

## Medical Students' Opinions on Physicians' Strike: Cross Sectional Questionnaire Study

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**Aim.** To investigate what Zagreb Medical School students think about general physicians' strike in Croatia, which began in February 2003.

**Methods.** We surveyed 771 students using a specially designed anonymous self-report questionnaire. In addition to questions on demographic data (student's sex, year of studies, average grade, and whether at least one parent was a physician), the questionnaire contained 19 items divided in three subscales, each assessing different aspects of student opinion on the strike. The first subscale, "Support", assessed students' opinion on situations where strike was an acceptable solution (8 items,  $\alpha = 0.82$ ). The second one was "Consequences", assessing students' opinion on possible negative consequences of physician's strike (8 items,  $\alpha = 0.77$ ). The third subscale, "Croatia", assessed students' opinions about the social and economic status of physicians in Croatia (3 items,  $\alpha = 0.73$ ). Items were graded on a 5-point Likert-type scale. Data were analyzed with nonparametric statistics (Mann-Whitney test, Spearman's  $\rho$ ), and the significance level was set at  $p < 0.05$ .

**Results.** Students scored high on the "Support" subscale (median = 34, range = 8-40, interquartile range = 6;) and were undecided on the "Consequences" subscale (median = 23, range = 8-40, interquartile range = 8), whereas on the "Croatia" subscale, their scores were low, reflecting their poor opinion on the physicians status in Croatia (median = 6, range = 3-15, interquartile range = 4). Students in the clinical years, as well as students whose one or both parents were physicians, scored higher on the "Support" subscale and lower on the "Consequences" and "Croatia" subscales than their colleagues from preclinical years or students whose neither parent was a physician ( $p < 0.001$  for all, Mann-Whitney test). No differences were found according to the students' sex, and there was no correlation between average grades and subscale scores.

**Conclusion.** Zagreb Medical School students supported the physicians' strike and were undecided on its negative consequences. They thought that physicians' status in Croatia was poor. This trend was more obvious among students in clinical years whose one or both parents were physicians.

**Key words:** Croatia; physicians; physicians' role; strikes, employee; students, medical

People usually give the highest priority to their health, and health care is one of the most discussed issues in every community. Consequently, the physician's job is difficult and intellectually and emotionally demanding, requiring great knowledge and responsibility. In return, it should offer financial security and respectable position in society (1). However, today we are faced with a worldwide phenomenon of unhappy physicians, usually caused by relatively low pay and heavy workload (2). Physicians working in health care systems with higher salaries and longer consultation times do not show satisfaction, because of erosion of their autonomy and pressure to save money rather than lives (2,3). Thus, physicians are compelled to fight for their respect, and sometimes choose strike as an ultimate weapon.

Public and professional opinions on ethical and legal aspects of the physicians' strike are controversial. Some authors think that medical strikes endanger

niversal ethical values based on Hippocratic Oath (4), or traditional religious obligations (5), and that the public suffers significant health damage during the strike (6). Others have argued that physicians' strike may be justified when it arises from the grievance related to inability to provide adequate patient care, or self-aggrandizement (7). Additionally, some studies showed no significant changes in the quality of provided health care during physicians' strike (8,9).

In February 2003, physicians in Croatia started a general strike, requiring higher wages and better social status. Due to altered health care, both medical staff (including students) and the public were confronted with practical and ethical issues of the strike. Since today's medical students will probably be faced with similar problems as future physicians, we were interested in their opinion on the strike. We investigated how much they supported the physicians' strike

and how they perceived the functioning of the health care system during the strike.

## Subjects and Methods

### Subjects

We surveyed a convenience sample of 771 students out of a total of 1,440 of students at Zagreb University School of Medicine, using an anonymous self-report questionnaire. First-to-fifth year students were surveyed at the beginning of their regular lectures and seminars over one-month period during the general strike of physicians in February 2003. Final-year students were surveyed during their final exam in June 2003, because they could not be reached in other way since they had finished with classes. We excluded 71 non-completed or incomplete questionnaires (one or more questions unanswered), which left 700 valid questionnaires for analysis and the final response rate of 90%. There were 432 (62%) questionnaires filled by female and 268 (38%) by male students. Prevalence of women in the survey corresponded with the sex ratio of students at the Zagreb University School of Medicine (10).

