

# Impact of lockdown on patients with severe hemophilia A during the Covid-19 pandemic in Germany on therapy and bleeding rates based on Real-life-data from smart medication

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## Introduction

With the start of the lockdown in Germany on March 22, 2020, the population radically changed its mobility and leisure behavior. Sports and leisure activities were discontinued, vacation trips were no longer possible, and general mobility declined drastically due to contact restrictions. The question under investigation was whether patients with severe hemophilia A (PwSHA) have changed their prophylaxis treatment behavior and did bleeding rates change due to the lockdown. In particular, has prophylaxis frequency of injections, bleeding rate (ABR) and joint bleeding rate (AJBR) or total factor consumption changed with the lockdown? Furthermore, are age-related changes in adolescents, young adults, or adult patients visible?

## Method

Injection frequency, factor consumption, annual bleeding rate (ABR) and annual joint bleeding rate (AJBR) were evaluated retrospectively across various centres. Included were 177 patients with at least 12 weeks documentation before and 12 weeks after lockdown. Only patients with a prophylaxis frequency of at least once a week and therapy with EHL, SHL or plasmatic factor were considered.

## Results

Injection frequency changed non-significantly and only slightly with lockdown from 2.95 days to 3.03 days ( $p=0.052$ ). Factor consumption decreased non-significantly slightly from 292.751 I.U. to 286.634 I.U. ( $p=0.125$ ). By contrast, both ABR decreased significantly from 3.55 to 2.84 (-20%,  $p=0.005$ ) and AJBR decreased significantly from 1.42 to 0.78 (-45%;  $p=0.007$  AJBR). The decrease in AJBR was more pronounced in adults (> 30 years) with -50% than in young adults (18-30 years) with -40% and children with -33%.



## Conclusion

Real-life data documentation by using electronic diary smart medication and analysis across various centres shows that neither injection frequency nor factor consumption changed with the lockdown started in Germany on March 22., 2020. However, bleeding rate and in particular joint bleeding rate were significantly lower compared to the period before lockdown started.

Fig. 1: Decrease of ABR and AJBR during Lockdown in Germany due to mobility limitations.  
Mobility data and map: Covid-19 Mobility Project, <https://www.covid-19-mobility.org/>.

