.9 | 64.3 | | | |
| | PF06 Bending, kneeling, or stooping | 21.8 | 27.2 | 51.0 | | | |
| | PF07 Walking more than a mile | 22.1 | 19.5 | 58.4 | | | |
| | PF08 Walking several blocks | 15.9 | 17.1 | 67.0 | | | |
| | PF09 Walking one block | 12.0 | 13.7 | 74.3 | | | |
| | PF10 Bathing or dressing | 11.4 | 11.7 | 76.9 | | | |
| Role-Physical (RF) | RP1 Cut down amount of time... | 33.2 | 66.8 | | | | |
| | RP2 Accomplished less... | 40.4 | 59.6 | | | | |
| | RP3 Limited in kind of work... | 34.8 | 65.2 | | | | |
| | RP4 Difficulty performing the work.... | 39.5 | 60.5 | | | | |
| Bodily Pain (BP) | BP1* Intensity of bodily pain | 4.2 | 13.4 | 24.6 | 16.0 | 14.5 | 27.2 |
| | BP2* Pain interfered with normal work | 6.8 | 14.9 | 15.0 | 22.2 | 41.1 | |
| General Health (GH) | GH1* Health in general... | 20.7 | 26.2 | 27.2 | 16.5 | 9.4 | |
| | GH2 ...get ill more easily... | 5.2 | 12.8 | 26.8 | 27.4 | 27.8 | |
| | GH3* ...as healthy as anybody... | 7.9 | 17.2 | 27.2 | 36.1 | 11.5 | |
| | GH4 I expect my health to get worse | 7.6 | 18.9 | 39.3 | 15.2 | 19.0 | |
| | GH5* My health is excellent | 19.5 | 23.5 | 11.5 | 38.5 | 12.0 | |
| Vitality (VT) | VT1* Feel full of pep | 7.6 | 18.1 | 30.4 | 22.1 | 13.6 | 8.2 |
| | VT2* Have a lot of energy | 9.0 | 21.2 | 26.3 | 19.6 | 14.3 | 9.6 |
| | VT3 Feel worn out | 5.2 | 8.7 | 18.4 | 36.4 | 20.9 | 10.4 |
| | VT4 Feel tired | 7.0 | 10.1 | 18.2 | 42.7 | 16.5 | 5.5 |
| Social Functioning (SF) | SF1* Extent of interference with SF | 3.4 | 10.1 | 15.2 | 21.3 | 50.0 | |
| | SF2 Frequency of interference with SF | 4.8 | 8.1 | 26.6 | 24.1 | 36.4 | |
| Role-Emotional (RE) | RE1 Cut down amount of time... | 24.2 | 75.8 | | | | |
| | RE2 Accomplished less... | 30.0 | 70.0 | | | | |
| | RE3 Didn't do work as carefully... | 28.6 | 71.4 | | | | |
| Mental Health (MH) | MH1 Been a very nervous person | 3.6 | 6.6 | 14.0 | 38.6 | 26.7 | 10.5 |
| | MH2 Felt down in the dumps | 2.4 | 4.2 | 8.2 | 20.9 | 28.3 | 36.0 |
| | MH3* Felt calm and peaceful | 4.9 | 19.3 | 26.8 | 27.8 | 14.9 | 6.3 |
| | MH4 Felt downhearted and blue | 2.6 | 5.1 | 9.6 | 27.7 | 33.8 | 21.3 |
| | MH5 Been a happy person | 4.6 | 14.6 | 30.6 | 25.0 | 16.4 | 8.8 |
| Health Transition (HT) | HT* Health now compared to 1 year ago | 8.6 | 23.1 | 53.7 | 9.7 | 4.9 | |

* Item recoded so that high scores indicate good health.

