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## Relationships between unfavourable health status and smoking cessation attempts in Hungary

Submitted: 3 November 2003

Accepted: 21 February 2005

Published Online First: 21 September 2005

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### Summary

**Objectives:** The study examines associations between intentions to quit smoking and health status in three age groups of Hungarian smokers, along with social-demographic background variables.

**Methods:** In 2002, a cross-sectional representative health survey of the sample of 12668 adults was conducted in Hungary. The associations between health status and intentions to quit smoking were analysed with logistic regression among current smokers (N = 3408). The influence of health-related and social predictor variables was tested separately in different age groups (18–34, 35–49, 50–64, >65).

**Results:** Experiences of chest pain principally motivate young adults to quit smoking. Middle-aged smokers consider quitting because of suffering from cardio-vascular disease. Among the oldest, only respiratory disease influenced quitting attempts. Among social background variables only the fact of living with a spouse had an influence, gender and socio-economic status did not.

**Conclusions:** Connections between health status and quitting intentions are weakening as age is increasing. The population seems to become gradually conscious of the connections between circulatory problems and smoking. Quitting attempts are restrained by the general attitude that ill health is a normal part of the ageing process.

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**Keywords:** Smoking cessation – Health status – Age – Hungary.

Smoking is a major health hazard for the whole human population. In the developed countries, the devastating impact of tobacco on health is one of the best-documented relationships in public health studies (WHO 2001). In the European Region, smoking was responsible for 1.2 million deaths (14% of all deaths) at the end of the 1990s. While the overall frequency is declining, there are negative trends in smoking prevalence among young people, women and lower socio-economic groups throughout the region (WHO 2002).

Whereas smoking is a considerable risk to health, smoking cessation is known to reduce the hazards of tobacco use. Several studies provide evidence that quitting smoking reduces the risks of smoke-related morbidity and mortality (Ostbye et al. 2002; Peto et al. 2000; Godfredsen et al. 2003). Smokers who quit at younger ages realize greater life expectations than those who quit later (Taylor et al. 2002) but older people find it easier to stop smoking (Ockene et al. 2000). For most smokers, quitting smoking is the most important thing they can do to improve their health (Edwards 2004).

Age, gender and socio-economic status (SES) show a clear relationship with smoking cessation. The connection between gender and the effects of smoking is somewhat controversial in the literature. Several studies found that women are more vulnerable to the effects of smoking (Christen & Christen 2003; Connett et al. 2003; Mackay & Amos 2003; Perkins 2001; Langhammer et al. 2000). However, evidence suggests that women have less success than men in quitting smoking (Mackay & Amos 2003; Etter 2004; Perkins 2001; Bjornson et al. 1995), while other surveys had no support for gender differences in successful quitting (Surgeon General 2001). Most studies found a positive relationship between SES and quitting. Whereas the number of quit attempts seems to have no socio-economic gradient, success in quitting is more characteristic to high SES individuals (Bauld et al. 2003; Willemssen et al. 2002). Multiple evidences show that there

is also a racial/ethnic difference in the prevalence of smoking (Ellickson et al. 2004).

Together with age, gender and SES, other factors of the success of smoking cessation have also been considered. Smoking characteristics such as the age of starting smoking (West et al. 2001) and the duration of smoking (Yu et al. 2000) were studied as well. Heavier smokers seem to face greater difficulties and more relapses than lighter smokers (Osler & Prescott 1998). Psychological factors, such as perceived confidence, self-efficacy, tension-control strategies, or weight concerns, also appear to play an important role in stopping smoking (Matheny & Weatherman 1988; Ockene et al. 2000). Studies found significant genetic influences as well (Xian et al. 2003).

