

**Case Report**

**CORRELATION BETWEEN SELF-RATED HEALTH AND SOCIOECONOMIC AND PSYCHOLOGICAL CHARACTERISTICS OF AMBULATORY AND HOSPITALIZED PATIENTS OVER 44 YEARS OF AGE**

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**Summary**

The aim of the study was to identify socioeconomic and psychological determinants of self-rated health among ambulatory and hospitalized patients. A cross-sectional study was carried-out in 2014. Two hundred and twelve patients over 44 years of age filled in a self-administrated questionnaire. Self-rated health (SRH) was measured by 5-point range scale. The level of well-being (WB), sources of social support, personal financial capacity, social status, etc. were studied as well. Data were processed by SPSS.v.19. Parametric and non-parametric statistical methods were applied. Over 70% of patients evaluated their health as fair and good. The persons with higher WB had higher SRH, that correlation was moderate ( $r=0.452$ ;  $p=0.001$ ). In regard to the social status the differences were significant - the unemployed, old age retirees or ill health retirees evaluated their health lower ( $p<0.05$ ). A proportion of patients indicated two or more sources of emotional and instrumental support, but increased number of support sources had no effect on SRH ( $p>0.05$ ). Identification of socioeconomic and psychological factors of self-rated health allows clarifying better their effect mechanisms and planning appropriate health services.

**Key words:** self-rated health, well-being, social support, social status, financial capacity

**Introduction**

Self-rated health (SRH) is an indicator for overall health assessment [1]. The wide usage of the indicator in many countries is due to the powerful predictive abilities, high reliability and validity on individual and population levels [2-6]. This method is known for its effectiveness and lower requirements regarding the place and involved procedures [2, 4]. Although the evidences for influence of socioeconomic and psychological factors on SRH are available, it is more difficult to determine their effect because of the epidemiological design specificity, different conceptual model and the sophisticated relationships between variables.

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## Materials and Methods

A cross-sectional study was carried-out in 2014. Two hundred and twelve patients over 44 years of age filled in a self-administrated questionnaire. The patients were selected at random from 5 GP practices and from different clinics of the University Hospital-Pleven. The stratification by age, gender and residence was performed to

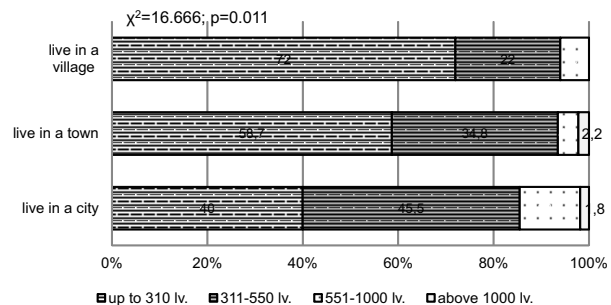
control for confounders. Some basic characteristics of persons are presented in Table 1. Self-rated health was measured by 5-point range scale. The level of well-being (WB), sources of social support, family financial capacity, social status, etc. were studied as well. Data were processed by SPSS.v.19. Parametric and non-parametric statistical methods were applied.

**Table 1.** Sociodemographic characteristics of patients

<b>Gender (Number,%)</b>	<b>Age (Number,%)</b>	<b>Residence (Number,%)</b>
Men – 98 (47.1)	45-49 yrs – 39 (18.5)	City – 113 (53.6)
Women – 110 (52.9)	50-59 yrs – 58 (29.5)	Town – 47 (22.3)
	60-69 yrs – 55 (26.1)	Village – 51 (24.2)
	70-79 yrs – 37 (17.5)	
	80+ yrs – 22 (10.4)	
<b>Marital status (Number,%)</b>	<b>Social status (Number,%)</b>	<b>Monthly income per family member (Number,%)</b>
Married – 136 (64.8)	Employed – 73 (34.8)	≤ 310 BGN – 107 (51.9)
Cohabiting – 6 (2.9)	Unemployed – 14 (6.7)	311-550 BGN – 77 (37.4)
Single – 13 (6.2)	Pensioner – 93 (44.3)	551-1000 BGN – 19 (9.2)
Divorced/a/Separated – 19 (9.0)	Retired due to illness – 30 (14.3)	≥ 1000 BGN – 3 (1.5)
Widowed – 36 (17.1)		
<b>Total – 212 (100.0%)</b>		

