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# Infant mortality in Arkhangelsk region.

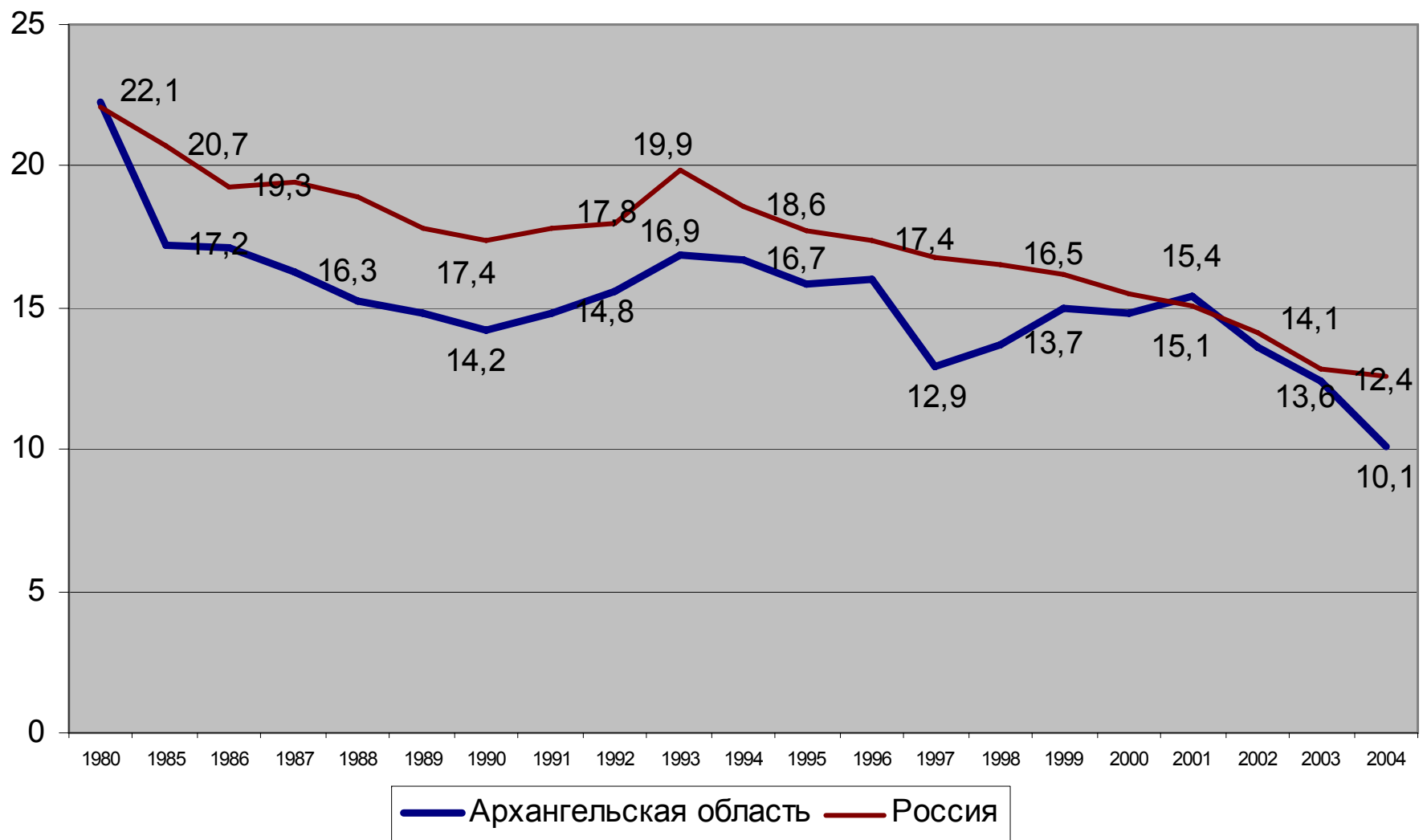
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Arkhangelsk,  
2005.