No matter how serious health hazard is smoking for the countries of the European Union, the Hungarian population seems to be even more vulnerable to tobacco consumption. The first Hungarian data on smoking-related mortality were collected in 1955, when 9.2% of all male deaths and 1.4% of all female deaths were connected to smoking. By 2000, the proportion of smoking-attributed deaths more than tripled in men (31%) and the increase was almost eight-fold in women (11%). In the same time period, mortality not attributable to smoking remained the same in the male age group of 35–69, and significantly decreased in other male age groups and in the female population (Peto et al. 2003).

In the past 40 years in Hungary, the yearly cigarette consumption increased from about 15 billion cigarettes to 24–25 billion (the latter figure includes the estimated black market distribution). One third of the adult population (15 years and up) is regular daily smoker; the number of cigarettes consumed per person per year was 2 151 in 2000 (WHO 2003).

In the second half of the 1990s, smoking increased steadily among young adults, especially among young women. In order to reduce the high premature mortality, Hungarian public health authorities make serious efforts to promote non-smoking behaviour and smoking cessation. By the end of 2010, Hungary's long-term public health objective is an 8% decrease in the proportion of the smoking population and a 20% increase in the number of people who give up smoking. Strict tobacco-control legislation and law-enforcement, the corresponding taxation and pricing policy serve this goal to a certain degree. From the part of the health care system, programmes include institutions of cardiology, pulmonology, the national district nurse system, and a primary care minimal intervention programme. In Hungary, there are 131 smoking cessation clinics inside the pulmonology care system. The proportion of those who permanently stopped smoking is around 35%, which is similar to the results of programmes working in other countries.

Despite anti-smoking campaigns and tobacco-control legislation (Act XLII 1999 on the Protection of Non-Smokers and Act LVIII 2001 on Commercial Advertisement that regulate the commercial activities in relation to smoking and selling tobacco products), the proportion of smokers in the age group of 15–18 increased from 37.3% to 45.3% between 1995 and 2000. There are slightly more young women smokers than men and the proportion of smokers among young women steadily rises. Remarkably, 16% of pregnant women smoke (Pákozdi 2002).

In the European Union, 29% of the middle age male mortality and 11% of the female mortality in the same age group were attributable to smoking. In Hungary, the same figures are 42 and 22%, respectively. According to the WHO, 90% of lung cancer mortality, 15–20% of other cancers, 75% of chronic bronchitis and emphysema, 35% of the diseases of the circulatory system can be attributed to smoking (WHO 2003).

Our research focused on two principal questions: 1. Does unfavourable health status increase the chance of smoking cessation? 2. What demographical, social and psychological factors influence the success of quitting attempts? The present study is only concerned with the first question.

The main goal was to discover the relationship between health status and the intention and attempt to quit smoking. According to our initial hypothesis, negative changes in the health status of smokers are the most significant motivation of quitting. We assumed that because of the health status differences between young, middle-aged and old generations, we would also find differences in the intentions of quitting. In compliance with this assumption, we studied the associations between various parameters of health status and the intention of giving up smoking as a function of demographical and social background variables in four age groups (18–34, 35–49, 50–64, 65 and over).

## Design and study population

The study is based on the results of a national cross-sectional representative survey (“Hungarostudy 2002”) conducted in Hungary in 2002. The “Hungarostudy 2002” was constructed to describe and analyse the relationships between the psychosocial situation and the physical, mental and emotional health status of the Hungarian population. The randomly selected sample of 12 668 participants represented the Hungarian adult population (18 years and over) by age, gender, and place of settlement (i. e. the 150 sub-regions of Hungary). The sampling procedure was based upon the National Population Register updated in 2001 according to the Census. All settlements with more than 10 000 inhabitants were included in the sample, along with a random sample

Smoking behaviour	Age groups				Total (N = 12 315)
	18–34 (N = 3 586)	35–49 (N = 3 255)	50–64 (N = 2 946)	65– (N = 2 528)	
Never smoked	53.8	42.8	52.1	71.8	54.2
Ex-smokers	13.8	19.5	21.5	18.8	18.2
Current smokers	32.4	37.7	26.4	9.4	27.6

**Table 1** Distribution of smoking behaviour by age groups in the total sample (%) (N = 12 315) Hungary, 2002

of settlements with a population under 10 000. The overall refusal rate was 17.7% for the total sample, in which major cities produced higher refusal rates than smaller settlements. For each refusal, another person from the same settlement and with similar sample characteristics was selected from a substitute sample list. Specially trained district nurses interviewed the participants in their homes using questionnaires. The average duration of completing the questionnaire was about one hour.

