Trends of Cervix Uteri Cancer Incidence Rates in Kazakhstan

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Introduction

Nowadays there a lot of works, confirming problem multifactorness of oncological sickness rate, manifesting both on endogenic and exogenic levels. Indexes of this incidence, as its structure, significantly depend on climate geographical conditions, ethnic composition, population's life style and other factors, which is evidenced by many years research of oncological sickness rate of the population of 24 regions of the world, stated in the work "Cancer on five continents", and also other works of foreign and native authors. Malignant new formations of Cervix Uteri Cancer (CUC) are remained one of the undecided problem in oncology. CUC takes a leader place in the world at the structure of malignant new formations at females, and sickness rate in the dynamics grows. This picture is observed also in Kazakhstan. This problem is particularly interesting from the epidemiological point of view. This research is devoted to the dynamics study of CUC incidence in Kazakhstan.

Materials and Methods

Research is retrospective during 1999-2008 years. Data of the Kazakh research institute of oncology and radiology is served as materials of investigation, concerning CUC. Data about number of female population of the statistics Agency of the Republic of Kazakhstan was used.

Extensive, age, crude (CR) and standardized (World standard, WS) indexes of BC incidence were calculated according to the general methods of medical biological statistics. Dynamics of incidence indexes was studied for the 10 years. Average annual significances (M) , average mistake (m), 95% confidence interval (95% CI), average annual growth tempos (T_g, %) were determined.

Results

11,333 patients with CUC were registered in the republic during 1999-2008. Specific gravity of patients with CUC had unimodal character of growth with peak at 40-49 years (26.8%) in the republic according to age groups. Middle age of patients with Cervix Uteri Cancer for the studied period composed 52.9±0.4 years and in the dynamics had a tendency to the decrease from 55.1±0.6 years (1999) till 51.3±0.5 years in 2008. Above indicated tendency ($T_g=-0.4$) was marked in equalization of these indexes. Therefore, CUC often became to reveal at females of young age, i.e. has a displacement to the side of «rejuvenation».
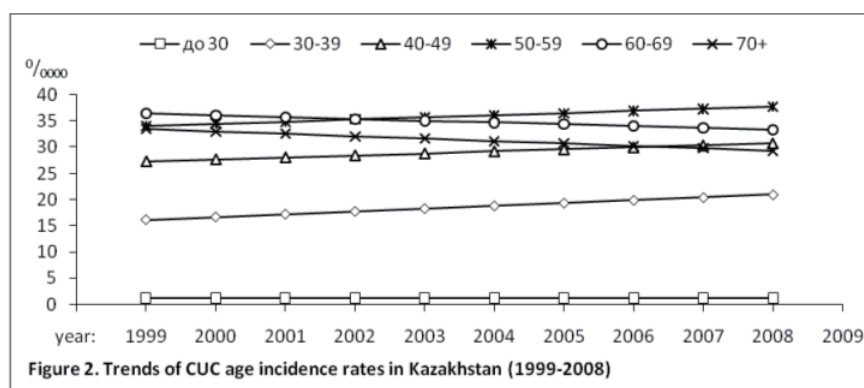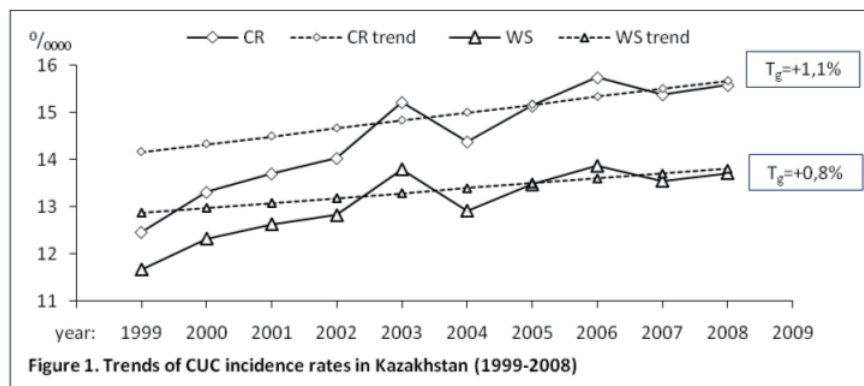
Average annual crude rate of CUC incidence composed $14.5\pm0.3^0/_{0000}$ (95% CI=13.8-15.2$^0/_{0000}$). In the dynamics crude rate of CUC incidence has grown from $12.5\pm0.4^0/_{0000}$ (1999) till $15.6\pm0.4^0/_{0000}$ in 2008. Equalized indexes also had a tendency to the growth, and average annual tempo growth composed $T_g=+1.1\%$ (Figure 1).

Standardized index (WS) of CUC incidence for the studied period composed $13.1\pm0.2^0/_{0000}$ (95% CI=12.6-13.5$^0/_{0000}$). In the dynamics standardized index (WS) of CUC Incidence has grown from $11.7\pm0.4^0/_{0000}$ (1999) till $13.7\pm0.4^0/_{0000}$ in 2008. Equalized indexes also had a tendency to the growth, and average annual tempo growth composed $T_g=+0.8\%$ (Figure 1).

Average annual age indexes of CUC incidence at female inhabitants of the Kazakhstan had a unimodal growth with peak at the age 60-69 years – $35.8\pm0.9^0/_{0000}$.

Trends of CUC incidence at females at different age groups allow to estimate and characterize general growth tendency or incidence indexes decrease. Thus, tendency to the growth was established in following age groups: till

30 years (T_g=+0.2%), 30-39 years (T_g=+3.0%), 40-49 years (T_g=+1.3%) and 50-59 years (T_g=+1.1%) (Figure 2). The decrease was established in older age groups: 60-69 years (T_g=−1.4%) and 70 years and older (T_g=−1.5%). Thus, general growth of CUC Incidence at total female population of the republic is conditioned by the growth of

Figure 1. Trends of CUC incidence rates in Kazakhstan (1999-2008)

Figure 2. Trends of CUC age incidence rates in Kazakhstan (1999-2008)

incidence indexes till 60 years.

Conclusions

1. CUC in Kazakhstan has a tendency to the «rejuvenation». Middle age of patients composed 52.9±0.4 years.
2. Average annual CUC incidence in the republic composed: crude rate 14.5±0.3$^0/_{0000}$ and standardized index (WS) – 13.1±0.2$^0/_{0000}$, and in the dynamics the indexes had a tendency to the growth (T_g=+1.1% и T_g=+0.8% accordingly).
3. Higher index of CUC incidence is established in the age group 60-69 years (35.8±0.9$^0/_{0000}$).
4. Higher trend of incidence at female inhabitants of the republic is established at persons of 30-39 years (T_g=+3.0%). The decrease is established in the age group older than 60 years.