

THE CANCER-RELATED MORTALITY IN A COHORT OF SGCE PERSONNEL AND IN POPULATION FROM THE SETTLEMENT AREA

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1. INTRODUCTION

The risk of cancer-related mortality is one of the most serious issues for the individuals professionally exposed to the long-term irradiation (Boice J.D. Jr. et al, 2006; Germonneau P. et al, 2006). The main aim of this study was to evaluate the

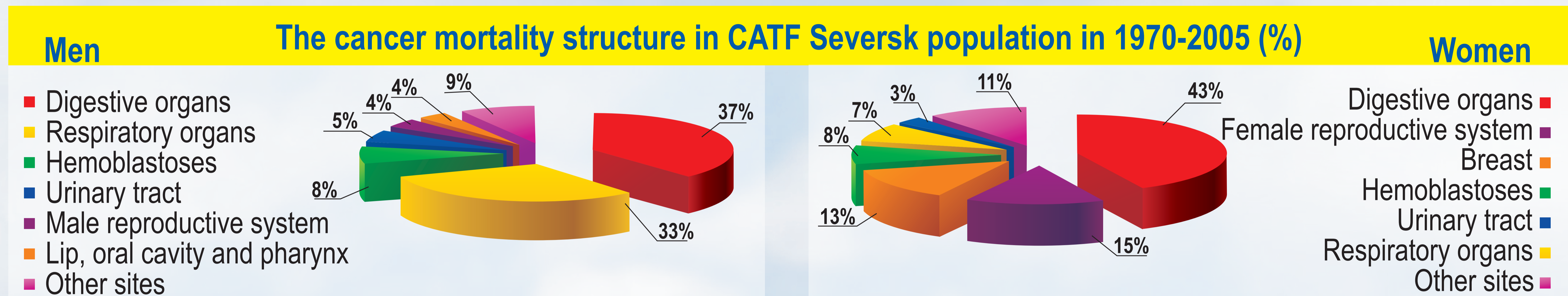
cancer-related mortality rate in a cohort of SGCE personnel and in population from the settlement area (the closed administrative territory foundation Seversk, Tomsk region, Russian Federation) living at the SGCE influence territory.