## Methods

### Measures

**Health indicators:** The health status measures were constructed from the participants' self-evaluation and self-report. The respondents were asked to indicate those diseases they have ever received medical care for on a list of 12 chronic diseases. The list contained the following disease groups: cancer, diabetes, diseases of the liver and kidney, psychiatric diseases, diseases of the immune system, nervous system, circulatory system, respiratory system, and digestive system, muscular-skeletal diseases, and allergies. The questionnaire contained a list of eight pain sources: headache, chest pain, back pain, gastric pain, abdominal pain, pain in the joints, pain in the limbs, other pains. We included in our analysis only those chronic illnesses (cancer, diseases of the circulatory and respiratory system, and respiratory allergy) and symptoms (chest pain) in the origins of which smoking is considered as a serious risk factor. Unfortunately, there is no reference in the questionnaire as to when had a particular symptom or illness occurred.

**Smoking:** The questionnaire contained the following categories: never smoker, quitter, and current smoker. We classified the current smokers according to their indication of quitting attempts. Consonant smokers are those who never tried to quit, while dissonant smokers are those who mentioned at least one attempt to stop (Haukкала et al. 2001) any time in their life. Smoking habits were characterized by the number of cigarettes per day, the starting time and the duration of smoking. Regrettably again, there were no questions about

the time of quitting attempt(s) so we used the data on such attempts as a life time sum of attempts.

**Measures of socio-economical status (SES):** Based on the level of education, the type of occupation, and per capita family income, we constructed a combined variable which divided our sample into four distinct groups of socio-economic situation. The highest quartile represents people living in the most favourable social-economic situation while the lowest quartile represents people with the most unfavourable living conditions.

**Family situation** was measured by one indicator: living with or without a spouse.

### Statistical analysis

Since we assumed that unfavourable health status was one of the most important motivations to stop smoking, we expected that the older the age group, the stronger the effect of health status and the more powerful the incentive to consider quitting. In order to examine the relationships between the age and the attempts to quit, each statistical analysis was completed separately in four age groups of Hungarian adults.

For the statistical analysis we used the method of logistic regression, examining the influence of the independent variables or predictors on the binary dependent variable. We used binomial (binary) logistic regression because that is to be used when the dependent variable is dichotomous, and the independent ones are continuous variables, categorical variables, or both. The dependent variable contained two groups of current smokers: 1. current smoker with quitting attempt any time during his/her smoking history, and 0. current smoker without any quitting attempt whatsoever. Chronic illnesses which are considered smoking-related (cancer, diseases of the circulatory and respiratory system, and some allergies), and chest pain which is a frequent concomitant symptom of smoking, were used as independent or predictor variables. We included the effects of gender, SES, and family situation, as secondary predictors of the quitting attempts in our model. The results will be presented on the basis of the four models. The analyses were done using the statistical software package SPSS, version 9.1.

