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Objectives To study the influence of personal anxiety (PA) on relative risk of myocardial infarction (MI) and stroke in women aged 25–64 years during 16 years of follow up in Novosibirsk.

Methods Within the WHO ‘MONICA-psychosocial’ programme random representative sample of women aged 25–64 years who were residents of one district in Novosibirsk, were surveyed in 1994. Levels of personal anxiety were measured at the baseline examination by means of Spilberger’s test. The registration of MI incidence during 16 years (1995–2010) was performed with using of Myocardial Infarction Registry data. Registration of stroke incidence was made during dynamic following under the cohort of women. Cox proportional regression model was used for an estimation of relative risk (HR) of MI, stroke. $\chi^2$ was used for assessment of statistical significance between groups. Women having heart diseases or cerebrovascular events at the baseline were not included in the analysis.

Results High level of anxiety (HLA) in studied cohort revealed in 59.8% of women. During 16 years of study (1995–2010) MI was developed in 2.2% of women, stroke—in 5.1%. Risk of MI development in women with HLA was higher in 4.2 times, compared women with lower levels of anxiety (95.0% CI 1.946 to 18.583; p=0.05). HR of stroke development was in 3.5 times higher in women with HLA than without it (95.0% CI 1020 to 12 015; p < 0.05). MI incidence rates were significantly higher in married women with HLA compared divorced women with lower level of anxiety ($\chi^2=5.66$ n=1 p < 0.05). There was a higher rate of stroke incidence in women having HLA with higher education, compared those with high school ($\chi^2=4.32$ df=1 p < 0.05). With regard to occupational status, the rate of stroke increased in hard manual worker having HLA, compared engineers with average level of PA ($\chi^2=3.99$ df=1 p<0.05) or with HLA ($\chi^2=7.325$ df=1 p < 0.01). There was statistical differences in stroke rate between groups of women with heavy manual work having HLA and women with easy manual ($\chi^2=6.35$ df=1 p < 0.05) and women with moderate manual work ($\chi^2=4.518$ df=1 p<0.05) having HLA too.

Conclusions There is high prevalence of HLA in Russian female population aged 25–64. During 16 years of follow up women with HLA have significantly higher risk of MI and stroke than without it. MI and stroke development strictly associated with social gradient (married status, level of degree, occupation) in women with HLA.