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Regional aspects of incidence diseases of pancreas in Kazakhstan

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Summary Slide

Background. Diseases of pancreas (DP) have great impact on quality of life, risk of developing cancer of pancreas. The incidence of acute pancreatitis ranges from 13 to 45 per 100,000 population-years and that of chronic pancreatitis ranges from 5 to 12 per 100,000 population-years worldwide.

Aim. To study DP incidence age trends in Kazakhstan in 2008-2017.

Methods. The retrospective study covered the data of the Ministry of Health of the Republic of Kazakhstan for 2008-2017 – the annual form No.12 related to the new cases of DP (ICD 10 – K85-K86). Descriptive and analytical methods of medical and biologic statistics were used to define annual averages (P , ‰_{0000}), mean error (m), 95% confidential interval (95% CI), annual average aligned increase/decrease (T , $\%$). The alignment was made according to the formula: $y=a+bx$.

Research Results

In the study period, 203,449 new cases of DP were registered. The annual average crude incidence rate of DP in Kazakhstan amounted to 119.9 (95% CI=101.0-138.8) per 100,000 total population. Over time, the crude rate increased from $95.6 \pm 0.8^{0/0000}$ (95% CI=94.1-97.1) in 2008 to $194.5 \pm 1.0^{0/0000}$ (95% CI=192.5-196.6) in 2017, with a statistically significant difference ($R^2=0.7524$). The aligned index was also growing, with an annual average rate of $T=+9.5\%$.

Then, we reviewed the regional trends in the DP incidence.

Research Results

South Kazakhstan (T=+29.7%; R²=0.648; P=156.6⁰/₀₀₀₀)

Pavlodar (T=+12.7%; R²=0.5899; P=120.7⁰/₀₀₀₀)

Almaty city (T=+11.7%; R²=0.6034; P=216.5⁰/₀₀₀₀)

Kyzylorda (T=+11.1%; R²=0.6783; P=30.4⁰/₀₀₀₀)

Zhambyl (T=+11.0%; R²=0.6745; P=116.5⁰/₀₀₀₀)

East Kazakhstan (T=+9.0%; R²=0.5819; P=126.6⁰/₀₀₀₀)

Atyrau (T=+7.8%; R²=0.6406; P=42.0⁰/₀₀₀₀)

North Kazakhstan (T=+7.5%; R²=0.7775; P=101.1⁰/₀₀₀₀)

Mangistau (T=+6.4%; R²=0.4333; P=217.3⁰/₀₀₀₀)

West Kazakhstan (T=+4.9%; R²=0.4416; P=21.5⁰/₀₀₀₀)

Almaty (T=+3.6%; R²=0.4927; P=135.6⁰/₀₀₀₀)

Aktobe (T=+3.3%; R²=0.6597; P=50.3⁰/₀₀₀₀)

Kostanay (T=+2.8%; R²=0.038; P=69.4⁰/₀₀₀₀)

Astana city (T=+2.3%; R²=0.226; P=145.1⁰/₀₀₀₀)



Akmola (T=-1.0%; R²=0.0598; P=99.2⁰/₀₀₀₀)

Karaganda (T=-7.7%; R²=0.4296; P=73.5⁰/₀₀₀₀)

Conclusions

Trends of rates DP incidence are growing in all regions except for **Akmola** and **Karaganda** regions. Sharply increased indicators in **South Kazakhstan** require special attention. Accurate information about the burden of pancreatitis from different regions is valuable for policy makers to decrease its burden.