Smoking in Russia: Prevalence, Trends and Social Determinants

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Extended abstract

Introduction

Smoking prevalence in Russia has historically been high among men, and significantly increased among women during the transition period to a market economy in 1990s. The previous studies revealed the inverse relationship between smoking and education in male population and urban predominance and changing pattern of smoking in female population (Perlman et al., 2007). Based on RLMS data studies showed that smoking in the late 1990s and early 2000s was close connected this deprivation for males and living in urban areas for females (Bobak et al., 2006). In this paper, I use several nationally representative and local health surveys data from the Russian Federation to describe prevalence and trends of smoking and to analyze smoking determinants in different age groups and influence of smoking status on health measures. The paper contributes to the studies on changes in smoking rates in Russia and the use of different source of data allows to check how are smoking prevalence estimates steady between different surveys.

Research questions

This paper looks at smoking prevalence and trends in Russian Federation. Specifically, I examine variation in current and former smoking prevalence and heaviness of smoking by age in male and female population. I also examine the role of demographic and social factors and the influence of smoking status on health and some biomarkers.

Data&Method

I use the data from the harmonized database of nationally representative and health survey conducted in Russia during 1980-2012. Data harmonization was carried out under the project “Cardiovascular disease in Russia: Strengthening evidence about causes, mechanisms, prevention and treatment". The harmonized dataset includes three Russian population representative studies: Study on global AGEing and adult health (SAGE), Global Adult Tabacco Survey and The Russia Longitudinal Monitoring Survey - two health all Russia studies based on clinic (Monitoring of Arterial Hypertension and Epidemiology of cardio-vascular diseases in Russia) and seven health

local studies (Arkhangelsk 2000 study, Arkhangelsk 2012-2013 study, Two Izhevsk Family Studies, Udmurtia rural study, and two health studies based on Moscow population (Lipid Research Clinics and MONItoring of Trends and Determinants in Cardiovascular and Stress, Ageing and Health in Russia). The sample, periods of examinations, minimal and maximal age of respondents and proportion of males in each studies included in harmonized dataset presented in Table 1.

Table 1

Key sample characteristics of surveys included in the harmonized dataset

№	Survey	Abbreviation	Period of examination	Region(s)	Sample, N=	% of males	Min age	Max age	Mean age
1	Study on global AGEing and adult health	SAGE	2007-2010	Russia	4353	36	19	100	62,3
2	Arkhangelsk 2000 study	Arkhangelsk 2000 study	2000	Arkhangelsk (city)	3705	53	18	94	43,0
3	Arkhangelsk 2012-2013 study	Arkhangelsk 2012-2013 study	2012-2013	Arkhangelsk (city)	440	24	18	83	46,7
4	Monitoring of Arterial Hypertension	Monitoring of hypertension	2003-2010	Russia	74047	40	18	108	45,2
5	Epidemiology of cardio-vascular diseases in Russia	ESSE RF	2009-2014	Russia	22257	38	18	78	46,4
6	Udmurtia rural study	Udmurtia rural study	1995	Udmurtia	855	43	18	65	37,8
7	Lipid Research Clinics and MONItoring of Trends and Determinants in CArdiovascular Disease	LRC/MONICA	1975-2002	Moscow	24411	75	18	82	46,0
8	Izhevsk Family Study I	IFS I	2003-2007	Izhevsk	1940	100	24	58	44,6
9	Izhevsk Family Study II	IFS II	2008-2009	Izhevsk	1530	100	27	60	48,
10	The Russia Longitudinal Monitoring Survey, Round 11	RLMS 11	2002	Russia	7236	42	18	98	46,7
11	The Russia Longitudinal Monitoring Survey, Round 19	RLMS 19	2010-2011	Russia	13594	42	18	104	46,1
12	Stress, Ageing and Health in Russia	SAHR	2007-2009	Moscow	1800	47	55	92	68,3
13	Global Adult Tabacco Smoking	GATS	2009	Russia	11119	54	18	97	45,5

The harmonized dataset includes information about smoking status (current, former smoker or never smoked) and heaviness of smoking (daily number of cigarettes). Available socio-demographic information is the following: sex, age, education, type of settlement, marital status. Some health studies provide information on anthropometry, physical measurements and blood biochemistry. The data on blood pressure, metabolic syndrome, C - reactive protein, fibrinogen,

total cholesterol and self-rated health were used in order to analyze smoking status influence on these measures.

Data were analyzed for men and women separately. Smoking prevalence was standardized by education level. As the standard were used the distributions of male and female populations by education level, age and urban/rural areas from USSR 1979 Census, Russia 2002 Census and Russia 2010 Census. For data analysis were used logistic and multinomial logistic regression models.

Preliminary results

Male smoking

The prevalence of current male smoking in Russia is high. The age pattern of current smoking is bell-shaped: smoking prevalence decrease essentially from age 40 to age 60. The relationship of smoking and education level for Russian men is strong and inverse in all age groups. Divorced males have the higher risk to smoke in ages under 54, but in older ages, there are no effect of marital status on male smoking.

The share of smokers smoking more than half of pack of cigarettes a day is high. The pattern of heaviness of smoking is bell shaped with respect to age. The mean quantity of cigarettes smoked by man significantly decrease with age.

The level of C-reactive protein and Fibrinogen is expectably higher among current smokers. The risk of metabolic syndrome is also higher among current and former male smokers aged 25-54. There are no stable significant influence of smoking status on total cholesterol level. Current and former smokers aged 25-64 more frequently evaluate their health as good.

Female smoking

Smoking prevalence among women in Russia is lower than that among men. However, the prevalence of former and current female smoking at older ages is lower that at young and middle ages.

Most of women smoke less than a half of pack a day, but the relationship between quantity and age is not so obvious as among men.

Lower and middle education increases chances of women to smoke at ages under 64. Bur the relationship between education and smoking weakens and becomes insignificant at older ages. Female smoking in Russia is closely correlate with marital status: the chances to smoke for divorced and widowed women are higher than for married women. Besides, female smoking is significantly higher in urban areas.

The results shows that there are no stable correlation between female smoking status and high C-reactive protein and Fibrinogen levels and other health measures.