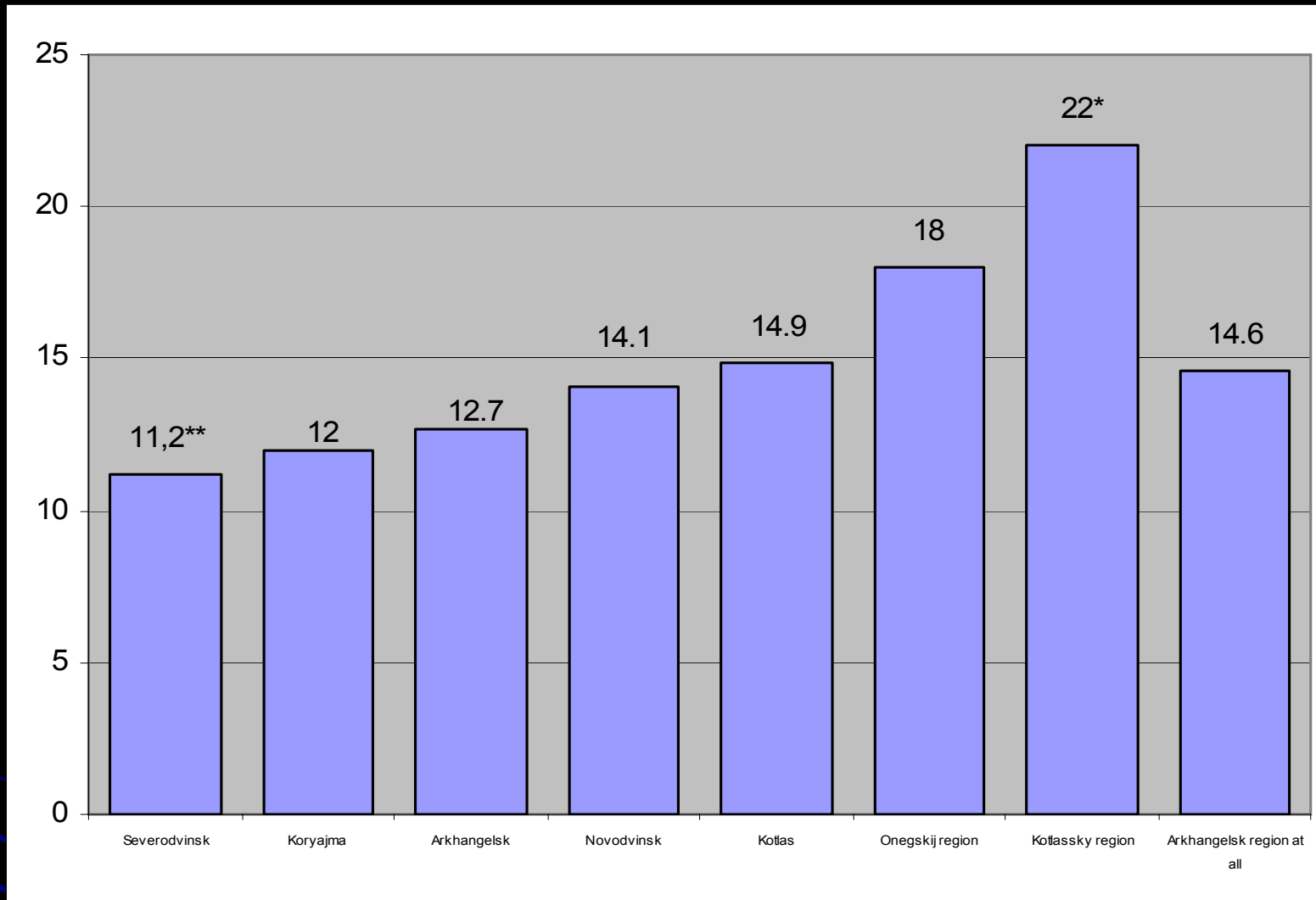


# Introduction

- **Infant mortality is one of the major indicators of social well-being and, consequently, is in the center of attention in estimation of population processes**
- **At the same time the level of infant mortality correlates with quality, volume and availability of medical aid to women and children**
- **Infant mortality rate in Russia is quickly reduced against death rate of adult population. However infant mortality in Russia remains higher, than in Western Europe. In the beginning of 1970th infant mortality in Russian Federation was 21-22 ‰ - i.e. comparable to that in the USA (20 ‰), the Great Britain (19 ‰), France and Austria (on 18 ‰), and in Italy this parameter was then above 30 ‰.**