TABLE 4
DESCRIPTIVE STATISTICS, SCORE DISTRIBUTION IN THE CROATIAN SAMPLE

| | PF | RP | BP | GH | VT | SF | RE | MH | HT |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| No. of items | 10 | 4 | 2 | 5 | 4 | 2 | 3 | 5 | 1 |
| Mean | 69.94 | 63.01 | 64.51 | 53.40 | 51.85 | 72.96 | 72.42 | 61.71 | 44.79 |
| Sta.Dev. | 30.71 | 42.72 | 29.95 | 22.56 | 21.55 | 26.11 | 40.36 | 19.63 | 22.70 |
| CV | 43.91 | 67.80 | 46.43 | 42.25 | 41.56 | 35.79 | 55.73 | 31.81 | 50.68 |
| % at Floor | 1.7 | 25.0 | 2.8 | 0.7 | 1.3 | 1.6 | 19.6 | 0.2 | 8.6 |
| % at Ceiling | 27.5 | 50.5 | 26.6 | 1.2 | 1.0 | 30.7 | 63.9 | 1.4 | 4.9 |

items, the answer distribution were skewed. Respondents scored high in the favorable health categories for items in scale: PF, RF, SF, RE, and items BP2, GH2 and MH2. For item GH1, *Health in general...* respondents mostly used »worst« answer category.

Table 4 presents the means, standard deviations and percentage scoring at the floor and ceiling for nine SF-36 scales. Each scale score was transformed to a 0 to 100 scale. This transformation converted the lowest and highest possible scores to zero and 100, respectively. A score between those values represented the percentage of the total possible score achieved. Scale score means ranged from 44.9 for HT to 72.96 for SF. The percentage of respondents scoring at the lowest scale level (floor effect) was minimal (1.7% or less) in six of the nine scales. In eight scales respondents scored toward the positive end of the health spectrum. For the two role functioning scales (RP and RF), a somewhat larger floor effect was noted. The bipolar scales (GH, VT and MH) showed wider score distribution.

Table 5 presents means and standard deviations for the SF-36 scales by gender, age and education. Scale score means were higher for male, younger and better educated respondents (with an exception for respondents with 2-year higher degree education).

Internal consistency reliability estimates (Cronbach's coefficient alpha) for

eight SF36 scales are presented in Table 6. Cronbach's alpha coefficient in all scales exceeded the 0.70 recommended level, ranging from 0.76 in scale SF to 0.93 in scale PF. The correlation between the scales ranged from 0.21 HT and RE to 0.73 MH and VT.

Discussion

We compared data in SF-36 survey of the general population of Croatia with data from other European countries: Denmark, France, Germany, Italy, Netherlands, Norway, Spain and United Kingdom. Our sample was greater than recommended by general population standards (2500 to 3000 respondents)⁷. We had more respondents than surveys in other countries, except for Spain. The average age was higher and the number of male respondents was greater in our sample than in other countries. Cronbach's alpha coefficient was similar in all countries, and it exceeded the recommended level of 0.70. (Table 7)¹⁰.

Differences in item means across the countries are shown in Table 8. Values for item means in the Croatian sample were generally lower than in eight European countries. Similar to other countries, item PF1 (vigorous activities) within PF scale had the lowest mean, and item PF10 (bathing and dressing) had the highest mean. The Croatian sample was particularly different in three items: GH5-*My health is excellent*, MH3 *Felt*