**Table 2** Frequency of smoking-related illnesses and symptoms among current smokers (%) (N = 12 315). Hungary, 2002

Health status indicators	Age groups			
	18–34 (N = 1 163)	35–49 (N = 1 225)	50–64 (N = 776)	65– (N = 238)
Cancer	1.3	4.7	8.3	10.5
Circulatory	7.3	23.5	47.4	57.6
Respiratory	8.1	6.9	10.0	18.1
Allergy of the respiratory system	6.5	4.2	6.0	7.6
Chest pain	4.9	9.8	14.3	21.3

## Results

In the total sample, 353 persons (2.8%) did not answer the questions about smoking status. More than half of the respondents (54.2%) have never smoked, 18.2% stopped smoking and 27.6% of the sample are current smokers. The proportion of smokers differs significantly between the

age groups. Smoking was reported in 32.5% of the adult population under 35 years, in 37.7% of the younger middle-age population between the ages of 35–49, and 26.3% in the older middle-age group (50–64). In the age group of 65 and over, the proportion of current smokers is only 8.4% (Tab. 1).

Slightly more than one third of the smokers (34.2%) can be classified as consonant smokers who never even tried to quit smoking, while the majority (65.8%) are dissonant smokers who tried to stop smoking at least once in their life. The average number of cessation attempts is three; the highest number of attempts is 25. The consonant smokers started to smoke at the age of 19.6 on the average, and they have been smoking for 19.9 years. The dissonant smokers started to smoke somewhat earlier, at the average age of 19 years, and they have been smoking for a longer time, with the average duration of 21.3 years. More than 15 cigarettes per day marked the habit of heavy smoking. The groups of dissonant and consonant smokers did not differ in the proportion of heavy smokers (46.6% and 48% respectively).

	% Smoking cessation attempt YES* (n = 705)	% Smoking cessation attempt NO* (n = 458)	OR**	95% CI***
<b>Cancer</b>				
yes	1.4	1.1	1.27	0.42–3.79
no	98.6	98.9	1.00	
<b>Circulatory problems</b>				
yes	8.1	6.2	1.26	0.78–2.05
no	91.9	93.8	1.00	
<b>Respiratory problems</b>				
yes	8.4	7.7	1.14	0.71–1.83
no	91.6	92.3	1.00	
<b>Allergy</b>				
yes	6.5	6.4	1.07	0.69–1.79
no	93.5	93.6	1.00	
<b>Chest pain</b>				
yes	6.2	2.8	2.01	1.03–9.91
no	93.8	97.2	1.00	
<b>Sex</b>				
male	53.7	57.0	1.04	0.86–1.42
female	46.3	43.0	1.00	
<b>Living with spouse</b>				
yes	54.0	43.0	1.57	1.22–2.02
No	46.0	57.0	1.00	
<b>SES (1)</b>	25.1	24.2	1.00	
<b>SES (2)</b>	32.6	33.2	0.98	0.70–1.37
<b>SES (3)</b>	26.2	25.1	1.06	0.74–1.51
<b>SES (4)</b>	16.0	17.5	0.98	0.66–1.46

**Table 3** Odds ratios of smoking cessation attempts according to several health problems and social background variables in the age group of 18–34 years. Hungary, 2002

\* yes: mentioned at least one attempt to stop, no: never tried to quit  
 \*\* Odds ratio from binomial logistic regression  
 \*\*\* Confidence Interval

	% Smoking cessation attempt YES* (n = 705)	% Smoking cessation attempt NO* (n = 458)	OR**	95% CI***
<b>Cancer</b>				
yes	5.1	3.9	1.56	0.80–3.04
no	94.9	96.1	1.00	
<b>Circulatory problems</b>				
yes	24.5	21.4	1.23	0.89–1.69
no	75.5	78.6	1.00	
<b>Respiratory problems</b>				
yes	6.5	7.8	0.83	0.51–1.34
no	93.5	92.2	1.00	
<b>Allergy</b>				
yes	4.3	3.9	1.02	0.55–1.92
no	95.7	96.1	1.00	
<b>Chest pain</b>				
yes	10.0	9.4	1.04	0.67–1.61
no	90.0	90.6	1.00	
<b>Sex</b>				
male	53.8	52.8	0.97	0.75–1.26
female	46.2	47.7	1.00	
<b>Living with spouse</b>				
yes	73.7	67.9	1.32	1.01–1.74
No	26.3	32.1	1.00	
<b>SES (1)</b>				
	24.1	27.2	1.00	
<b>SES (2)</b>				
	29.2	28.8	1.12	0.79–1.58
<b>SES (3)</b>				
	25.6	26.7	1.06	0.74–1.51
<b>SES (4)</b>				
	21.1	17.4	0.98	0.66–1.46