- **The level of infant mortality in 2001, equal 14,6 on 1000 born alive, has been achieved by Japan in 1969, the USA - in 1976, fifteen countries which are included in the European union, - totally - in 1977. Now in these countries infant mortality rate remains to 7 (USA), 5 (the European union), 4 (Japan) children on 1000 born alive**



**Fig.1. Dynamic changes of infant mortality in Russian Federation and Arkhangelsk area for 1980-2004 (on 1000 born alive).**



-p<0.05; \*\* p<0.01 –to whole area.

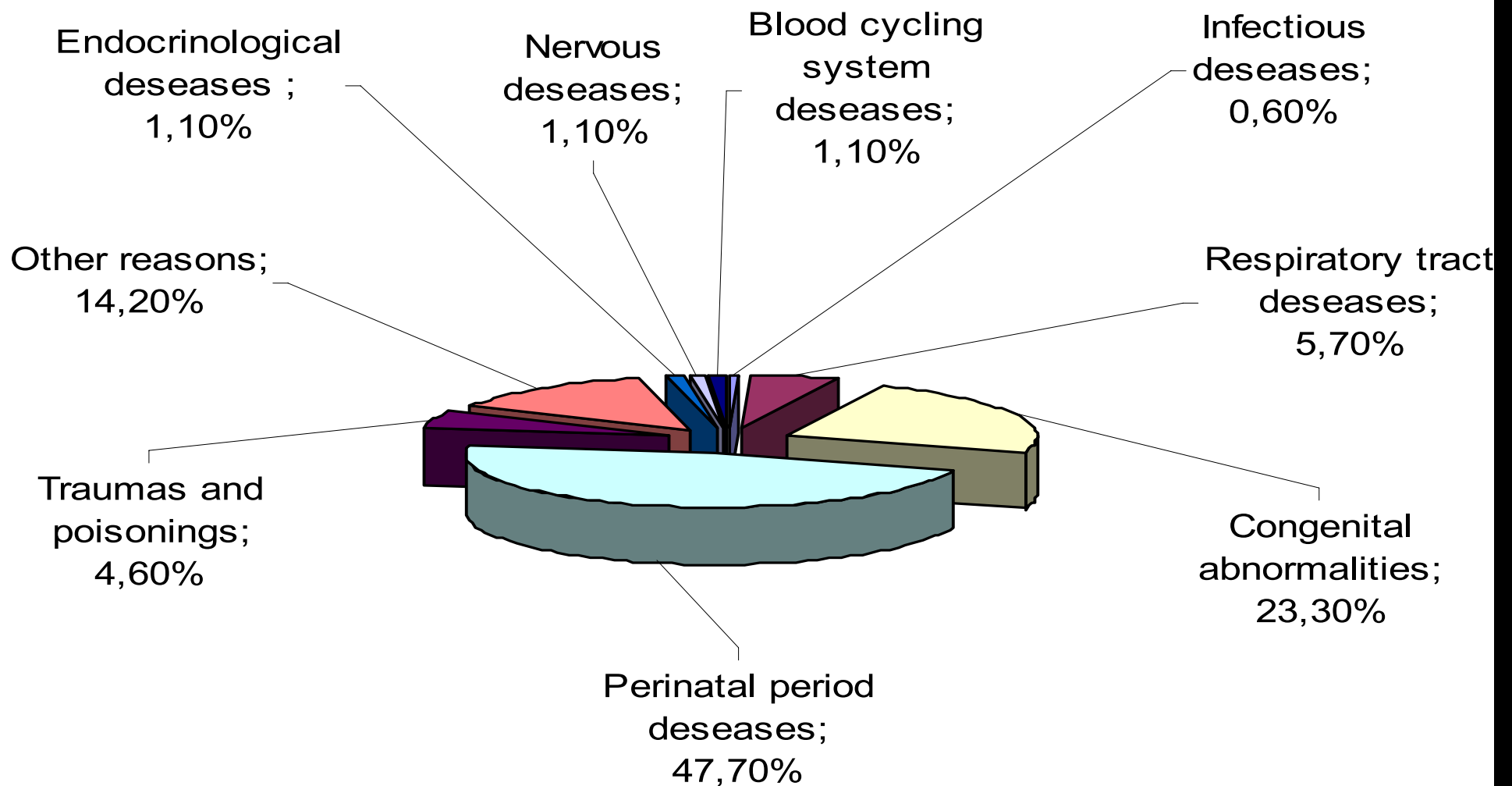
**Fig.2. Long-term study parameters of infant mortality on territories of Arkhangelsk area for 1994-2004 (on 1000 born alive).**