### Demographic Data

The first part of the questionnaire provided general data on sex, year of the studies, grade average, and whether one or both parents were physicians. According to the year of the studies, students were divided into two groups: preclinical (first-, second-, and third-year students;  $n=404$ , 58%), and clinical (fourth-, fifth-, and sixth-year students;  $n=296$ , 42%). There were 168 (24%) students whose one or both parents were physicians, and 532 (76%) students whose neither parent was a physician.

### Instruments

The second part of the questionnaire consisted of 19 statements divided into three subscales. The first subscale, "Support", consisted of 8 statements that aimed at assessing the students' support of the physicians' strike. The second subscale, "Consequences", consisted of 8 statements assessing students' opinions on physicians' strike and its negative consequences. The third subscale, "Croatia", consisted of 3 statements assessing students' opinions on the status of physicians in Croatian society. The an-

swers were graded on a 5-point Likert-type scale from 1 – strongly disagree to 5 – strongly agree (Table 1).

The statements in the first and the third subscale were created on the basis of the results of the survey among 37 final-year students of the Zagreb University School of Medicine, conducted during the physicians' strike in the February of 2003. During one class, students were asked to describe in writing what they think on Croatian physicians' strike. The statements in the second subscale were created after reviewing the literature on physicians' strikes and its consequences.

### Composite Score

A composite score was created for each subscale to evaluate the students' opinions. The score was calculated as sum of all the answer scores on each subscale. The maximum score in the subscale "Support" was 40, and the minimum 8. The higher score indicated more willingness to support the physicians' strike. The maximum score in the subscale "Consequences" was 40 and the minimum was 8. The higher the score, the less a student believed that physicians' strike should be carried out for it has negative consequences. The subscale "Croatia" had the maximum score 15 and the minimum 3. The higher score indicated students' satisfaction with the social status of Croatian physicians.

### Statistical Analysis

The internal consistency of each subscale was assessed with Cronbach  $\alpha$ . The normality of data distribution was tested using Kolmogorov-Smirnov test. Since the distribution was not normal, we used the Mann-Whitney test to determine the differences in scores on each subscale between groups of students defined by sex, clinical vs preclinical years of studies, and parent physician. Spearman's  $\rho$  was used to test the association between students' scores on each subscale and their grade average, as well as between the subscale scores. The level of statistical significance was set at 0.05. All statistical analyses were performed with SPSS Version 11.5. (SPSS Inc, Chicago, IL, USA).

## Results

The subscales showed good internal consistency (Table 1), allowing us to form composite scores.

**Table 1.** Opinions of the students at the Zagreb University School of Medicine on the strike of Croatian physicians that started in February 2003, its consequences, and social status of Croatian physicians

Subscale* (Cronbach $\alpha$ )	No. (%) of students with score				
	1 (strongly disagree)	2 (partially disagree)	3 (not sure)	4 (partially agree)	5 (strongly agree)
<b>Support (<math>\alpha=0.82</math>)</b>					
1. Physicians are allowed to strike	21 (3)	29 (4)	53 (8)	164 (23)	433 (62)
2. Physicians strike is present in all societies regardless of social standard	42 (6)	66 (10)	275 (39)	128 (18)	189 (27)
<b>Physicians' strike is justified if its goals are:</b>					
3. ...higher salaries for physicians	26 (4)	55 (8)	87 (12)	305 (44)	227 (32)
4. ...right to free professional improvement	10 (1)	25 (4)	86 (12)	247 (35)	332 (48)
5. ...proper professional status and reputation	26 (4)	40 (6)	66 (9)	217 (31)	351 (50)
6. ...better working conditions (bigger budget, or less working hours)	11 (2)	11 (2)	36 (5)	194 (27)	448 (64)
7. ...to assure the same medical care regardless of patient's sex, race, religion or social status	12 (2)	14 (2)	38 (5)	145 (21)	491 (70)
8. ...better legal protection in law suits	19 (3)	42 (6)	108 (15)	205 (29)	326 (47)
<b>Consequences (<math>\alpha=0.77</math>)</b>					
1. Physicians are allowed to hunger strike <sup>†</sup>	82 (12)	53 (8)	174 (25)	87 (12)	304 (43)
2. Physicians can not carry out the strike in practice During the physicians' strike:	99 (14)	164 (23)	179 (26)	170 (24)	88 (13)
3. ...patient lives are more endangered	137 (20)	211 (30)	136 (19)	146 (21)	70 (10)
4. ...the quality of medical care decreases	96 (14)	153 (22)	148 (21)	216 (31)	87 (12)
5. ...patient trust is lost	61 (9)	115 (16)	180 (26)	244 (35)	100 (14)
6. ...physician-patient relationship is disturbed	71 (10)	138 (20)	163 (23)	254 (36)	74 (11)
7. ...physician-nurse relationship is disturbed	146 (21)	200 (29)	194 (28)	114 (16)	46 (6)
8. ...physicians' reputation is being damaged	116 (17)	163 (23)	168 (24)	181 (26)	72 (10)
<b>Croatia (<math>\alpha=0.73</math>)</b>					
1. Social status of Croatian physicians is satisfactory	140 (20)	282 (40)	125 (18)	134 (19)	19 (3)
2. Croatian physicians are well paid	244 (35)	273 (39)	112 (16)	54 (8)	17 (2)
3. Physicians' strike in Croatia is justified and should be supported <sup>†</sup>	20 (3)	34 (5)	67 (9)	210 (30)	369 (53)