\* yes: mentioned at least one attempt to stop, no: never tried to quit

\*\* Odds ratio from binomial logistic regression

\*\*\* Confidence Interval

**Table 4** Odds ratios of smoking cessation attempts according to several health problems and social background variables in the age group of 35–49 years. Hungary, 2002

All health status indicators show significant differences between the four age groups (Tab. 2).

Incidence of chronic disease shows a gradual increase with growing age. Among the analysed chronic diseases, circulatory problems have the highest occurrence. Almost one quarter (23.5%) of the younger middle aged group, almost half (47.4%) of the older middle aged group, and more than half of the older group (57.6%) suffers from such a condition. The experience of chest pain is closely connected to the increasing age. The prevalence of allergy of the respiratory system is the lowest in the middle-aged groups, while among the youngest and oldest respondents the frequency of respiratory allergies is higher.

Table 3–6 show the results of the logistic regression in each age group. We report for each predictor variable the value of its odds ratio (OR) and the low and high values of its CI at a 95% confidence level.

In the youngest age group, out of the smoking-related health problems we considered as primary predictors, only the occurrence of chest pain shows significant relationship with the

attempt of quitting. The experience of chest pain doubles the odds of the cessation attempt (OR = 2.01). Among the background variables considered as secondary predictors, family situation produced significant impact on quitting plans. Comparing to the singles, living with a spouse increased the odds of the cessation attempts more than one and a half time higher (OR = 1.57).

In the younger middle-aged group, no health-related predictor influences the quitting aspirations. In this age group, only family situation influences significantly the intentions to quit. Similarly to the younger group, living with spouse increases the motivation to stop smoking (OR = 1.32). On the other hand, in the older middle age group family situation does not make any differences, only health related influences are present: circulatory problems prompt quitting attempts (OR = 1.43). Among the members of the oldest group, respiratory illnesses create the single connection between predictor variables and quitting motivation. People suffering from respiratory illnesses are much more likely to decide to stop smoking than those without such problems (OR = 2.58).

	% Smoking cessation attempt YES* (n = 705)	% Smoking cessation attempt NO* (n = 458)	OR**	95% CI***
<b>Cancer</b>				
yes	8.7	7.3	1.18	0.63–2.21
no	91.3	92.7	1.00	
<b>Circulatory problems</b>				
yes	50.1	40.6	1.34	1.02–2.02
no	49.9	59.4	1.00	
<b>Respiratory problems</b>				
yes	9.7	11.0	0.78	0.45–1.34
no	90.3	89.0	1.00	
<b>Allergy</b>				
yes	6.4	5.0	1.31	0.63–2.76
no	6.4	5.0	1.31	0.63–2.76
<b>Chest pain</b>				
yes	15.8	10.8	1.32	0.78–2.25
no	84.2	89.2	1.00	
<b>Sex</b>				
male	53.8	52.8	0.97	0.75–1.26
female	46.2	47.7	1.00	
<b>Living with spouse</b>				
yes	71.5	64.3	1.41	0.99–2.02
No	28.5	35.7	1.00	
<b>SES (1)</b>	26.5	23.4	1.00	
<b>SES (2)</b>	25.6	23.0	0.96	0.59–1.56
<b>SES (3)</b>	24.9	23.4	0.89	0.55–1.44
<b>SES (4)</b>	22.9	30.2	0.65	0.41–1.03

**Table 5** Odds ratios of smoking cessation attempts according to several health problems and social background variables in the age group of 50–64 years. Hungary, 2002

\* yes: mentioned at least one attempt to stop, no: never tried to quit

\*\* Odds ratio from binomial logistic regression

\*\*\* Confidence Interval

## Discussion

The attempt to quit smoking is a decision which is influenced by a broad variety of factors. These factors may include personality characteristics, social circumstances, various symptoms and illness experiences, and also other aspects of life. In our analysis we could concentrate on the experience of deteriorating health, as well as gender, economical situation and social support (or pressure) in the form of living with spouse or living alone. Age was taken into consideration by dividing our sample into four age groups. Our goal was to understand what roles these factors play in the decision to try to quit smoking.