2. METHODS

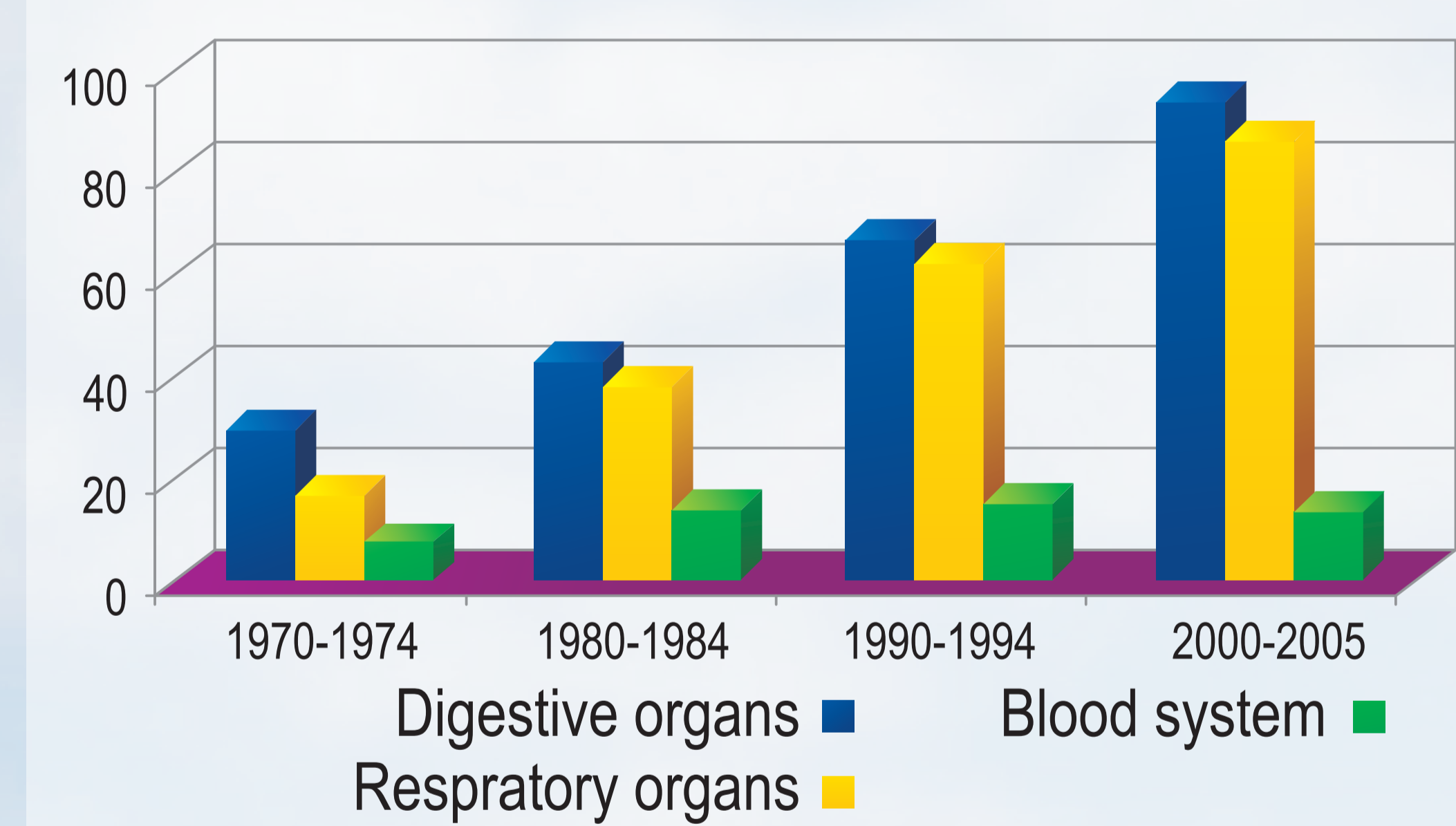
The study has been carried out on the datasets obtained from the different sub-divisions of SGCE, such as RP, RCP, PP and inhabitants of CATF Seversk. The analysis of structure, dynamics and risks of cancer-related mortality was performed based on the "Malignant tumors" register (which consists of the 9521 death cases of Seversk inhabitants and 1997 death

cases of former SGCE employees; at the period from 01.01.1970 until 31.12.2005). The standardized relative risk (SRR) of cancer-related mortality in a cohort of SGCE personnel exposed to the long-term IR (with the different cumulative external radiation doses (CERD)) has been calculated in comparison to non-exposed stuff.