\*Questionnaire subscales: Support – assessing students' opinions on situations where strike is an acceptable solution; Consequences – assessing students' opinions on possible negative consequences of physicians' strike; and Croatia – assessing students' opinions on status of physicians in Croatia; subscales were assessed on a 5-point Likert-type scale.

<sup>†</sup>Data were recoded to match the subscale (1=5, 2=4, 3=3, 4=2, 5=1).

**Table 2.** Differences in subscales' composite scores among groups of students defined by sex, year of the studies, and parent physician

Subscale:	Composite scores (median, interquartile range)						
	total	sex		year of the studies		parent physician	
		male	female	preclinical	clinical	no	yes
Support	34 (6)	35 (7)	34 (6)	34 (6)	36 (6)*	34 (6)	35 (6) <sup>‡</sup>
Consequences	23 (8)	23 (8)	24 (9)	24 (9)	22 (8) <sup>†</sup>	24 (9)	21 (9) <sup>§</sup>
Croatia	6 (4)	6 (4)	6 (4)	6 (3)	5 (3) <sup>†</sup>	6 (4)	5 (3) <sup>§</sup>

\*Significantly higher score than preclinical ( $p < 0.001$ , Mann-Whitney test).

<sup>†</sup>Significantly lower scores than preclinical ( $p < 0.001$ , Mann-Whitney test).

<sup>‡</sup>Significantly higher score than students with neither parent a physician ( $p < 0.001$ , Mann-Whitney test).

<sup>§</sup>Significantly lower scores than students with neither parent a physician ( $p < 0.001$ , Mann-Whitney test).

The median student score on the "Support" subscale was 34 (interquartile range, 6; neutral score, 24), pointing to the strong willingness to support the physicians' strike (Table 2). Most students (85%) "strongly agreed" or "partially agreed" with the statement that physicians were allowed to strike. The highest percentage of the students (91%) "strongly agreed" or "partially agreed" to the statements that strike was justified if its goals were better working conditions (statement 6) and to assure the same medical care regardless of sex, race, religion, or social status (statement 7), whereas 39% of them were "not sure" whether physicians strike in all societies (statement 2; Table 1).

The median score on the "Consequences" subscale was 23 (interquartile range, 8; neutral score, 24) showing uncertainty about the negative consequences of the physicians' strike (Table 2). Overall, students' opinions on whether physicians could really carry out the strike in practice (statement 2) were undefined (37% strongly and partially disagreed, and 37% strongly and partially agreed). The students chose "strongly agree" and "partially agree" in 49% and 47% of the cases answering to "patients' trust is lost" (statement 5) and "physician-patient relationship is disturbed" (statement 6) during the strike, respectively. However, 50% of the students "strongly disagreed" and "partially disagreed" to the statements (statement 3) "patients' lives are more endangered" and "physician-nurse relationship is disturbed" (statement 7 of "Consequences" subscale; Table 1).

On the "Croatia" subscale, students' median score was 6 (interquartile range, 4; neutral score, 9), showing students' discontent with the social status of Croatian physicians (Table 2). To the statements that social status of Croatian physicians was satisfactory and that Croatian physicians were well-paid "strongly disagreed" and "partially disagreed" 60% and 74% of the students, respectively. Most students (83%) "strongly agreed" and "partially agreed" to the statement that Croatian physicians' strike was justified and to be supported (Table 1).