To explain the age group differences of the quitting intentions, we applied the method of binomial regression. We analysed the strength and direction of the linear relationships between the dichotomous dependent variable and the predictor variables. We considered quitting intentions as the dependent variable (1 = ever tried to quit; 0 = never tried to quit). Smoking-related diseases were considered as primary explanatory (or predictor) variables, whereas gender, SES,

and family position were considered as secondary explanatory variables. In Tables 3–6, we represent the results of the statistical analysis, showing the OR of the explanatory variables for each age group model. The significant relationships are shown in bold letters.

Among the variables we analysed, only the experience of some health problems and the social support/pressure proved to play significant role in cessation attempt. Our results show that the occurrence of smoking-related chronic diseases and symptoms provides different stimuli for cessation attempts to the age groups that are characterised by different health status. In the case of the youngest age group, chest pain experience shows association with the desire to quit while chronic disease has not yet occurred as motivating force. Chronic diseases alters the attitude toward smoking only in the second period of the middle age. Among the members of the older middle age group circulatory disease, while in the oldest group respiratory disease gives motivation to change smoking habits.

Among the secondary predictors, neither SES, nor gender

	% Smoking cessation attempt YES* (n = 554)	% Smoking cessation attempt NO* (n = 222)	OR**	95% CI***
<b>Cancer</b>				
yes	11.3	9.3	1.67	0.60–4.60
no	88.7	90.7	1.00	
<b>Circulatory problems</b>				
yes	62.4	50.5	1.57	0.83–2.75
no	37.6	49.5	1.00	
<b>Respiratory problems</b>				
yes	22.7	11.3	2.58	1.13–5.89
no	77.3	88.7	1.00	
<b>Allergy</b>				
yes	6.4	9.3	0.54	0.18–1.62
no	93.6	90.7	1.00	
<b>Chest pain</b>				
yes	25.6	15.2	1.57	0.72–3.43
no	74.4	84.8	1.00	
<b>Sex</b>				
male	67.9	66.0	0.74	0.39–1.41
female	32.1	34.0	1.00	
Living with spouse				
yes	52.1	63.9	0.60	0.33–1.11
No	47.9	36.1	1.00	
SES (1)	34.8	36.1	1.00	
SES (2)	26.2	32.0	0.91	0.44–1.89
SES (3)	10.6	13.4	0.84	0.33–2.14
SES (4)	28.4	18.6	1.87	0.87–4.08

**Table 6** Odds ratios of smoking cessation attempts according to several health problems and social background variables in the age group of 65 and over. Hungary, 2002

\* yes: mentioned at least one attempt to stop, no: never tried to quit

\*\* Odds ratio from binomial logistic regression

\*\*\* Confidence Interval

showed any association with the quitting attempts. It is noticeable, however, that the family position significantly influenced the quitting motivation of smokers both in the young and the middle-aged groups. Those who live in partnership may encounter stronger pressure from their social environment than those who live alone. This pressure can originate from non-smoker family members for whom the health risks of passive smoking goes together with other possible inconveniences caused by a smoking person living in the same household. Family members may also worry about the health damaging effects of smoking especially when smoking-related symptoms (such as chest pain) or illness are already present.

