

# Burden of Chronic Kidney Disease in Türkiye

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**Background:** The increasing prevalence of chronic kidney diseases (CKD) has serious implications for health outcomes. Globally, it is estimated that 1 in 20 people have CKD. Globally, 1.4 million (95% CI: 1.3-1.5) people died in 2019 from CKD, and CKD was among the 11th leading causes of death worldwide. The aim of this study is to analyze the chronic kidney disease burden of economic and disease in Türkiye.

**Methods:** The data used for this study were extracted from the GBD 2019 study. We analyzed age-standardised mortality rates, years of life lost (YLL) due to premature death, years lived with disability (YLD) and disability-adjusted life years (DALY), as well as the percentage of change of these indicators between 1990 and 2019. In this study, the human capital approach was used to financially evaluate premature deaths caused by chronic kidney disease and life years lost due to disability.

**Results:** It was determined that the burden of chronic kidney disease in Türkiye decreased by 34% in 2019 compared to 1990. CKD burden is higher in women. The monetary value of the years of life lost due to DALY caused by chronic kidney disease was determined as 904.812,969 US\$ (95% CI: 616.745.782-1.270.831.277). The monetary value of life years lost due to DALY caused by chronic kidney disease was determined as 0.12% (95% CI: 0.08-0.17) in GDP.

Figure 1. Trend Analysis of Chronic Kidney Disease Burden in Turkey

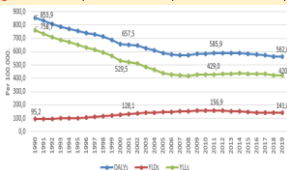


Figure 2. Number of CKD Burden in Turkey by Age and Gender, 2019

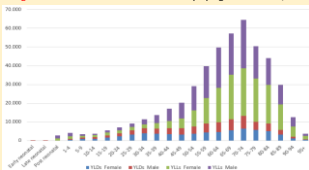


Table 1. Change in Disease Burden of CKD Causes in Turkey (%)

Sub-Diseases Causing CKD	1990	2019	Change %
CKD due to DM type 1	0,08 (0,05-0,12)	0,11 (0,08-0,16)	37,5
CKD due to DM type 2	0,35 (0,26-0,48)	0,7 (0,56-0,86)	100,0
CKD due to glomerulonephritis	0,14 (0,11-0,18)	0,19 (0,15-0,24)	35,7
CKD due to hypertension	0,32 (0,24-0,44)	0,67 (0,53-0,83)	109,4
CKD due to other and unspecified cause	0,63 (0,52-0,76)	0,76 (0,64-0,91)	20,6
CKD Total	1,52 (1,32-1,84)	2,45 (2,12-2,77)	61,2

Table 2. DALY Economic Burden of Chronic Kidney Disease in Turkey

Causes of CKD	Economic Value of DALYs (US\$)			E. Value of DALYs as %GDP		
	Value	Lower	Upper	Value	Lower	Upper
CKD due to DM type 1	112.313.147	67.729.457	174.436.037	0,01	0,01	0,02
CKD due to DM type 2	149.522.022	91.422.788	218.659.667	0,02	0,01	0,03
CKD due to glomerulonephritis	144.282.405	94.582.047	206.101.135	0,02	0,01	0,03
CKD due to hypertension	162.761.418	112.940.843	230.693.354	0,02	0,01	0,03
CKD due to other and unspecified cause	335.933.977	250.070.648	440.941.084	0,04	0,03	0,06
Total	904.812.969	616.745.782	1.270.831.277	0,12	0,08	0,17

**Conclusion:** Diabetes, high blood pressure, and glomerulonephritis are among the most important causes of chronic kidney disease burden in Türkiye. With this study, it was determined that more than half of CKD deaths in Turkey, as well as worldwide, were caused by diabetes and hypertension. Among the factors affecting the burden of chronic kidney disease, it is seen that there are problems such as different exposure to risk factors, insufficient healthcare financing, and access to health services. In order to reduce the burden of CKD disease, it is necessary to increase access to health services, use new health technologies, and develop cost-effective health reforms and health policies.

**References:** Sağlık Bakanlığı (2023). Cost Effectiveness Analysis of End Stage Renal Failure Treatment Options, Unpublished Health Technology Assessment Report.