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Commentary

Effects of non-pharmaceutical interventions against COVID-19 on the incidence of other diseases

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The COVID-19 pandemic has resulted in unprecedented challenges to health systems globally. Most countries – including Germany – have implemented mitigation strategies, comprising non-pharmaceutical interventions (NPIs) (e.g. face masking, physical distancing, restrictions of movement and social gatherings). They were combined with testing, contact tracing and isolation/quarantine interventions as well as repeated lockdowns with varying intensity and resolve [1–4].

Besides their benefit for pandemic control, NPIs can also have harmful direct and indirect effects [5]. These include interrupted or delayed access to health care, which has consequences for prevention and treatment of acute and chronic diseases, even more so in low- and middle-income countries with weak health systems than in high-income countries [6]. Hospital admissions for heart diseases, for example, decreased sharply during the pandemic waves in Europe and the USA, while it is feared that the burden of major infectious diseases such as HIV/AIDS, tuberculosis and malaria may dramatically increase in endemic countries [7–10]. The psycho-social effects of prolonged NPIs leads to an increase in mental diseases and of domestic violence [11,12]. Negative effects on the economy are associated with increasing unemployment, inequity, poverty and social disruption [6], all determinants of poor health.

The pandemic response may also elicit positive health effects, however. They have so far been attributed to reduced environmental pollution, fewer road traffic accidents, and a lower incidence of acute respiratory infection (ARI) [13–16].

In this issue of *The Lancet Regional Health Europe*, Djin-Ye Oh and colleagues [17] as well as Alexander Ullrich and colleagues [18] present findings on the effects of NPIs against COVID-19 on the incidence of other diseases in Germany in 2020, using data from sources such as the German national ARI Sentinel and notifiable disease registration. Oh et al. [17] compared ARI incidence in the time before, during

and after the implementation of NPIs and in the three previous years. They showed a strong and sustained decline in the incidence of respiratory diseases, in particular influenza and measles. The only exception were rhinoviruses, which rebounded mainly in children after the reopening of schools beyond pre- COVID levels. Still, the overall effect of COVID-related NPIs on viral ARIs was overwhelmingly beneficial. Based on the analysis of notifiable infectious diseases in Germany during the week 2020–10 to 2020–32 compared to the same time period in the previous four years, Ullrich and colleagues [18] confirmed significant reduction in ARIs but also in a wide range of other infectious diseases such as gastrointestinal, vector-borne, as well as health-care associated and sexually transmitted diseases. Out of 32 notifiable diseases, only tick-borne encephalitis increased, reflecting an upward trend since the year 2000 [19]. The authors of these two studies conclude that NPIs substantially reduce overall infectious disease incidence, and that such public health interventions might even be beneficial for non-COVID-19 control strategies in the future, e. g. during seasons with known high ARI incidence.

Oh et al. [17] and Ullrich et al. [18] make substantial additions to the growing evidence that NPIs are a powerful public health tool. Their studies are based on different data sets, which increases methodological strength. Both studies have outliers such as rhinovirus infections and tick-borne encephalitis that are not fully plausible and warrant further investigations. Although NPIs have been shown to primarily produce harmful collateral effects on health [7, 20–22], the studies highlight that the assessment of the health impacts needs to include also indirect positive effects. Current public debates (as well as demagogic provocations of right-wing parties) call for a “return to normality”, i.e., stopping NPIs as soon as possible. The findings of Oh et al. [17] and Ullrich et al. [18] convey a substantially different message: Even in non-pandemic time periods, elements from the NPI portfolio such as face masks and distance keeping in crowded public settings, as well as improved hand hygiene, will not only help to reduce the risk of future pandemics. They will also convey immediate benefits in terms of health and well-being for populations worldwide. These benefits should not be overlooked in the very understandable call for ending NPIs.

Contributors

All authors contributed equally to the conceptualization, the writing, reviewing and the approval of the final version of the paper.

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Declaration of interests

Authors declare no competing interests

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