PRESS RELEASE

**Risk Factors for a Severe Course of**

**COVID-19 in People with Diabetes**

**People with diabetes are at increased risk of developing a severe course of COVID-19 compared to people without diabetes. The question to be answered is whether all people with diabetes have an increased risk of severe COVID-19, or whether specific risk factors can also be identified within this group. A new study by DZD researchers has now focused precisely on this question and gained relevant insights.**

**Düsseldorf (DDZ) –** The COVID-19 pandemic poses unprecedented challenges to science and the health sector. While in some people with a SARS-CoV-2 infection the disease is hardly noticeable, in others it is much more severe and sometimes fatal. So far, knowledge about the course of a COVID-19 disease is still quite meager. However, diabetes has increasingly emerged as one of the risk factors determining the severity of the disease. Several studies on diabetes and SARS-CoV-2 have already observed an approximately two- to threefold increase in mortality due to COVID-19 in people with diabetes compared to people without diabetes. This makes it all the more important to conduct studies that examine the risk factors of people with diabetes for severe COVID-19 disease in more detail.

A new study of the German Diabetes Center, partner of the DZD, led by Dr. Sabrina Schlesinger, head of the junior research group Systematic Reviews at the Institute for Biometrics and Epidemiology, therefore examined the risk phenotypes of diabetes and their possible association with the severity of COVID-19. In their meta-analysis, the researchers combined the results from 22 published studies, so that a total of more than 17,500 people with diabetes and confirmed SARS-CoV-2 infection were included in this study. For individuals with diabetes and SARS-CoV-2 infection, male sex, older age (>65 years), high blood glucose levels (at the time of hospital admission), chronic treatment with insulin, and existing concomitant diseases (such as cardiovascular disease or kidney disease) were identified as risk factors for a severe COVID-19 course. On the other hand, the results showed that chronic metformin treatment was associated with a reduced risk of a severe course of COVID-19.

"This current systematic review and meta-analysis describes within the high-risk group, namely diabetes mellitus, those individuals with the highest risk of a severe COVID-19 course," said Professor Michael Roden, scientific director and board member of the German Diabetes Center. "These results will help to classify individuals with diabetes even better in order to improve their therapy and mitigate the course."

The risk factors identified in the study – i.e. older persons, usually male, with comorbidities of diabetes and chronic insulin treatment – can thus be seen as indicators of diabetes severity or overall poor health. "However, some results, especially on diabetes-specific factors such as type or duration of diabetes and further treatments, are still imprecisely assessed and the significance is low. In order to strengthen the significance, further primary studies are needed that examine these specific risk factors and consider other relevant influencing factors in their analysis," said Dr. Schlesinger. Her research team is therefore already working on a next version of this review: "This review presents the current study situation and will be updated regularly as long as new findings on this topic are available," said Dr. Schlesinger.

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**Ansprechpartner am DDZ für weitere Fragen ist:**

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