## Results

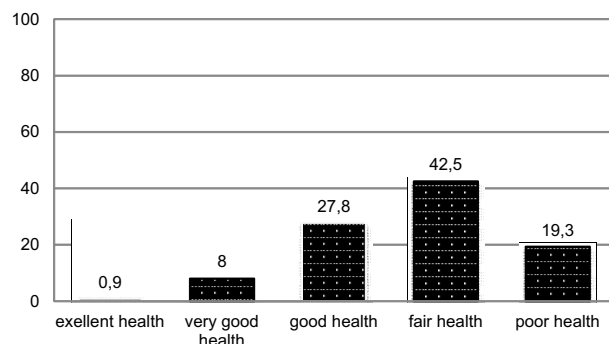
We found out that over one third of our responders were employed, 6.7% were unemployed, the pensioners were 44.3%, 14.3% were retired due to illness (Table 1). The majority of patients had completed secondary (55%) and higher (31.1%) education, the gender differences were not significant ( $p>0.05$ ). Almost 52% of the patients have had monthly income equal to or less than 310 BGN, and a similar proportion of them (54.8%) determined the family financial capacity as insufficient. The differences were significant ( $\chi^2=16.666$ ;  $p=0.011$ ) regarding place of residence – the majority of those with lower income were rural residents (Figure 1). Over 2/3 of the respondents had a family, single were 6.2%, divorced were 9.0%, and widowed – 17.1%.



**Figure 1.** Structure of respondents according to family financial capacity and residence place (%)

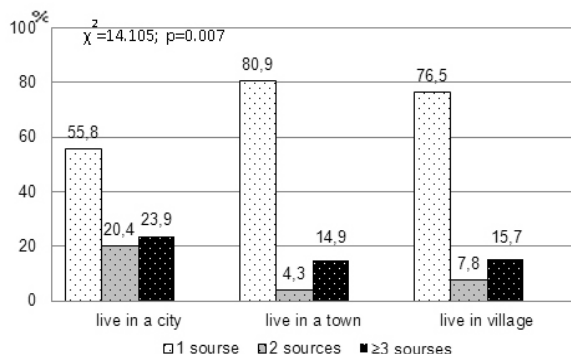
Most of the patients rated their health as fair (42.5%) or good (27.8%) – Figure 2. Better health had 1.7 percent of respondents, poor health – 19.3%. With increasing age the proportion of patients with poor SRH elevated from 15.8% in aged 45-49 up to 31.8% in aged 80+ ( $p=0.001$ ). Initially a lower SRH was detected for the groups of married, divorced and widowed ( $p=0.001$ ), but that was not confirmed in Spearman correlation test ( $p=0.840$ ). The significant differences by social status were

determined – the unemployed, pensioners and retired due to illness rated their health as fair or good although the correlation was weak ( $r=.192$ ;  $p=0.006$ ). We expected the income and financial capacity of persons to mediate the effect of social status on SRH, but even controlling for confounding left the correlation significant ( $p<0.05$ ). Education was not among the variables with significant effect on self-rated health ( $p<0.05$ ).

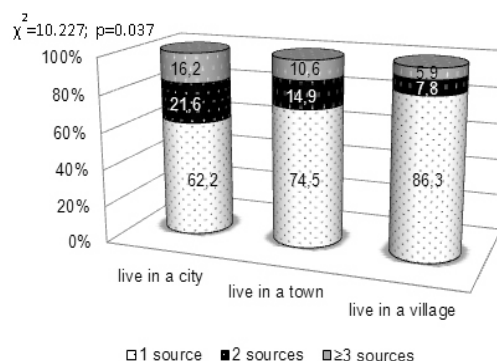


**Figure 2.** Distribution of patients according to their self-rated health (%)

We asked the patients about their living arrangements at the time of the study to evaluate the effect of social support. The majority lived with their family (71.4%) or with relatives (10.0%), 18.6 percent lived alone. Although a few of persons living alone rated their health lower, the differences between the groups were not significant ( $p>0.05$ ). Most patients showed the family as the main source of emotional and instrumental support; more than 1/3 could rely on two or more sources of social support in difficult life events. Although rural residents received lower social support (Figure 3-4), that was not correlated with lower self-rated health ( $p>0.05$ ).



