ORIGINAL RESEARCH

Reaction to political and socioeconomic transition and self-perceived health status in the adult population of Gjilan region, Kosovo

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Abstract

Aim: The objective of our study was to assess the association of reaction to political and socioeconomic transition with self-perceived general health status in adult men and women in a region of Kosovo, a post-war country in the Western Balkans which has proclaimed independence in 2008.

Methods: This was a cross-sectional study carried out in Gjilan region of Kosovo in 2014, including a representative sample of 867 primary health care users aged ≥35 years (419 men aged 54.3±10.9 years and 448 women aged 54.0±10.1 years; overall response rate: 87%). Reaction to political and socioeconomic aspects of transition was assessed by a three-item scale (trichotomized in the analysis into *positive* attitude, *intermediate* attitude, and *negative* attitude towards transition), which was previously used in the neighbouring Albania. Self-reported health status was measured on a 5-point scale which was dichotomized in the analysis into "good" vs. "poor" health. Demographic and socioeconomic data were also collected. Binary logistic regression was used to assess the association of reaction to transition with self-rated health status.

Results: In crude/unadjusted models, negative attitude to transition was a "strong" predictor of poor self-perceived health (OR=2.5, 95%CI=1.7-3.8). Upon multivariable adjustment for all the demographic factors and socioeconomic characteristics, the association was attenuated and was only borderline statistically significant (OR=1.6, 95%CI=1.0-2.6, P=0.07).

Conclusion: Our findings indicate an important association between reaction to transition and self-perceived health status in the adult population of the newly independent Kosovo. Policymakers and decision-makers in post-war countries such as Kosovo should be aware of the health effects of attitudes towards political and socioeconomic aspects of transition, which is seemingly an important psychosocial factor.

Keywords: attitude to transition, Gjilan, Kosovo, psychosocial factors, reaction to transition, self-perceived health, self-rated health.

Conflicts of interest: None.

Introduction
In several post-communist countries including Russia, negative attitudes towards the political transition and socioeconomic reforms have been linked to poor self-perceived health among adult men and women (1,2). Similarly, a negative or a pessimistic reaction to transition has been more recently linked to development of acute coronary syndrome in Albania (3), a country which shares the same language and culture with the nowadays Republic of Kosovo. According to this previous study conducted in Albania, a plausible mechanism linking pessimism, or negative attitude with excess coronary risk was deemed the stressor effect of inadequate coping with change in this transitional society (3).
Nonetheless, the evidence from many former communist countries of Southeast Europe, including Kosovo, is scarce. After a long war against Serbia and its proclaimed independence in 2008, Kosovo has been undergoing a very difficult process of political and socioeconomic transition (4) associated with a particularly high unemployment rate and a rather poor socioeconomic situation of the general population (5), which leads to an intensive process of emigration to different European Union countries and beyond (6). Given this particularly difficult socioeconomic situation, the attitudes and perceptions of the adult population in Kosovo towards the political reforms and socioeconomic aspects of transition are considered to have been negatively affected notwithstanding the lack of systematic documentation (6). As a matter of fact, regardless of its natural resources, Kosovo is one of the poorest countries in Europe (4-6). Current evidence suggests an increase in the morbidity and mortality rates from non-communicable diseases in adult men and women in Kosovo (7,8), which is explained by an increase in unhealthy behaviours (9) and presumably psychosocial factors (9). According to a recent review, alongside with unhealthy lifestyle including dietary patterns and physical inactivity, unfavourable socioeconomic and psychosocial conditions are considered as important determinants of the excess morbidity and mortality from chronic diseases in Kosovo including diabetes and cardiovascular diseases (9). Notably, it has been argued that changes in behavioural patterns may have unevenly affected different population subgroups, especially the vulnerable and the marginalized categories who are unable to cope with the dramatic changes of the rapid transition occurring in post-communist societies including Kosovo (6,9,10). Nonetheless, the negative health effects of psychosocial factors in the adult population of Kosovo have not been scientifically documented to date.
In this context, our aim was to determine the association of reaction to political and socioeconomic aspects of transition with self-perceived general health status among adult men and women in a region of post-war Kosovo. Based on a previous report from Albania (3), we hypothesized a negative health effect of pessimistic attitudes towards transition, suggesting inadequate coping with change, independent of (or, mediated through) demographic factors and socioeconomic characteristics.