The results described above show that a relationship exists between age, unfavourable health status, and smoking cessation attempts but it is not quite the same as what we expected. While health status is the worst in the oldest age group, unfavourable health characteristics motivate their decision on smoking cessation the least. It is only the respiratory illness – the kind of ailments that in the whole population are widely

associated with smoking for their most direct relationship with respiratory conditions – that prompts quitting attempts among the oldest smokers.

We assume that this situation mirrors a kind of fatalist view that characterizes the Hungarian population. Growing old and experiencing serious deterioration of health is interpreted as parallel, uncontrollable biological processes, whereas the individual is able to control this process only in earlier life cycles. Thus while for the younger generations there is a definite social expectation to be and stay healthy, for the middle-age generations this expectation seems to be much weaker. Hungarian mortality figures, especially those of the premature mortality, are among the most unfavourable ones in Europe. Hungarian mortality rates were 1.8 times higher for the male and 1.7 times higher for the female population in 2002. The male and female premature mortality exceeded the European average by 140 % and 90 % respectively. Middle-age mortality is particularly high among Hungarian males; it is now at the same level as it was in the 1930s (Foster & Józán 1990). As a consequence, high frequency of chronic disease

and death, which strikes not only the elderly but also the middle-aged, is an unavoidable experience of everyday life of the population. This experience reinforces the social normalisation of ill health even in the middle-age generations.

Our study visibly shows the presence of the normalisation of deteriorating health. A whole range of health problems are encountered in every age group without triggering quitting attempts. The only exception from the tendency of normalisation of ill health seems to be cardio-vascular disease. This perhaps may be regarded as a much welcome return of the extensive health promotion efforts that were spent to make the society conscious to the vulnerability of the middle-aged generations. In the youngest population group, experience of ill health appearing in the form of chest pain – considered as the first warning sign of future circulatory problems – clearly motivates attempts of conscious change in health behaviour. Among the middle-aged, occurrence of chronic disease generally does not create a motivation to a healthier lifestyle, only if it is circulatory disease. In the Hungarian population, the main cause of premature death is cardio-vascular disease. Circulatory disease is considered nationwide a direct risk that primarily threatens the middle-aged population. This notion most probably explains the high motivating power of chest pain in the youngest group and cardio-vascular disease among the middle-aged. Among the oldest, neither the general experience of ill health, nor the occurrence of chest pain, or chronic disease other than respiratory disease has any effect on smoking cessation considerations. In this age group, quitting attempts are motivated only when the relationship between smoking and health condition is as clear as in the case of respiratory disease. We assume that there is a phase-delay behind the age differences of quitting motivation. The anti-smoking health promotion efforts emphasising the cardiovascular risks of smoking reached the middle-aged generations only when they had already developed circulatory

illnesses. Younger generations have become aware of the tobacco-related nature of many cardiovascular conditions early enough to have a better chance to prevent serious illnesses. The oldest generation either has not yet been sensitised about how smoking affects their circulatory system or it is too late for them to change their smoking habits because of such an indirect relationship.

Considering the results of the study, we propose the following public health and social policy considerations:

1. It should be further emphasised, especially among the elderly, that smoking causes not only respiratory but also circulatory problems and it creates other health risks as well.
2. In order to increase the number of healthy life years in the Hungarian population, it is not enough to concentrate on medicine-centred health promotion. Health professionals and general communicators should work together against the fatalist attitudes toward ageing which result in the social normalisation of ill health over 35 years of age. Ageing is not solely a biological/medical problem; it is part of the wider social world. In order to prevent the normalisation of illness experience as a social expectation for the older generations, it is vital to rebuild the age-related socio-cultural value system. All generations should take responsibility for their health. We are sure that health promoters of other nations, where racial, ethnic, religious or demographic population sub-groups may hold similar fatalistic views of health and illness, should also take such social characteristics into considerations when formulate anti-tobacco campaigns.

