

# Trend Analysis of Leukemia Mortality and Years of Life Lost (YLL) from 2004 to 2019 in the Fars Province, Iran

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## Abstract

**Background:** Although the incidence of leukemia's is not high, many of these cancers lead to death over a short period. This is a cross-sectional study on leukemia deaths in southern Iran.

**Methods:** All deaths due to leukemia in the Fars province were obtained from the population-based electronic death registration system (EDRS). Crude and age-standardized mortality rate (ASMR), YLL, and YLL rate data were calculated, and joinpoint regression was used to examine the trend.

**Results:** Totally, 3141 deaths from leukemia occurred in the Fars province during the study period (2004-2019). Of these, 61.5% (1933 cases) pertained to men. The crude mortality rate was 6.1 (95% CI: 5.8 to 6.4) in men and 3.9 (95% CI: 3.7 to 4.2) in women. Also, ASMR was 6.6 (95% CI: 6.3 to 6.9) and 4.2 (95% CI: 4.0 to 4.4) in men and women, respectively. The total YLLs due to leukemia were 32804 in men and 23064 in women. The joinpoint regression analysis demonstrated that the trend of YLL rate due to premature mortality was stable: the annual percent change (APC) was -1.2% (95% CI: -2.5 to 0.2, P=0.090) for males, and -1.0% (95% CI: -2.9 to 0.9, P=0.274) for females.

**Conclusion:** The mortality and YLL due to leukemia had a stable trend. However, this trend has been decreasing or increasing in some age groups. Determining and controlling essential risk factors, especially the environmental factors of leukemia, may reduce its burden in the Fars province.

**Keywords:** Iran, Joinpoint regression, Leukemia, Mortality rate, Years of life lost