Methods
This was a cross-sectional study which was carried out in Gjilan region, Kosovo, in 2014.

Study population
This study included a representative sample of primary health care users of both sexes aged 35 years and above. A minimum of 740 individuals was required for participation in this study, based on the initial sample size calculations. Nevertheless, it was decided to invite 1000 individuals in order to increase the study power accounting also for non-response. Therefore, 1000 consecutive primary health care users aged 35 years and above who were resident in Gjilan region were invited to participate in this study.

Of 1000 individuals who were invited to participate, 62 primary health care users were ineligible (individuals aged <35 years and/or very sick to participate), whereas 71 individuals refused to participate. Hence, the final study population included 867 individuals (419 men and 448 women) with an overall mean age of 54.2±10.5 years (54.3±10.9 years in men and 54.0±10.1 years in women). The overall response rate in this study was: 867/1000=87%.

Data collection

A structured questionnaire was administered to all participants including information on demographic and socioeconomic characteristics, reaction to political and socioeconomic transition in Kosovo and self-perceived health status.

Reaction to political and socioeconomic aspects of transition among study participants was assessed by a three-item scale which was previously used in the neighbouring Albania (3). This scale employed in Albania was adapted from an instrument originally used in Russia (1,2,11). In the current study conducted in Kosovo, all participants were asked to rate their agreement/disagreement about the following three statements: a) *"Overall, the current economic system in Kosovo is better than the old system"* [range from 0 (strongly agree) to 3 (strongly disagree)]; b) *"The transition toward the new system in Kosovo is difficult; however, it's worthwhile in view of the forthcoming prosperity"* [range from 0 (strongly agree) to 3 (strongly disagree)], and; c) *"Compared with the previous system, most of the people in Kosovo are poorer now"* [range from 0 (strongly disagree) to 3 (strongly agree)]. A summary score was calculated for each individual (referred to as "overall reaction to transition") ranging from 0 (most positive or optimistic attitude towards political and socioeconomic aspects of transition) to 9 (most negative or pessimistic reaction to transition). Cronbach's alpha of the three-item scale in our study conducted in Kosovo was 0.94, which was slightly lower than a previous study conducted in Albania (3). In the statistical analysis, the summary score of attitudes to transition was categorized into three groups [*positive* attitude (score: 0-3), *intermediate* attitude (score: 4-6), and *negative* attitude (score: 7-9)].

In addition, all participants were asked to rate their general health status: *"Overall, during the past year, how would you rate your general health status: excellent, very good, good, poor, or very poor?"*. In the analysis, the self-perceived health status was dichotomized into: "good" vs. "poor".

Demographic factors included age of study participants (in the analysis grouped into: 35-44 years, 45-54 years, 55-64 years and ≥65 years), sex and marital status (in the analysis, dichotomized into: married vs. not married), whereas socioeconomic characteristics consisted of educational attainment (categorized into: low, middle and high), employment status (trichotomized into: employed, unemployed and retired), income level (categorized into: low, middle and high) and social status (similarly trichotomized into: low, middle and high).

Statistical analysis

Measures of central tendency [mean values (± standard deviations) and median values (with their respective interquartile ranges - IQR)] were used to describe the distribution of reaction to transition scores separately in male and female study participants. On the other hand, the distribution of different categories of the reaction to transition scores (positive, intermediate and negative) was expressed in absolute numbers together with their respective percentages separately in men and in women.

Chi-square test was used to assess the crude (unadjusted) association of reaction to transition scores (trichotomized into: positive, intermediate, negative) with the socio-demographic characteristics and self-perceived health status of study participants.

