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Suicide risk reduction associate with participation in an evidence-based digital mental health intervention targeting depression and anxiety.

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Suicide is of critical public health importance. While research has focused on whether interventions targeting depression can also lead to reduction in suicide, less is known about whether digital mental health (DMH) interventions targeting depression could be associated with changes in suicide risk. The current preregistered intent-to-treat study examined the reduction in suicide ideation, suicide attempts and death by suicide associated with participation in a therapist-supported, evidence-based DMH intervention that targets patients with depressive and/or anxiety symptoms. Real world data were collected using the ninth item of the Patient Health Questionnaire-9 (PHQ-9) assessing suicidal ideation (SI) from 985 Meru Health Program (MHP) patients. We used multilevel modeling to examine the impact of treatment week on SI, Friedman's Test to examine SI differences up to 6 months post-treatment, and calculations reported by Simon and colleagues (2013) to estimate reduction in suicidal attempts and deaths over the course of the 12-week program. Findings indicated that patients reporting SI significantly decreased across treatment and remained stable up to 6-months post-treatment. Results indicated an estimated 30.49% reduction in suicide attempts and death by suicide across treatment. Number needed to treat (NNT) estimates for end-of-treatment analyses revealed that one suicide attempt would be prevented for every 438 patients and one death by suicide would be prevented for every 5841 patients enrolled in the MHP. Limitations include false identification of suicidal ideation based on the PHQ-9. Significant reductions in digital mental health interventions might have untapped potential as facilitators of suicide prevention.