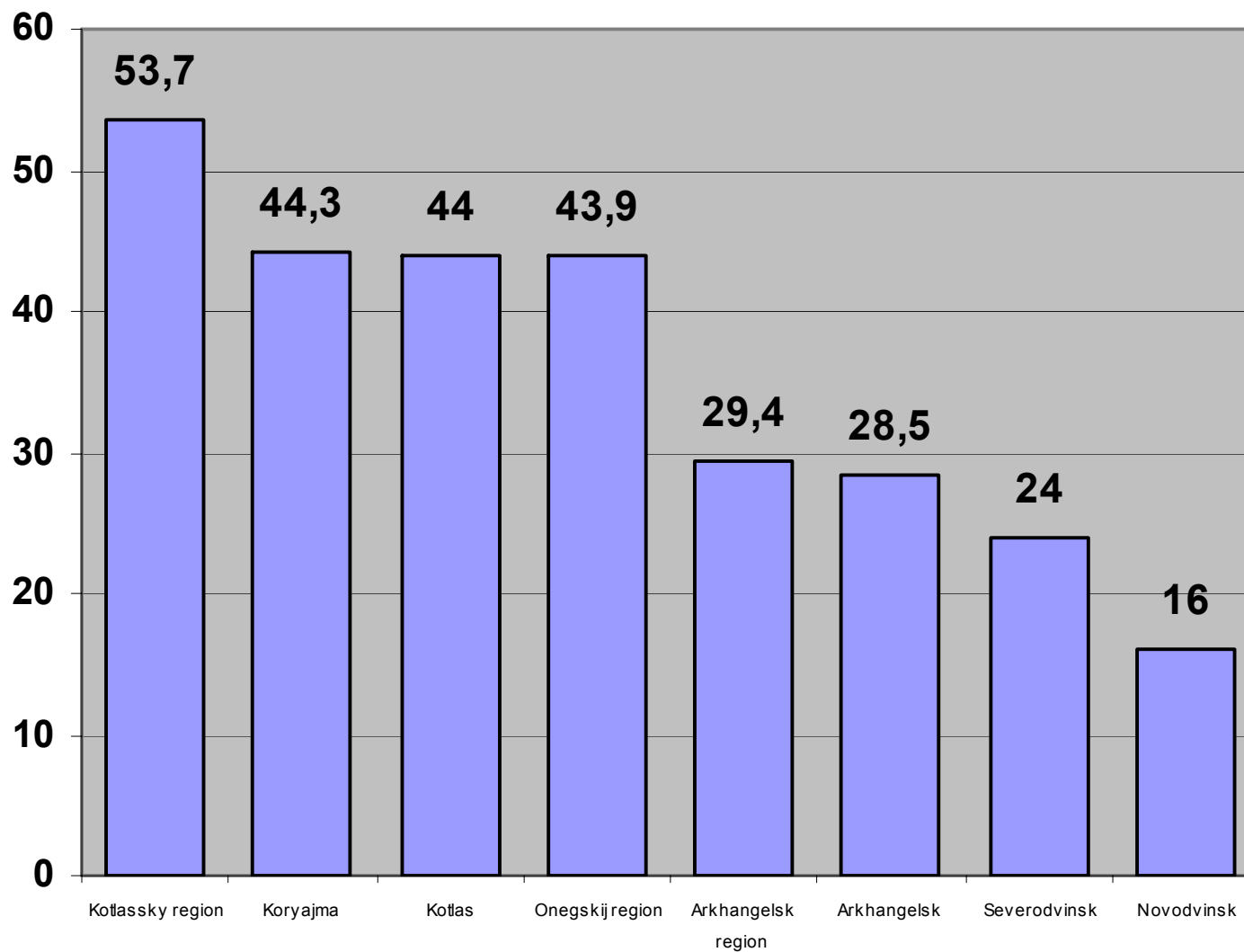
Tabl.1. Infant mortality in Arkhangelsk area for 1994-2004 by 5-year periods  
(on 1000 born alive).