Conversely, binary logistic regression was used to assess the crude (unadjusted) and subsequently the multivariable-adjusted associations of self-reported health status (outcome variable dichotomized into: "good" vs. "poor" health status) and reaction to transition (independent variable) of study participants. Initially, crude (unadjusted) odds ratios (ORs) and their respective 95% confidence intervals (95%CIs) were calculated. Next, the logistic regression models were adjusted for age of participants. Subsequently, the other demographic factors (sex and marital status) were entered simultaneously into the logistic regression models. Finally, socioeconomic characteristics (educational attainment, employment status, income level and social status) were entered simultaneously into the logistic regression models. In all logistic regression models, the self-perceived health status was the outcome variable and reaction to transition (introduced in three categories: positive, intermediate and negative) was the main independent variable. Multivariable-adjusted ORs and their respective 95%CIs were calculated. Hosmer-Lemeshow test was used to assess the overall goodness-of-fit of the logistic regression models (12). In all cases, a p-value of ≤0.05 was considered as statistical significant. Statistical package for Social Sciences (SPSS, version 17.0) was used for all the statistical analyses.

Results

Overall mean (SD) summary score of reaction to transition was 4.2±2.8 (4.1±2.8 in men and 4.2±2.7 in women) [Table 1]. Furthermore, median (IQR) was quite similar in men and in women [sex-pooled median (IQR): 3.0 (3.0)]. Overall, 494 (57%) of participants reported a positive attitude towards the political and socioeconomic transition in Kosovo, as opposed to 181 (21%) of individuals who had a negative reaction to transition. The negative attitude to transition was higher in men than in women (23% vs. 19%, respectively) [Table 1].

Table 1. Distribution of reaction to political and socioeconomic transition scores in a representative sample of primary health care users in Gjilan region, Kosovo, in 2014

Reaction to transition score	Men (N=419)	Women (N=448)	Total (N=867)
Mean (standard deviation)	4.1±2.8	4.2±2.7	4.2±2.8
Median (interquartile range)	3.0 (4.0)	3.0 (3.0)	3.0 (3.0)
Positive (score: 0-3)	243 (58.0)	251 (56.0)	494 (57.0)
Intermediate (score: 4-6)	79 (18.9)	113 (25.2)	192 (22.1)
Negative (score: 7-9)	97 (23.2)	84 (18.8)	181 (20.9)

Table 2 presents the distribution of demographic factors, socioeconomic characteristics and self-perceived health status by reaction to transition scores (trichotomized into: positive, intermediate and negative scores) among study participants. As noted above, the prevalence of negative attitudes to transition was significantly higher in men compared to women (P=0.05). Furthermore, older individuals (65 years and above) displayed the most negative (pessimistic) attitudes to transition compared with their younger counterparts (P<0.001). Similarly, the prevalence of a negative reaction to transition was the highest among the retirees (P<0.001), given the aging of this population subgroup. There was no significant association with marital status. Remarkably, low-educated participants had a significantly higher prevalence of negative attitudes to transition compared with their highly educated counterparts (40% vs. 7%, respectively, P<0.001). Likewise, albeit with smaller differences, low-income individuals and those with a lower social status displayed a higher prevalence of negative reaction to transition compared to high-income participants (33% vs. 18%,

respectively, P<0.001), and individuals with a higher social status (29% vs. 12%, respectively, P<0.001). Participants with a poor self-perceived health status had a significantly higher prevalence of negative reaction to political and socioeconomic transition compared with individuals who reported a good health status (34% vs. 18%, respectively, P<0.001) [Table 2].

It should be noted that, on the whole, there were 696 (80.5%) participants who reported a "good" health status compared with 169 (19.5%) individuals who perceived their health status as "poor".

Table 2. Distribution of socio-demographic characteristics and self-perceived health status by reaction to transition scores in the study population (N=867)