TABLE 5
DESCRIPTIVE STATISTICS FOR THE SF-36 SCALES BY GENDER, AGE AND EDUCATION

| | Gender | | Age | | | | | Education (years) | | | | | |
|-----------|--------|--------------|-------|-------|-------|-------|-------|--|--------------------------|--|-----------------------------|--------------------------------------|---------------------------------------|
| | Males | Fe- males | 24 | 25-44 | 45-64 | 65-74 | 75 | Uncomple- ted prima- ry school (< 8) | Primary school (8) | Industrial or trade school (11) | Secondary school (12) | 2-year higher de- gree (14) | Univer- sity/acad- emy (16) |
| PF | | | | | | | | | | | | | |
| Mean | 73.81 | 67.45 | 88.28 | 82.83 | 67.22 | 53.50 | 42.17 | 49.17 | 62.22 | 70.59 | 77.64 | 74.58 | 77.72 |
| Sta.Dev. | 29.94 | 30.95 | 23.77 | 25.91 | 28.40 | 28.48 | 28.56 | 28.84 | 30.86 | 30.30 | 28.10 | 29.97 | 27.69 |
| RP | | | | | | | | | | | | | |
| Mean | 67.57 | 60.05 | 83.14 | 76.07 | 58.07 | 44.77 | 38.09 | 41.24 | 53.64 | 62.30 | 70.78 | 71.41 | 74.05 |
| Sta.Dev. | 41.68 | 43.14 | 31.14 | 36.80 | 43.66 | 43.83 | 42.99 | 43.93 | 44.03 | 43.42 | 39.74 | 39.97 | 36.77 |
| BP | | | | | | | | | | | | | |
| Mean | 69.23 | 61.49 | 81.07 | 74.06 | 59.67 | 54.13 | 47.38 | 48.18 | 58.33 | 65.10 | 70.21 | 68.40 | 72.08 |
| Sta.Dev. | 29.89 | 29.77 | 22.58 | 26.51 | 29.33 | 30.68 | 30.80 | 31.22 | 30.66 | 29.77 | 28.30 | 26.97 | 26.10 |
| GH | | | | | | | | | | | | | |
| Mean | 55.62 | 51.96 | 70.10 | 62.97 | 48.50 | 41.78 | 38.35 | 38.61 | 46.35 | 52.02 | 59.44 | 56.51 | 62.09 |
| Sta.Dev. | 23.26 | 21.98 | 17.71 | 19.40 | 21.21 | 20.72 | 19.04 | 20.75 | 21.98 | 22.06 | 21.02 | 21.14 | 19.84 |
| VT | | | | | | | | | | | | | |
| Mean | 55.31 | 49.62 | 63.42 | 56.64 | 49.51 | 46.17 | 39.99 | 39.98 | 47.30 | 52.83 | 56.04 | 54.54 | 56.60 |
| Sta.Dev. | 21.74 | 21.13 | 18.25 | 19.24 | 21.20 | 22.42 | 22.10 | 21.50 | 21.41 | 22.00 | 20.27 | 20.89 | 19.28 |
| SF | | | | | | | | | | | | | |
| Mean | 75.91 | 71.35 | 83.55 | 78.04 | 71.62 | 67.49 | 59.20 | 61.59 | 70.13 | 74.64 | 76.62 | 74.45 | 77.39 |
| Sta.Dev. | 25.58 | 26.21 | 19.03 | 23.36 | 26.36 | 27.69 | 29.02 | 29.77 | 26.28 | 26.53 | 24.10 | 25.03 | 23.18 |
| RE | | | | | | | | | | | | | |
| Mean | 76.24 | 69.96 | 82.44 | 77.08 | 71.72 | 64.91 | 60.52 | 58.79 | 67.59 | 74.39 | 76.01 | 76.05 | 80.29 |
| Sta.Dev. | 37.92 | 41.72 | 31.88 | 37.09 | 40.67 | 44.49 | 45.83 | 46.59 | 43.22 | 39.52 | 37.62 | 37.08 | 34.47 |
| MH | | | | | | | | | | | | | |
| Mean | 63.94 | 60.26 | 69.43 | 64.70 | 60.26 | 57.47 | 54.98 | 52.29 | 57.94 | 62.48 | 64.74 | 63.27 | 67.20 |
| Sta.Dev. | 19.65 | 19.49 | 16.03 | 17.85 | 19.86 | 21.25 | 20.86 | 21.14 | 19.92 | 19.88 | 18.28 | 18.93 | 16.93 |
| HT | | | | | | | | | | | | | |
| Mean | 45.12 | 44.58 | 53.33 | 50.15 | 42.53 | 38.32 | 35.56 | 35.42 | 41.36 | 46.09 | 48.27 | 46.11 | 47.52 |
| Sta.Dev. | 20.98 | 23.75 | 19.29 | 20.59 | 22.12 | 23.78 | 25.46 | 25.50 | 24.47 | 21.68 | 21.23 | 20.86 | 18.19 |

