Introduction

Disability-adjusted life years (DALYs) and quality-adjusted life years (QALYs) are two measurements commonly used in healthcare evaluations. They both combine measurements of mortality and morbidity into a single numerical unit.

In order to calculate DALYs, premature death is combined with morbidity by assigning a weight to different states of health. For example, a value of 0 is used to represent death, while a value of 1 represents full health. This value is then multiplied by the duration a person spends in that state of health to provide the total number of DALYs for a health profile.

QALYs incorporate an age-weighting function, which assigns lower weights to the young and higher weights to the elderly. Therefore, the two measures, while similar, are not interchangeable. For example, DALYs incorporate an age-weighting function, which assigns lower weights to the young and higher weights to the elderly. However, for diseases that are characterized by a combination of mortality and morbidity, and quality of life weights differ significantly.

As a result, differences between the DALY and QALY where disease burden is accounted for, may arise.

Results

The use of QALYs and DALYs in trials conducted in China and Thailand

120 studies were included in China, of which 82 reported DALY and 38 reported QALY. 43 studies were included for Thailand (DALY: 36; QALY: 7) (Figure 2).

Of trials reporting DALYs, 70.5-6% of Chinese and 80.8-1% of Thai trials focused on non-communicable and non-communicable diseases in China (Figure 3).

Data on disease burden were obtained from the World Health Organization’s (WHO) ‘Mortality and Burden of Disease database for WHO Member States in 2004’ database.

Discussion

The results from the review trend identified in the PubMed search suggest that the DALY was the predictor of choice for publications in China and Thailand. While the DALY is used equally for communicable and non-communicable diseases in China, it is used predominantly for non-communicable diseases in Thailand. Thus, while the most appropriate use of DALYs and QALYs is for non-communicable disease, there may be a tendency to use QALYs preferentially in economic assessments; thereby limiting the usefulness of the DALY as a measure to assess disease burden.

Conclusion

While it is clear that the DALY is used most frequently for non-communicable diseases, the most appropriate use of the DALY is unclear. As a result the factors that make the DALY use age-adjusting, consideration of average age of death and age at which death occurs territory for which the DALY is used most frequently for non-communicable diseases. The DALY is used most frequently for non-communicable diseases, the most appropriate use of the DALY is unclear. As a result the factors that make the DALY use age-adjusting, consideration of average age of death and age at which death occurs territory for which the DALY is used most frequently for non-communicable diseases.