

The impact of COVID-19 on life expectancy among different socioeconomic groups in Denmark

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Background

In 2020, Denmark was one of the few countries to not experience a decrease in life expectancy, but saw a small loss in 2021. COVID-19 mortality is associated with socioeconomic factors, and we hypothesize that subgroups of the Danish population experienced changes in life expectancy in 2020 and 2021 that differ from the country overall. We aim to quantify life expectancy in Denmark in 2020 and 2021 by socioeconomic status, and compare it with recent trends in life expectancy (2014-2019).

Methods

We use Danish registries from 2014-2020 and included all individuals aged 30+. We classified individuals into socioeconomic groups using education and income variables. We calculated period life tables by year and sex for each group. From these, we retrieved life expectancy estimates at ages 30 and 60 by year, sex, and socioeconomic status. Finally, we calculated the difference in life expectancy from 2020-2019 and compared it with the average one-year changes from 2014-2019.

Results

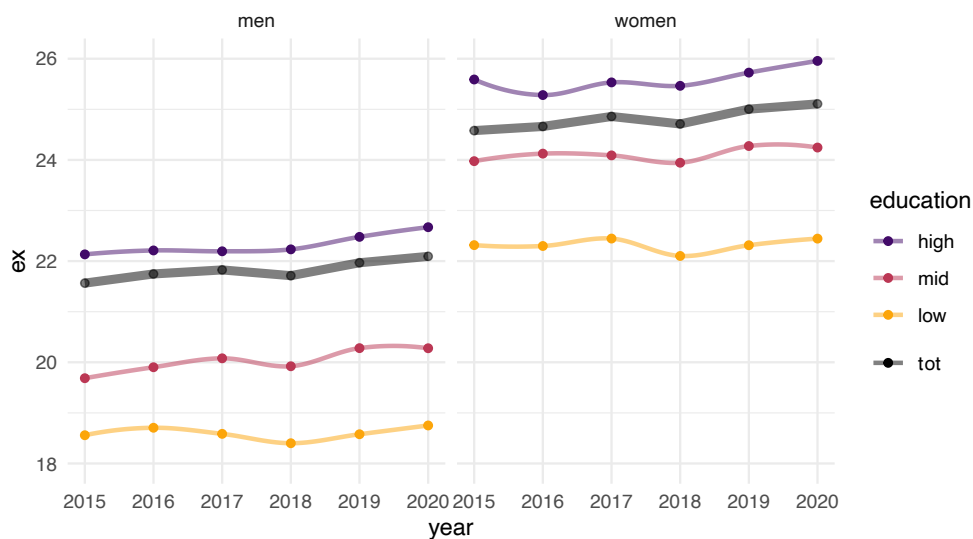
Remaining life expectancy at age 60 increased from 2015-2020 overall, surpassing 22 years for men and 25 years for women (Figure 1). The higher socioeconomic group had almost 23 years (men) and 26 years (women) of remaining life expectancy in 2020, compared to around 19 years (men) and 22 years (women) for the lower socioeconomic group. Men of low socioeconomic status did not experience the same mortality improvement in the pre-pandemic years compared to the middle or high groups. However, in 2020, mortality among those of low socioeconomic status improved, while that of the middle group did not.

There are three important observations seen in Figure 2: mortality for the high socioeconomic group improved more in 2020 than 2019; mortality for the middle group improved from 2015-2019, but not in 2020; and mortality for the low socioeconomic group did not improve from 2015-2019, but did in 2020.

Conclusion

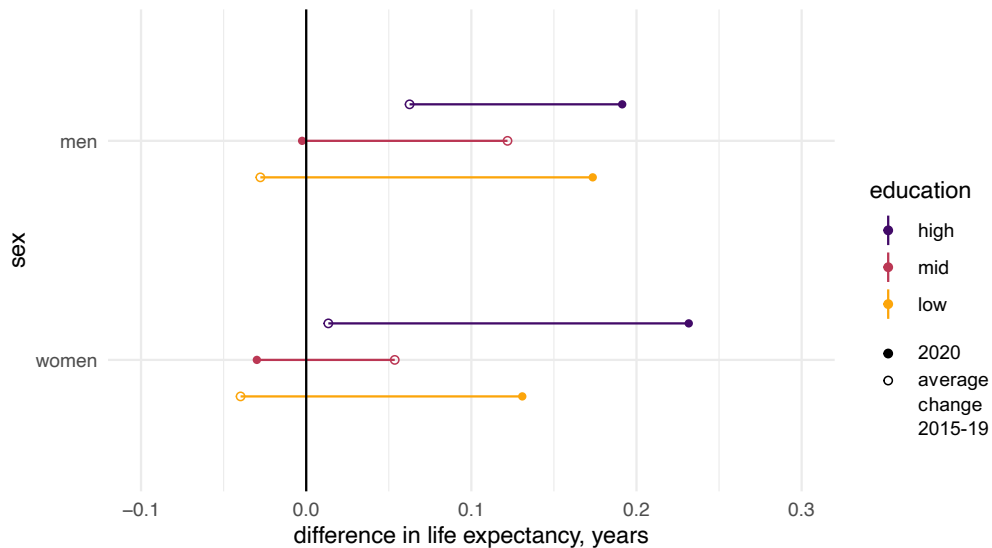
This study reveals how different groups within the same population were affected by the COVID-19 pandemic. We contribute to the discussion on mortality inequalities among socioeconomic groups in the Nordic countries.

Figure 1. Life expectancy at age 60 by sex and educational attainment in Denmark. Years 2015-2020



Note. Educational attainment is defined according to the International Standard Classification of Education (ISCED): low (less than high school), mid (high school), and high (university diploma)

Figure 2. Difference in life expectancy at age 60 by sex and educational attainment. Years 2020-2019 and average yearly change between 2014 and 2019



Note. Educational attainment is defined according to the International Standard Classification of Education (ISCED): low (less than high school), mid (high school), and high (university diploma)