TABLE 6
INTERNAL CONSISTENCY RELIABILITY (CRONBACH'S ALPHA) AND INTER-SCALE
CORRELATIONS OF THE SF-36 SCALE

| Scale | PF | RP | BP | GH | VT | SF | RE | MH | HT |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| PF | (.93) | | | | | | | | |
| RP | .50 | (.91) | | | | | | | |
| BP | .50 | .61 | (.87) | | | | | | |
| GH | .53 | .56 | .60 | (.80) | | | | | |
| VT | .45 | .51 | .54 | .65 | (.83) | | | | |
| SF | .43 | .55 | .56 | .55 | .60 | (.76) | | | |
| RE | .28 | .45 | .37 | .39 | .43 | .54 | (.89) | | |
| MH | .34 | .40 | .43 | .57 | .73 | .59 | .50 | (.85) | |
| HT | .27 | .31 | .34 | .37 | .35 | .30 | .21 | .30 | (-) |

TABLE 7
GENERAL POPULATION HEALTH SURVEYS – SF.36 IN CROATIA AND EIGHT EUROPEAN
COUNTRIES. INFORMATION ABOUT DATA QUALITY AND RESPONDENTS

| COUNTRY | Year of ad- ministration | Sample size | Respondents | | Data quality |
|----------------------|-----------------------------|----------------|-------------|------------------|--------------------------|
| | | | % Male | Mean age (SD) | Range of reliability* |
| Croatia (CR) | 1997–1999 | 5048 | 39 | 49.1 (18.5) | 0.76–0.93 |
| Denmark (DE) | 1994 | 4084 | 48 | 43.9 (17.8) | 0.76–0.92 |
| France (FR) | 1995 | 3656 | 48 | 44.6 (18.1) | 0.79–0.91 |
| Germany (GE) | 1994 | 2914 | 48 | 45.2 (18.4) | 0.74–0.94 |
| Italy (IT) | 1995 | 2031 | 49 | 47.7 (17.1) | 0.77–0.93 |
| The Netherlands (NE) | 1996 | 1771 | 56 | 47.6 (18.0) | 0.77–0.92 |
| Norway (NO) | 1996 | 2323 | 49 | 44.9 (16.5) | 0.79–0.90 |
| Spain (SP) | 1996 | 9151 | 48 | 45.2 (18.6) | 0.77–0.96 |
| United Kingdom (UK) | 1992 | 2056 | 48 | 45.8 (18.6) | 0.81–0.93 |

* Cronbach's alpha

calm and peaceful and MH5 *Been a happy person*, which had lower means within their scales than in other countries¹¹.

In our sample like in all others (except Italian GH3), all item-scale correlations were greater than 0.40 and thus met the test of item internal consistency. Item scale correlations, for the most difficult (PF1 vigorous activities) and least difficult (PF10 bathing and dressing) Physical Functioning items were lower than other Physical Functioning items both in our sample and in other countries. Scale

correlations for General Health items measuring resistance to illness (GH2) and health outlook (GH4) generally were lower than item scale correlations for other General Health items (Table 9)¹¹.

Conclusion

Results of the SF-36 health survey in Croatia are very much like the results in other European countries with indication that general quality of life is lower in Croatia. Detailed analysis of data will be made in further studies.

