

Years Lived with Disability Changes in Five Income Level Countries During 2000 to 2015

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**Background:** The years lived with disability (YLD) is a critical health index for quantifying burden of disease that can be effected by prevalence of multiple sclerosis (MS) and life expectancy (LE) index.

**Methods:** Based on epi-visualization interactive tool, we could explore data inputs and epidemiological estimates from the GBD 2015 project to assess MS. We compared A-st YLD changes during 2000–2015 according to MS prevalence and LE among five income-level countries by organizing into hierarchy levels 3.

**Results:** Among five income regions, highest A-st YLD rate in 2000 and 2015 was for high-income countries (2000: 23.65 and 2015: 25.86; 9.36% change rate (CR)); also, they had the highest MS prevalence (2000: 71.92/100,000 and 2015: 78.72/100,000). Low-income countries had the lowest MS prevalence (2000: 6.59/100,000 and 2015: 7.14/100,000) and A-st YLD rate (2000: 2.31 and 2015: 2.5; 8.1% CR), and the same trend was seen between MS prevalence and A-st YLD rate in high- to middle-income region and the opposite in low–middle and middle-income countries. A-st YLD rate decreased in middle- to high-income countries (-6.06% CR; 2000: 5.87, 2015: 5.52) and increased in others with the highest change in low- to middle-income countries (9.57% CR; 2000: 4.08, 2015: 4.47). A-st YLD rate changes in middle-income countries was 6.76% (2000: 3.54, 2015: 3.78) and in Iran as a country with middle to high income was -8.72% (2000: 14.95, 2015: 13.65). LE percent changes reversely related to income of the countries (low-income LE% change = 16.28% to 4.61% in high-income countries). It decreased A-st YLD rate in all regions by nearly the same trend of A-st YLD percent changes, and again middle- to high-income countries had the most decrease in A-st YLD (11.91% CR).

**Conclusion:** Increase in LE CR had decreasing effect on A-st YLD changes in the nearly same order in all regions. YLD rate changes were related to MS prevalence changes' trend in all regions except low–middle and middle income in which after adjusting YLD rate by prevalence, the differences of A-st YLD rate changes between middle-, high–middle and high-income countries decreased. The effect of MS prevalence on A-st YLD changes rate was more than life expectancy among different income regions.