Variable	Positive (score: 0-3) [N=494]	Intermediate (score: 4-6) [N=192]	Negative (score: 7-9) [N=181]	P[†]
Sex:				
Men	243 (58.0)[*]	79 (18.9)	97 (23.2)	0.047
Women	251 (56.0)	113 (25.2)	84 (18.8)	
Age-group:				
35-44 years	132 (69.8)	37 (19.6)	20 (10.6)	
45-54 years	171 (68.7)	56 (22.5)	22 (8.8)	<0.001
55-64 years	131 (52.8)	59 (23.8)	58 (23.4)	
≥65 years	60 (33.1)	40 (22.1)	81 (44.8)	
Employment:				
Employed	272 (71.0)	78 (20.4)	33 (8.6)	
Unemployed	129 (62.0)	52 (25.0)	27 (13.0)	<0.001
Retired	93 (33.8)	62 (22.5)	120 (43.6)	
Marital status:				
Not married	63 (49.2)	31 (24.2)	34 (26.6)	0.116
Married	431 (58.4)	161 (21.8)	146 (19.8)	
Educational level:				
Low	101 (30.5)	96 (29.0)	134 (40.5)	
Middle	246 (69.9)	73 (20.7)	33 (9.4)	<0.001
High	145 (80.1)	23 (12.7)	13 (7.2)	
Income level:				
Low	46 (35.7)	40 (31.0)	43 (33.3)	
Middle	118 (47.0)	85 (33.9)	48 (19.1)	<0.001
High	330 (68.2)	66 (13.6)	88 (18.2)	
Social status:				
Low	40 (40.0)	31 (31.0)	29 (29.0)	
Middle	318 (55.4)	128 (22.3)	128 (22.3)	<0.001
High	136 (71.6)	32 (16.8)	22 (11.6)	
Self-perceived health:				
Good	416 (59.8)	158 (22.7)	122 (17.5)	<0.001
Poor	78 (46.2)	33 (19.5)	58 (34.3)	

[*] Absolute numbers and their respective *row* percentages (in parentheses). Discrepancies in the totals are due to the missing values.

[†] P-values from the chi-square test.

Table 3 presents the association of reaction to transition with self-perceived health status of study participants. In crude (unadjusted) logistic regression models (model 1), there was

evidence of a strong positive association between negative reaction to transition and poor self-rated health: OR(negative vs. positive scores)=2.5, 95%CI=1.7-3.8. Adjustment for age (model 2) attenuated the findings (OR=1.8, 95%CI=1.2-2.8). Additional adjustment for sex and marital status (model 3) did not affect the findings (OR=1.8, 95%CI=1.2-2.8). Further adjustment for socioeconomic characteristics including education, employment, income level and social status (model 4) attenuated the strength of the association which, in fully-adjusted models, was only borderline statistically significant (OR=1.6, 95%CI=1.0-2.6, P=0.07).

On the other hand, there was no difference in the odds of self-perceived health status between participants with intermediate scores and those with positive scores of reaction to transition, even in crude (unadjusted) logistic regression models (Table 3, models 1-4).

Table 3. Association of reaction to transition with self-perceived health status in a representative sample of primary health care users in Gjilan region, Kosovo

Model	OR[*]	95%CI[*]	P[*]
Model 1[†]			**<0.001 (2)[‡]**
Positive attitude (score: 0-3)	1.00	reference	-
Intermediate attitude (score: 4-6)	1.11	0.71-1.74	0.636
Negative attitude (score: 7-9)	2.54	1.71-3.76	<0.001
Model 2[¶]			**0.014 (2)**
Positive attitude (score: 0-3)	1.00	reference	-
Intermediate attitude (score: 4-6)	0.99	0.63-1.56	0.958
Negative attitude (score: 7-9)	1.81	1.18-2.78	0.007
Model 3[§]			**0.011 (2)**
Positive attitude (score: 0-3)	1.00	reference	-
Intermediate attitude (score: 4-6)	0.97	0.62-1.53	0.897
Negative attitude (score: 7-9)	1.84	1.20-2.83	0.005
Model 4[**]			**0.079 (2)**
Positive attitude (score: 0-3)	1.00	reference	-
Intermediate attitude (score: 4-6)	0.88	0.54-1.43	0.605
Negative attitude (score: 7-9)	1.58	0.96-2.61	0.072

[*] Odds ratios (OR: "poor health" vs. "good health"), 95% confidence intervals (95%CIs) and p-values from binary logistic regression.

[†] Model 1: crude (unadjusted).

[‡] Overall p-value and degrees of freedom (in parentheses).

[¶] Model 2: adjusted for age (35-44 years, 45-54 years, 55-64 years and ≥65 years).

[§] Model 3: adjusted for age, sex (men vs. women) and marital status (married vs. unmarried).