TABLE 8
ITEM MEANS BY COUNTRY

| Item | CR | DE | FR | GE | IT | NE | NO | SP | UK |
|---------------------------|------|------|------|------|------|------|------|------|------|
| Physical Functioning (PF) | | | | | | | | | |
| PF01 | 2.04 | 2.36 | 2.29 | 2.26 | 2.38 | 2.17 | 2.16 | 2.43 | 2.25 |
| PF02 | 2.34 | 2.73 | 2.59 | 2.62 | 2.75 | 2.63 | 2.75 | 2.74 | 2.58 |
| PF03 | 2.40 | 2.76 | 2.64 | 2.60 | 2.72 | 2.58 | 2.72 | 2.78 | 2.61 |
| PF04 | 2.28 | 2.81 | 2.78 | 2.72 | 2.78 | 2.63 | 2.75 | 2.81 | 2.63 |
| PF05 | 2.48 | 2.79 | 2.76 | 2.66 | 2.78 | 2.67 | 2.75 | 2.77 | 2.71 |
| PF06 | 2.29 | 2.81 | 2.73 | 2.67 | 2.80 | 2.66 | 2.84 | 2.82 | 2.65 |
| PF07 | 2.36 | 2.89 | 2.88 | 2.75 | 2.90 | 2.80 | 2.90 | 2.86 | 2.76 |
| PF08 | 2.51 | 2.88 | 2.84 | 2.81 | 2.89 | 2.81 | 2.92 | 2.86 | 2.80 |
| PF09 | 2.62 | 2.91 | 2.91 | 2.84 | 2.93 | 2.86 | 2.94 | 2.90 | 2.88 |
| PF10 | 2.66 | 2.91 | 2.92 | 2.87 | 2.95 | 2.93 | 2.95 | 2.93 | 2.92 |
| Role-Physical (RP) | | | | | | | | | |
| RP1 | 1.67 | 1.79 | 1.78 | 1.79 | 1.80 | 1.73 | 1.72 | 1.85 | 1.78 |
| RP2 | 1.60 | 1.89 | 1.90 | 1.83 | 1.86 | 1.81 | 1.84 | 1.87 | 1.85 |
| RP3 | 1.65 | 1.84 | 1.84 | 1.82 | 1.83 | 1.77 | 1.81 | 1.87 | 1.80 |
| RP4 | 1.60 | 1.85 | 1.82 | 1.81 | 1.82 | 1.75 | 1.80 | 1.87 | 1.80 |
| General Health (GH) | | | | | | | | | |
| GH1 | 2.68 | 3.53 | 3.36 | 3.03 | 3.06 | 3.28 | 3.57 | 3.08 | 3.50 |
| GH2 | 3.60 | 4.13 | 3.82 | 3.56 | 3.52 | 3.74 | 4.32 | 4.03 | 3.91 |
| GH3 | 3.26 | 3.90 | 3.66 | 3.45 | 3.91 | 3.85 | 4.01 | 3.75 | 3.69 |
| GH4 | 3.19 | 4.00 | 3.65 | 3.77 | 3.78 | 3.71 | 3.86 | 3.90 | 3.61 |
| GH5 | 2.95 | 4.43 | 4.27 | 4.17 | 4.28 | 4.36 | 4.49 | 4.35 | 4.35 |
| Vitality (VT) | | | | | | | | | |
| VT1 | 3.41 | 4.34 | 4.01 | 3.96 | 3.89 | 4.55 | 3.61 | 4.29 | 4.09 |
| VT2 | 3.38 | 4.04 | 3.43 | 3.99 | 4.12 | 4.26 | 3.45 | 4.16 | 3.95 |
| VT3 | 3.90 | 5.14 | 4.70 | 4.47 | 4.90 | 4.79 | 4.50 | 4.81 | 4.50 |
| VT4 | 3.68 | 4.55 | 4.07 | 3.99 | 4.02 | 4.19 | 4.51 | 4.50 | 4.17 |
| Role-Emotional (RE) | | | | | | | | | |
| RE1 | 1.76 | 1.81 | 1.79 | 1.85 | 1.77 | 1.79 | 1.75 | 1.89 | 1.85 |
| RE2 | 1.70 | 1.91 | 1.90 | 1.91 | 1.84 | 1.84 | 1.88 | 1.90 | 1.89 |
| RE3 | 1.71 | 1.90 | 1.82 | 1.89 | 1.76 | 1.84 | 1.84 | 1.90 | 1.89 |
| Mental Health (MH) | | | | | | | | | |
| MH1 | 4.09 | 4.48 | 3.83 | 4.31 | 4.03 | 4.44 | 4.31 | 4.18 | 4.17 |
| MH2 | 4.76 | 4.55 | 4.02 | 4.16 | 4.01 | 4.67 | 3.97 | 4.54 | 4.59 |
| MH3 | 3.47 | 4.48 | 4.23 | 4.62 | 4.37 | 4.76 | 5.54 | 4.53 | 5.29 |
| MH4 | 4.49 | 5.77 | 5.18 | 5.18 | 5.10 | 5.37 | 5.72 | 5.28 | 5.30 |
| MH5 | 3.61 | 5.25 | 4.99 | 4.98 | 4.74 | 5.00 | 5.24 | 5.00 | 4.94 |
| Health Transition (HT) | 2.79 | 3.05 | 3.06 | 3.03 | 3.02 | 3.03 | 3.04 | 2.99 | 3.10 |

Abbreviations: CR = Croatia; DE = Denmark; FR = France; GE = Germany; IT = Italy; NE = The Netherlands; NO = Norway; SP = Spain; UK = United Kingdom.