**Figure 3.** Interrelationship between a number of emotional sources and residence place of persons (%)



**Figure 4.** Relationship between a number of instrumental sources and residence place of patients (%)

Like other researchers did, we used the level of well-being to study the effect of psychological characteristics on SRH because both emotional state and cognitive abilities were captured by WB during the last 2 weeks preceding the survey. The standard scale WHO-Five Well-being Index (1999) was used, an index varying from 0 to 100 points. The average value of WB in our study showed an asymmetric distribution ( $Me=36$ ), the lower values were given by women (87.35) and by retired due to illness (71.80), among persons with monthly income  $\leq 310$  BGN (83.03) and among these with insufficient (85.08) or extremely insufficient financial opportunities (77.45). Factorial analysis found that patients with higher WB index had better health, and the correlation was moderate ( $r=.452$ ;  $p=0.001$ ). The significant level maintained after including some important variables in the model (gender, social status, income, family financial capacity), but disappeared while stratifying by education, residence and marital status ( $p>0.05$ ). Due to the employed study design it was difficult to distinguish the variables-predictors on SRH from the variables-mediators.

## Discussion

Our study found that most patients assessed their health as fair or good. SRH deterioration was reported with age, as was found by the other explorers and caused by existing health problems and worse functioning [7-9]. Although we did not find significant differences between the groups by marital status and self-rated health ( $p>0.05$ ), Bobak et al. (1998) и Montazeri et al. (2008) established higher probability for single men to report poor health [10, 11]. In some societies

married women had poorer self-rated health compared to married men [12], SRH was associated often with violence by intimate partner [13] and with dominant socio-cultural norms in the society [14].

The specialized literature offered controversial information in regard to education and its effect on self-rated health. Some scholars found that persons with lower educational level had more often risky health behavior (alcohol abuse, tobacco use, insufficient physical activity), that determined common chronic diseases and poorer subjective health [4]. Others, however, rejected the hypothesis that lower educational levels caused poor health [10, 15]. Our results are similar to those of Bobak (1998) and Darvini (2012).

We confirmed the effect of occupation on SRH proved by the other scientists by observing higher frequency of reported poor health in unemployed, retired due to illness and due to age [16, 17]. A few international studies established a different form of the relationship between income and health according to the specific health result, and the favorable health effects were better expressed on the lower income levels than the higher. The relationship between SRH and income was described to be curvilinear, reflecting the direct effect of lower income (poverty and other adverse living conditions). In the linear model of income-health relationship deterioration of health by declining income was influenced by more complex mechanisms with indirect effect (behavioral and psychosocial factors) [18-19]. In our study objective and subjective well-being measures (monthly income and family financial capacity) were not among the factors with a significant impact on self-rated health ( $p > 0.05$ ).

Almost twenty percent of respondents lived alone and although the majority rated their health as fair or poor, a significant relationship was not proved ( $p > 0.05$ ). In regard to the received social support we found that family was the main generator of emotional and financial support. Most of the patients could rely on more than one source of support (family, relatives, friends, colleagues) although that was not related to better SRH ( $p > 0.05$ ). Some authors found that for married individuals the received social support from family members had protective effect against cardiovascular mortality [20]. According to other studies, marriage had more health benefits for men than for women, and fewer damages, while taking care for sick spouse or

older parents, and parenting [21, 22]. People who were dissatisfied with received family support reported frequently higher levels of psychological distress [23]. Health protective role of social capital was associated with stress reduction, positive health behavior by adopting health beneficial norms and values by the community, improved access to health services and reduced crime [24].

Like other researchers [25] we found that persons with higher WB index had higher chance to report good health even after controlling for some confounders. In patients who survived heart attack the reported lower levels of WB were associated with loss of autonomy and with limited involvement in the process of recovery. Because of the lack of coping skills and awareness about the new situation, higher levels of anxiety and depression were reported in these patients [26]. Piko (2000) found that WB in younger people was the strongest predictor of self-rated health, as the correlation pointed in both sexes [27].

## Conclusion

Identification of socioeconomic and psychological factors allows explaining better the mechanisms of their effects and planning more effective health interventions. Among all variables included in the study we found out significant associations of social status and well-being with self-rated health. A longitudinal study has to be conducted in order to clarify further the prognostic markers of SRH while controlling simultaneously for the confounding effect of variety of factors.

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