[**] Model 4: adjusted for age, sex, marital status, educational level (low, middle, high), employment status (employed, unemployed, retired), income level (low, middle, high) and social status (low, middle, high).

Discussion

The main finding of this study consists of a positive association of pessimistic reaction towards political reforms and socioeconomic transition with poor self-rated health among adult men and women in post-war Kosovo, a country characterized by dramatic and rapid changes in the past few years. The association of poor self-perceived health with negative reaction to transition was strong, but upon multivariable adjustment for a wide array of demographic and socioeconomic characteristics the relationship was only borderline

statistically significant. Our findings are largely compatible with previous reports from former communist countries including Russia (1,2,11) and Albania (3).

Overall, the prevalence of negative reaction (score 0-3) towards socioeconomic aspects of transition in our study population was 21%, which is higher than a previous study carried out in Albania which reported a sex-pooled prevalence of 13% (3). Nevertheless, the prevalence of pessimistic reaction in our sample is much lower than in Russia, where 49% of a representative sample of the adult population reported a nostalgic reaction to political and socioeconomic changes (disapproving the new system and approving the old system) according to a previous study (2). It should be pointed out that, in Russia, it was considered that the attitudes towards the political and socioeconomic reforms in 1990s were significantly more negative than in other post-communist countries in Europe (2,3).

In our study, there was no evidence of a graded relationship with pessimistic or negative attitudes to transition. Hence, the association was evident only between negative vs. positive attitude groups, with no differences between neutral (intermediate) and positive attitude categories (Table 3). On the other hand, a previous study conducted in Albania reported a graded relationship between acute coronary syndrome and negative attitudes towards socioeconomic transition consistent in both sexes and irrespective of demographic and socioeconomic characteristics and a wide range of conventional risk factors (3).

Potential mechanisms of psychosocial factors including reaction towards political and socioeconomic aspects of transition have been suggested to operate either directly through the neuro-endocrine system (13), or indirectly through induction of unhealthy behaviour such as smoking, excessive alcohol consumption, unhealthy diet and sedentary lifestyle (3,13). Furthermore, regarding the negative effect of psychosocial factors on cardiovascular risk, it has been suggested that psychological distress may act chronically through pathological modifications of the cardiovascular system, such as changes in lipid profile and elevation of arterial blood pressure (3,14). In our study, the mechanism of excess self-perceived poor health among pessimists may be related to poor adaptation to critical circumstances associated with the particularly rapid transition in Kosovo, as suggested by previous research on this field (3), where obvious differences in coping strategies between optimists and pessimists have been convincingly demonstrated (3,15,16). Conversely, negative reaction towards political and socioeconomic aspects of transition may also serve as a marker of depression (17,18), which may lead to poor health status in general.

This study may suffer from several limitations including its design, representativeness of the study population and the possibility of information bias. Firstly, findings from cross-sectional studies do not imply causality and, therefore, future prospective studies should robustly assess and establish the directionality of the relationship between self-reported health status and attitudes to political and socioeconomic transition in Kosovo and other transitional settings. Secondly, we cannot exclude the possibility of selection bias in our study sample notwithstanding the inclusion of a fairly large sample of consecutive primary health care users of both sexes in Gjilan region. In addition, we obtained a very high response rate (87%), which is reassuring. Yet, we cannot generalize our findings to the general adult population of Gjilan region given the fact that our study population was confined merely to primary health users. More importantly, findings from this study cannot be generalized to the overall adult population of Kosovo, as our survey was conducted only in Gjilan region. Thirdly, the instrument used for measurement of reaction to transition may be subject to information bias, regardless of the fact that this tool was previously validated in Albania (3). In our study population, the measuring instrument of reaction to transition exhibited a very

high internal consistency and discriminated well between population subgroups distinguished in their educational attainment, income level and social status – similar to previous reports including the neighbouring Albania (3).

In conclusion, regardless of these potential limitations, our findings indicate an important association between reaction to transition and self-perceived health status in the adult men and women of post-war Kosovo. Health professionals and policymakers in developing countries and transitional populations should be aware of the negative health effects of psychosocial factors including also the general attitude towards political and socioeconomic aspects of transition, as evidenced in the current study conducted in Kosovo.

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