TABLE 9
CORRELATIONS BETWEEN ITEMS AND HYPOTHESIZED SCALES BY COUNTRY

| Item | CR | DE | FR | GE | IT | NE | NO | SP | UK |
|---------------------------|------|------|------|------|------|------|------|------|------|
| Physical Functioning (PF) | | | | | | | | | |
| PF01 | 0.56 | 0.51 | 0.58 | 0.65 | 0.56 | 0.64 | 0.54 | 0.61 | 0.65 |
| PF02 | 0.76 | 0.81 | 0.76 | 0.77 | 0.73 | 0.80 | 0.78 | 0.82 | 0.80 |
| PF03 | 0.79 | 0.77 | 0.76 | 0.77 | 0.74 | 0.76 | 0.72 | 0.81 | 0.81 |
| PF04 | 0.78 | 0.77 | 0.74 | 0.80 | 0.76 | 0.78 | 0.74 | 0.83 | 0.81 |
| PF05 | 0.81 | 0.78 | 0.76 | 0.78 | 0.75 | 0.79 | 0.72 | 0.81 | 0.78 |
| PF06 | 0.77 | 0.70 | 0.69 | 0.76 | 0.70 | 0.70 | 0.71 | 0.80 | 0.76 |
| PF07 | 0.81 | 0.78 | 0.76 | 0.82 | 0.72 | 0.77 | 0.76 | 0.82 | 0.83 |
| PF08 | 0.83 | 0.78 | 0.73 | 0.83 | 0.73 | 0.76 | 0.74 | 0.82 | 0.83 |
| PF09 | 0.71 | 0.72 | 0.66 | 0.78 | 0.67 | 0.72 | 0.64 | 0.76 | 0.71 |
| PF10 | 0.59 | 0.61 | 0.62 | 0.70 | 0.55 | 0.54 | 0.51 | 0.65 | 0.55 |
| Role-Physical (RP) | | | | | | | | | |
| RP1 | 0.77 | 0.68 | 0.63 | 0.75 | 0.69 | 0.72 | 0.77 | 0.88 | 0.74 |
| RP2 | 0.79 | 0.67 | 0.68 | 0.73 | 0.73 | 0.71 | 0.67 | 0.87 | 0.83 |
| RP3 | 0.81 | 0.77 | 0.68 | 0.78 | 0.76 | 0.78 | 0.75 | 0.92 | 0.84 |
| RP4 | 0.80 | 0.78 | 0.69 | 0.77 | 0.73 | 0.73 | 0.81 | 0.91 | 0.84 |
| Bodily Pain (BP) | | | | | | | | | |
| BP1 | 0.78 | 0.72 | 0.73 | 0.83 | 0.75 | 0.76 | 0.79 | 0.70 | 0.76 |
| BP2 | 0.78 | 0.72 | 0.73 | 0.83 | 0.75 | 0.76 | 0.79 | 0.70 | 0.76 |
| General Health (GH) | | | | | | | | | |
| GH1 | 0.65 | 0.63 | 0.62 | 0.60 | 0.55 | 0.63 | 0.70 | 0.53 | 0.69 |
| GH2 | 0.51 | 0.47 | 0.48 | 0.50 | 0.52 | 0.49 | 0.53 | 0.52 | 0.55 |
| GH3 | 0.54 | 0.58 | 0.61 | 0.49 | 0.21 | 0.49 | 0.62 | 0.63 | 0.65 |
| GH4 | 0.50 | 0.43 | 0.44 | 0.43 | 0.44 | 0.47 | 0.54 | 0.51 | 0.42 |
| GH5 | 0.71 | 0.73 | 0.74 | 0.67 | 0.66 | 0.67 | 0.77 | 0.68 | 0.76 |
| Vitality (VT) | | | | | | | | | |
| VT1 | 0.66 | 0.74 | 0.67 | 0.67 | 0.54 | 0.56 | 0.68 | 0.59 | 0.67 |
| VT2 | 0.67 | 0.73 | 0.65 | 0.69 | 0.55 | 0.70 | 0.77 | 0.60 | 0.70 |
| VT3 | 0.64 | 0.60 | 0.59 | 0.58 | 0.42 | 0.66 | 0.71 | 0.51 | 0.64 |
| VT4 | 0.66 | 0.70 | 0.67 | 0.53 | 0.55 | 0.71 | 0.73 | 0.58 | 0.67 |
| Social Functioning (SF) | | | | | | | | | |
| SF1 | 0.61 | 0.63 | 0.70 | 0.60 | 0.59 | 0.70 | 0.75 | 0.66 | 0.71 |
| SF2 | 0.61 | 0.63 | 0.70 | 0.60 | 0.59 | 0.70 | 0.75 | 0.66 | 0.71 |
| Role-Emotional (RE) | | | | | | | | | |
| RE1 | 0.77 | 0.63 | 0.58 | 0.71 | 0.64 | 0.74 | 0.62 | 0.86 | 0.81 |
| RE2 | 0.81 | 0.61 | 0.70 | 0.74 | 0.74 | 0.71 | 0.66 | 0.86 | 0.79 |
| RE3 | 0.77 | 0.57 | 0.64 | 0.73 | 0.67 | 0.65 | 0.64 | 0.84 | 0.76 |
| Mental Health (MH) | | | | | | | | | |
| MH1 | 0.61 | 0.59 | 0.61 | 0.59 | 0.58 | 0.55 | 0.61 | 0.57 | 0.47 |
| MH2 | 0.71 | 0.57 | 0.72 | 0.64 | 0.63 | 0.72 | 0.64 | 0.55 | 0.63 |
| MH3 | 0.62 | 0.62 | 0.70 | 0.60 | 0.67 | 0.71 | 0.68 | 0.58 | 0.60 |
| MH4 | 0.71 | 0.65 | 0.73 | 0.64 | 0.68 | 0.76 | 0.73 | 0.62 | 0.68 |
| MH5 | 0.62 | 0.63 | 0.58 | 0.49 | 0.51 | 0.68 | 0.63 | 0.45 | 0.63 |