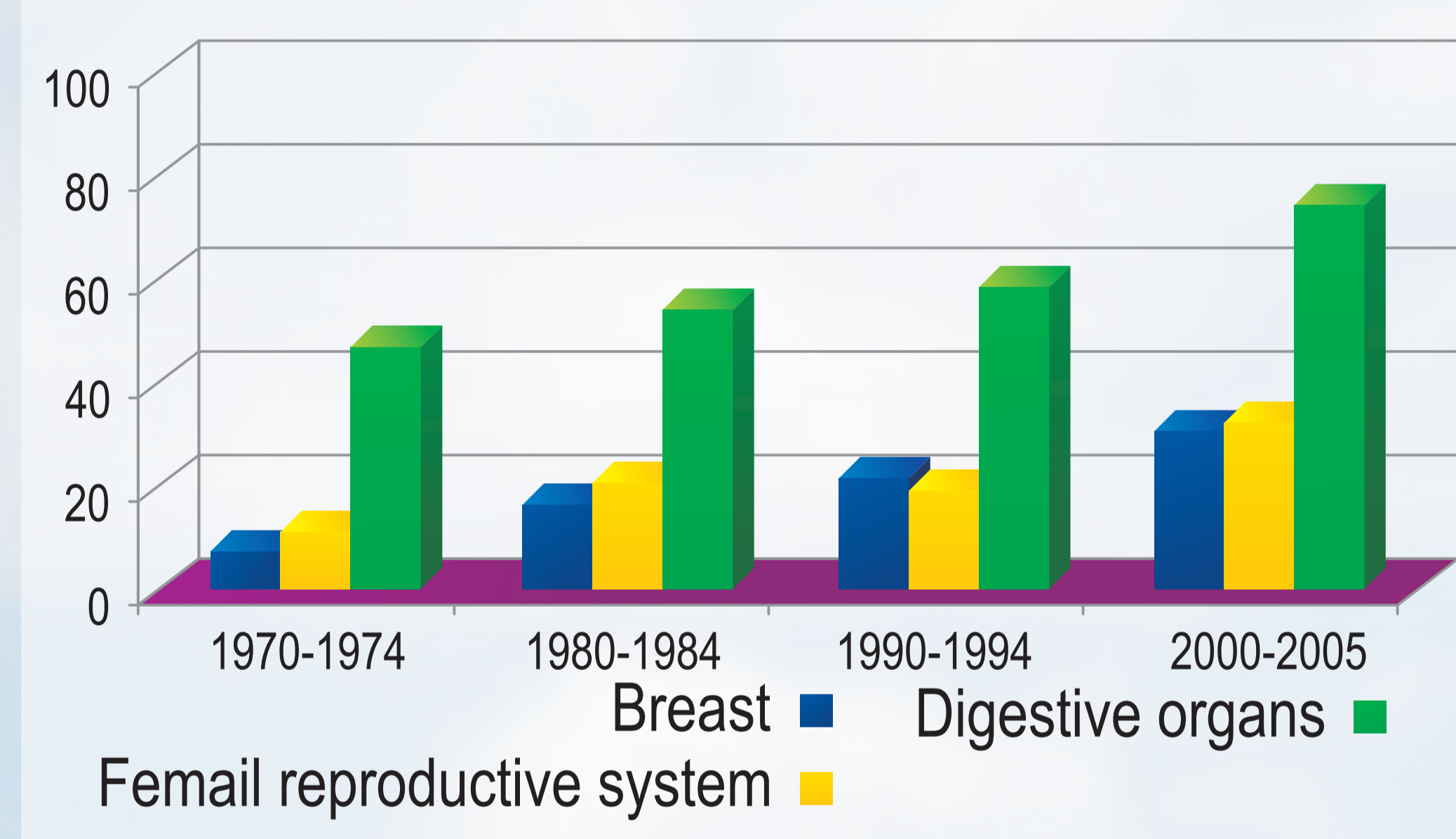
3. RESULTS



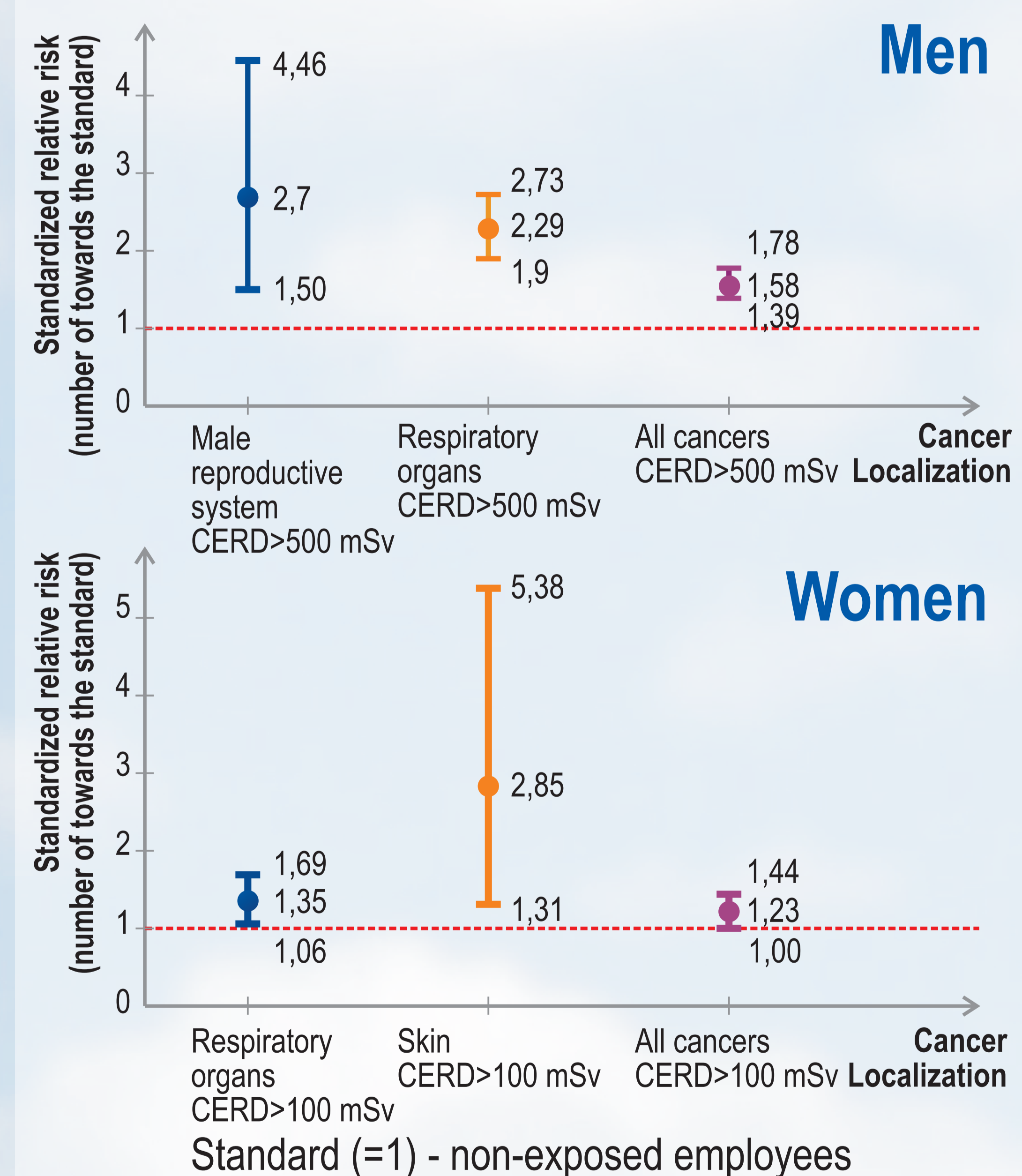
The men's cancer mortality in CATF Seversk in 1970-2005 (cases per 100 000 men)



The women's cancer mortality in CATF Seversk in 1970-2005 (cases per 100 000 women)



SRR of cancer mortality among the SGCE male (female) employees depending on cumulative external radiation dose (CERD)



4. SUMMARY

Numerous studies have not revealed the increased cancer-related mortality risk among the population living in the influence zone of nuclear facilities (Boice J.D. Jr. et al, 2003, 2006, 2007, 2010). The increase of the cancer-related

mortality in a cohort of the CATF Seversk inhabitants could be explained by the growth of the average elderly population value out of total number of residents.

5. CONCLUSION

Thus, we did not receive the convincing results testifying to presence of threat to health at residing in a zone of influence of SGCE, estimated on a base of cancer-related mortality level. Increased cancer-related mortality SRR among the SGCE employees exposed to long-term ionizing radiation (CERD among men > 500mSv, among women > 100 mSv) was

found. The increased cancer-related mortality among the CATF Seversk population demands special attention from health care system. The received data on the cancer-related mortality raised risk among SGCE personnel specifies in necessity of the expanded researches of cancer death rate for employees with separate intervals of CERD.