BACKGROUND
Almost two-thirds of the adult population in Texas has at least one chronic condition/risk factor that compromises quality of life. Improving quality of life is recognized as one of the foundation health measures by Healthy People 2020. The Centers for Disease Control and Prevention (CDC) developed a measure calculating the number of unhealthy days to assess health-related quality of life (HRQoL).

OBJECTIVE
This study aims to explore the impact of chronic diseases/risk factors on HRQoL and measure the number of unhealthy days associated with multiple chronic diseases/risk factors.

METHODS
• Data from 2011 Texas Behavioral Risk Factor Surveillance System’s survey were analyzed. The survey included the following questions related to HRQoL:
  1. Would you say that in general your health is excellent, very good, good, fair or poor? 
  2. Now thinking about your physical health, which includes physical illness and injury, how many days during the past 30 days was your physical health not good? 
  3. Now thinking about your mental health, which includes stress, depression, and problems with emotions, how many days during the past 30 days was your mental health not good? 
  4. During the past 30 days, approximately how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation? 

The summary index of unhealthy days was calculated using CDC’s method by combining the number of physical and mental unhealthy days.

A logical maximum of 30 days was applied to the measure. The survey included questions on whether the respondents were diagnosed with the chronic diseases by a doctor or other healthcare professional:
- cardiovascular diseases any type of cancer
- arthritis
- depression
- respiratory diseases (Current Asthma or Chronic Obstructive Pulmonary Disease)
- diabetes (type 1 or 2)
- kidney disease

RESULTS
In 2011, about 7 in 10 adults (70%) had at least one chronic condition out of 11 listed earlier; 40% had one or two and 30% had three or more chronic conditions.

Approximately 40% of adults with three or more chronic diseases reported having fair or poor general health while 6% of the adults without any chronic diseases reported the same (Chi-square P-value: <0.0001).

Age-adjusted mean number of physical unhealthy days were more than 6 times higher (8.4 days) among adults with three or more chronic diseases as compared to adults without any chronic conditions (1.3 days), P value: <0.0001.

Age-adjusted mean number of mental unhealthy days were more than 4 times higher (7.6 days) among adults with three or more chronic diseases as compared to adults without any chronic conditions (1.7 days), P value: <0.0001.

Age-adjusted mean average total number of unhealthy days for adults with no chronic conditions (P value: < 0.0001).

Mean number of unhealthy days were higher among females, adults who have less than high school education, adults with less than $25,000 household income per year and adults who did not have insurance.

Adults who had depression, kidney disease, disability, cardiovascular disease (CVD) or respiratory diseases experienced approximately 2 weeks or more unhealthy days a month.

CONCLUSION
The presence of multiple chronic conditions is associated with poorer HRQoL and has a major impact on time spent in an unhealthy state. Major losses of productivity at the population level may be related to the amount of time spent in an unhealthy state.

Public health strategies should be used to improve disease self-management for individuals with multiple conditions and risk factors that are linked to chronic conditions.

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