Abbreviations: CR = Croatia; DE = Denmark; FR = France; GE = Germany; IT = Italy; NE = The Netherlands; NO = Norway; SP = Spain; UK = United Kingdom.

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HRVATSKA ZDRAVSTVENA ANKETA SF-36: I. KVALITETA ŽIVLJENJA

SAŽETAK

Cilj Hrvatske zdravstvene ankete u razdoblju tranzicije u Republici Hrvatskoj bio je procjena kvalitete života stanovništva. Zdravstvenim stanjem procjenjuju se u njega inkorporirane dimenzije kao što su fizičko, psihološko i socijalno funkcioniranje, ispunjavanje svoje uloge u zajednici te percepcija vlastitog zdravlja. U svrhu procjenjivanja zdravstvenog stanja stanovništva korišten je model SF-36. Uzorak se sastojao od 5048 stanovnika (1983 muškarca i 3065 žena) starijih od 18 godina, što čini 1% stanovništva Hrvatske. Srednje vrijednosti rezultata koje predstavljaju postotke postignute od ukupnog mogućeg rezultata su sljedeće: fizičko funkcioniranje (PF) 69.94, ispunjavanje fizičke uloge (RP) 63.01, tjelesni bolovi (BP) 64.51, cjelokupno zdravlje (GH) 53.40, vitalnost (VT) 51.85, socijalno funkcioniranje (SF) 72.96, ispunjavanje emocionalne uloge (RE) 72.42, mentalno zdravlje (MH) 61.71 i promjena zdravlja (HT) 44.79. Rezultati SF-36 zdravstvene ankete u Hrvatskoj vrlo su slični onima u drugim europskim zemljama s naznakom da je ukupna kvaliteta života manja u Hrvatskoj.