Territories	All time interval (1994-2004)	1994-1998	1999-2004
Arkhangelsk area at all	14.6	15.2	13.9
Arkhangelsk	12.7	12.6	12.9
Novodvinsk	14.1	15.3	12.9
Severodvinsk	11.2**	12.3*	9.5**
Koryajma	12.0	14.1	10.0
Kotlas	14.9	16.8	13.0
Kotlassky region	22.0*	25.3**	18.6
Onegsky region	18.0	18.1	18.0

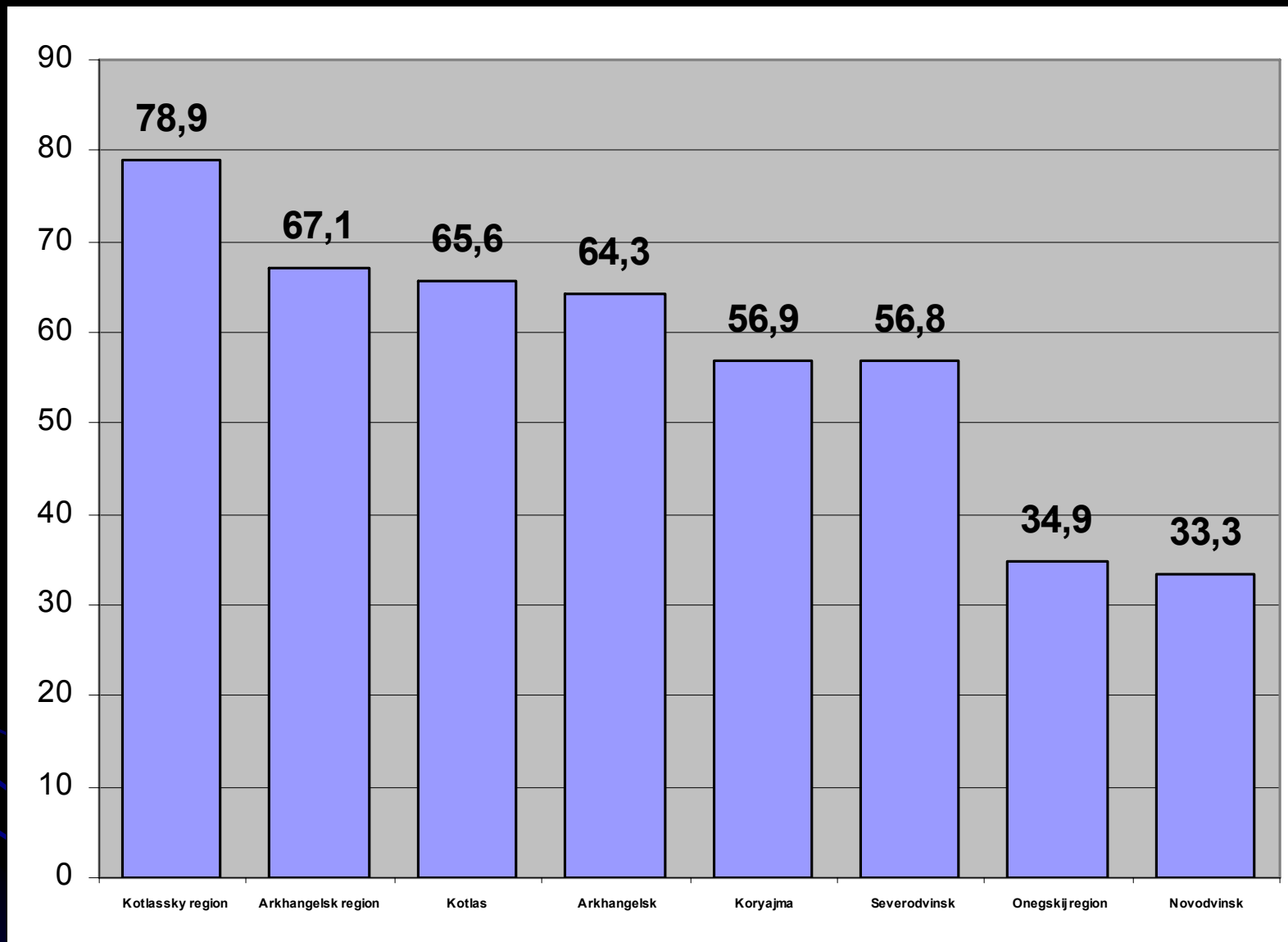
\* -  $p < 0.05$ ; \*\* -  $p < 0.01$  to whole area.