There was no correlation between the grade average and students' composite scores on any of the subscales. The "Support" subscale showed statistically significant negative correlation with the "Consequences" and "Croatia" subscales (Spearman's  $\rho$ ,  $p < 0.001$ ). The "Consequences" subscale score showed statistically significant positive correlation with the "Croatia" subscale score (Spearman's  $\rho$ ,  $p < 0.001$ ).

Students in clinical years had significantly higher scores on the "Support" subscale and significantly lower scores on the "Consequences" and "Croatia" subscales than students in preclinical years. Students whose one or both parents were physicians had significantly higher scores on the "Support" subscale and significantly lower scores on the "Consequences" and "Croatia" subscales than the students whose neither parent was a physician (Table 2).

There were no statistically significant differences between male and female students on any of the subscales.

## Discussion

Our study showed that students at Zagreb University School of Medicine strongly supported the physicians' strike, especially if the reasons for strike were self-aggrandizement or grievance related to patient care. These aspects of justifiability of physicians' strike were already shown (7). The fact that almost half of students were not sure whether physicians in all societies strike regardless of their social standard could be a result of insufficient information they received, or could receive, through the media or education system.

The students were faced with ethical and regulation aspects of physicians' strike for the first time during the general physicians' strike in Croatia. Since there were no sufficient data about the quality of health care during the strike, we expected the students' opinions about consequences of a physicians' strike to be undefined and controversial. Although students supported the physicians' strike, almost half of them believed that physicians could not really carry out the strike in practice. The regulation and practical issues of the physicians' strike are still undefined (7) and several publications showed that physicians should find another way to fight for their rights because of the nature of their profession and relationship with the patients (4-6,11). However, half of students believed that patients' lives were not endangered during the strike. This can be related to the fact that physicians cannot just stop working, but must provide minimum medical care and treat urgent cases (12).

Only 20% of students thought that physicians were not allowed to hunger strike. It is well known that changes in energy compartments during prolonged starvation can lead to physical inability. Therefore, the physicians on a hunger strike endanger both their own and their patients' lives (12). Although the strikers always provide alternative medical care

and treat all urgent cases (12), 43% of the students thought that substandard medical care was provided during the strike. However, several studies showed no harmful effects of the physicians' strike on the health care (8,9,13), or reported even lower mortality rates during the strike (14). In addition, almost 50% of the students considered physicians' strike damaging to the physician-patient relationship. The loss of the patients' trust due to strike was reported in several publications, showing that patients did not want their physicians to strike (6,15). Most students did not think that physicians' strike was disturbing the physician-nurse relationship. Some studies even showed improvement in professional self-image and increase in job satisfaction among nurses during physicians' strike in hospitals (16).

Croatia belongs to post-communist transition countries, where unhappiness is mainly caused by low salaries (17). The students considered that social status of the physicians' was unacceptable, and that the general strike in Croatia was justified. Their discontent with physicians' wages and position in the Croatian society resulted in relatively high number of students willing to support the physicians' strike even if its primary goal was to increase personal income. However, we were not able to find any reports on physicians' strike and its consequences in countries in transition to support our findings.

The students in clinical years and those whose one or both parents were physicians expressed significantly greater willingness to support the strike than their younger colleagues or the students whose parents were not physicians, because they were more involved in the patient care and more familiar with the problems concerning medical profession. They also perceived significantly less damage to the health care during the strike, and showed significantly greater discontent with position of physicians in the Croatian society. These findings could also be supported by several studies showing higher-year medical students to be more materialistic, or even cynical, than their younger colleagues (18,19).

Our study had several limitations, one of them being the inability to investigate the students' likelihood to strike in their future career. The study was conducted during the physicians' strike, which probably altered the students' opinions about the strikes in health care. In addition, as we were not able to distribute the questionnaires to the sixth-year students during the classes in February 2003, their opinions could also have been slightly altered by June 2003. We investigated only medical students' opinions, but we believe that it is also necessary to examine what physicians, nurses, and patients, as well as general population, think on physicians' strike to create greater knowledge that will help in preventing and solving similar situations in the health care system. It would be also interesting to investigate how physicians' strikes affect students' activities on clinical wards.

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