#### *Acknowledgements*

This study was supported by the NKFP-01/002/2001 and the OTKA TS-40889/2002 projects. The authors would like to express their gratitude to the members of the “Hungarostudy 2002” team: Janos Rethelyi, Adrien Stauder, Csilla Csoboth, Janos Loke, Sandor Rozsa, Andrea Odor.

## Zusammenfassung

### Zusammenhänge zwischen ungünstigem Gesundheitsstatus und Versuchen, mit dem Rauchen aufzuhören, in Ungarn

**Fragestellung:** Die Studie untersucht die Zusammenhänge zwischen der Absicht, mit dem Rauchen aufzuhören, und dem Gesundheitsstatus in Altersgruppen (18–34, 35–49, 50–64, >65) von ungarischen Rauchern, zusammen mit soziodemographischen Drittvariablen.

**Methoden:** In 2002 wurde eine repräsentative Querschnittstudie bei 12668 Erwachsenen in Ungarn durchgeführt. Die Zusammenhänge zwischen Gesundheitsstatus und den Versuchen, mit dem Rauchen aufzuhören, wurden mittels logistischer Regression bei aktuellen Rauchern (N = 3408) analysiert. Der Einfluss von gesundheitsrelevanten und sozialen Prädiktorvariablen wurde separat für die Altersgruppen getestet.

**Ergebnisse:** Erfahrungen mit Brustschmerzen motiviert junge Erwachsene hauptsächlich, mit dem Rauchen aufzuhören. Erwachsene im mittleren Alter erwägen einen Rauchstopp bei kardio-vaskulären Erkrankungen. Bei den ältesten Erwachsenen sind es nur Atembeschwerden, die Rauchstopp-Versuche beeinflussen. Bei den sozialen Drittvariablen hat nur die Tatsache, mit einem Ehepartner zu leben, einen Einfluss, Gender und sozioökonomischer Status hingegen nicht.

**Schlussfolgerungen:** Zusammenhänge zwischen Gesundheitsstatus und den Versuchen, mit dem Rauchen aufzuhören, werden mit zunehmenden Alter schwächer. Die Bevölkerung scheint sich der Verbindungen zwischen Kreislaufproblemen und Rauchen allmählich bewusst zu werden. Rauchstopp-Versuche werden durch die allgemeine Haltung eingeschränkt, dass Krankheit ein normaler Teil vom Altersprozess ist.

## Résumé

### Association entre l'état de santé et l'intention d'arrêter de fumer : le cas de la Hongrie

**Objectifs :** Identifier les liens existant entre le désir d'arrêter de fumer et l'état de santé dans quatre groupes d'âge de fumeurs en Hongrie, selon plusieurs variables sociodémographiques.

**Méthodes :** Une étude transversale a été menée en 2002 auprès d'un échantillon de 12668 adultes hongrois. Les associations possibles entre l'état de santé et l'intention d'arrêter de fumer ont été analysées au moyen de la régression logistique parmi les actuels fumeurs (N = 3408). L'influence des variables prédictives liées à la santé et au statut social a été testée séparément selon le groupe d'âge (18–34, 35–49, 50–64, >65 ans).

**Résultats :** Le fait de souffrir de douleurs thoraciques pousse principalement les jeunes adultes à cesser de fumer. Les fumeurs d'âge moyen envisagent de cesser de fumer lorsqu'ils souffrent de maladie cardiovasculaire. Pour les plus âgés, seule une maladie respiratoire a un effet sur les tentatives de cesser de fumer. Parmi les variables sociodémographiques, seul le fait de vivre maritalement exerce une influence, mais ni le sexe ni le statut socioéconomique.

**Conclusions :** L'association entre l'état de santé et l'intention d'arrêter de fumer diminue avec l'âge. La population ne semble prendre que graduellement conscience des liens existant entre les problèmes cardiovasculaires et le tabagisme. Les tentatives d'arrêter de fumer sont limitées par la croyance générale selon laquelle un état de santé précaire fait partie du processus de vieillissement normal.

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