### Fig. 3. Structure of infant mortality.





**Fig. 5. Mortality from congenital anomalies in Arkhangelsk area for 1994 - 2004 (on 10000 born alive).**



\*\* -  $p < 0.01$  to whole area.

**Fig.4. Mortality from anomalies of perinatal period in Arkhangelsk area for 1994 - 2004 (on 10000 born alive).**

## Maternal causes of infant mortality.

- More than 70 % of mothers who subsequently have lost their child on the first year of life, had urogenital pathology diseases. Urogenital infections, gynecological diseases were very common findings in these women.
- 53,2 % of mothers of died children had chronic somatic diseases before pregnancy.
- Dependence of low viability of children which were born at the women having complications in labours is proved. Thus, complications in labours had 77,5 % of the women who have lost their infant babies: labours complicated with a bleeding, long waterless period.
- Infants, born from young mothers and mothers over 35 years old had very high rate of syndrome of respiratory distress syndrom, asfixia and hypoxia, congenital anomalies.
- Matched case-control study showed that children who were born from young mothers, died in early neonatal period. Children who have been born at women over 35 years old - in postneonatal period.
- dependence of infant mortality level on education of mother, her social status and medical-organization factors, such as availability and quality of medical aid to woman and her child was confirmed.
- The close interrelation between life ability of infant babies and nutrition is established - the risk of lethal outcomes is higher at babies on artificial feeding ( $p < 0,05$ ). And, life ability of babies is considerably reduced at early (till 3 months of a life) translation from breast feeding to artificial ( $p < 0,05$ ).

# Conclusions.

- **Infant mortality rate in the Arkhangelsk region is quickly reduced against death rate of adult population. However, it remains higher, than in Western Europe. In 2001 (2001-15,8 ‰, 2002 - 12,4 ‰, 2003 - 12,4 ‰, 2004- 10,1 ‰)**
- **Causes of infant mortality remains stable for many years. On the first place there are conditions of perinatal period and still increase, on the second - congenital anomalies. Respiratory causes ranked fourth.**
- **Given multifactorial aetiology of infant mortality there is no single intervention that can reduce all of its components; therefore international experience from other settings may be of value in reduction of infant mortality from certain causes**
- **However, all potential interventions have to be adjusted to Russian realities.**