

BrighterSide® – a self-guided app for suicidal ideation

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Introduction

- Those with suicidal ideation (SI) are 10x more likely to make a suicide attempt [1].
- Digital health interventions are accessible, anonymous, and effective tool to reduce the severity of SI[2], but there are few targeting SI that have been rigorously tested in RCTs.
- One exception is *Living With Deadly Thoughts*, an English adaptation of an online self-help Dutch program[3]. While the Dutch program found a small but significant reduction in SI, the English adaptation did not. This may be due to differences in power calculations or sample characteristics (e.g. SI severity), amongst others.
- Furthermore, programs that are available typically lack lived experience involvement in the design of these interventions.
- We developed BrighterSide, a self-guided app based on a mix of CBT and DBT, amongst other approaches.

Hypotheses:

- Participants who have access to BrighterSide would demonstrate significantly lower SI at 6 weeks and 12 weeks post-baseline when compared to a waitlist control group.
- Participants who have access to BrighterSide will report fewer incidents of self-harm and suicide attempts at 6 weeks and 12 weeks post-baseline compared to a waitlist control group.

Method

- Participants* were recruited via the community and were eligible to join if aged 18–65, had experienced SI within the past 2 weeks and had a smartphone

Method cont.

Participants were randomized 1:1 between the intervention group and a waitlist control group.

- BrighterSide* was derived from *Living with Deadly Thoughts*, but content was enhanced through a multidisciplinary team of lived experience advisors, clinicians, researchers, designers and developers. The app contained five self-guided modules, each with interactive activities:
 - Understand your thoughts*
 - Prevent a crisis*
 - Navigate your emotions*
 - Plan for the future*

It also included distraction and calming activities (e.g. Bubble Pop), a daily check-in feature, and a safety plan.

Results (N = 549)

Hypothesis 1: While there was a significant effect of time, $p < .001$, there was a non-sig effect of group, $p = 0.99$, and a non-sig interaction between BrighterSide and control groups, $p = 0.99$

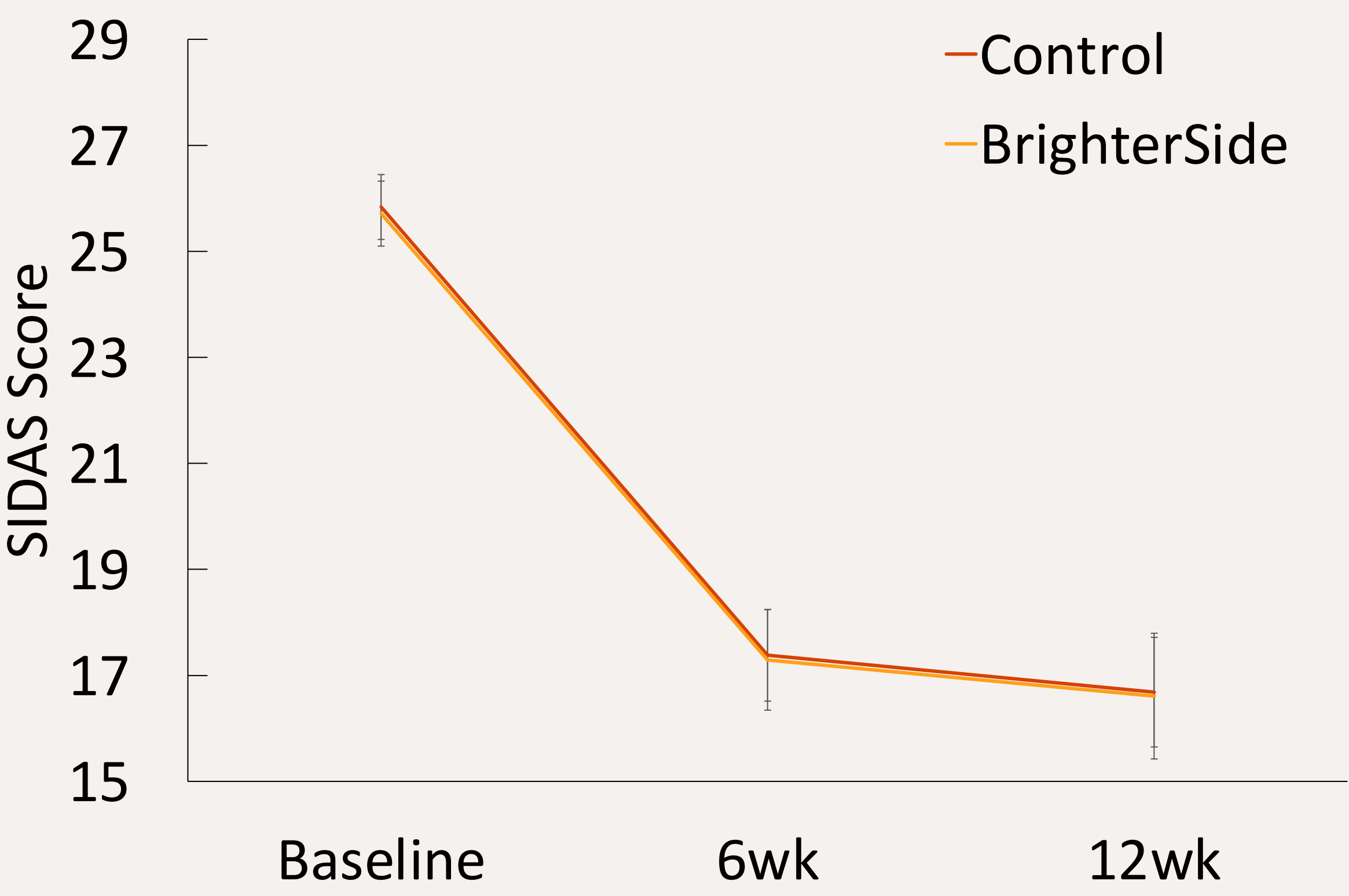


Figure 1. Suicidal ideation (SIDAS) scores by group at baseline, 6 weeks and 12 weeks. Error bars represents +/- 1 standard error of the mean.

Hypothesis 2: There was no significant difference between groups in the frequency or self-harm incidents or suicide attempts at either 6 weeks or 12 weeks.

	6 weeks			12 weeks		
	BrighterSide	Control	p	BrighterSide	Control	p
Recent SH	36	39	0.478	27	31	0.328
Recent SA	6	7	1.000	1	5	0.403

Table 1: Frequencies and p-values for Chi Sq between BrighterSide and control groups for self-harm (SA) and suicide attempts (SA) at 6 weeks and 12 weeks.

Secondary outcomes - Psychological distress. A significant interaction effect was found between group and time for psychological distress measured on the DQ-5 scale, $p=.03$

Results cont.

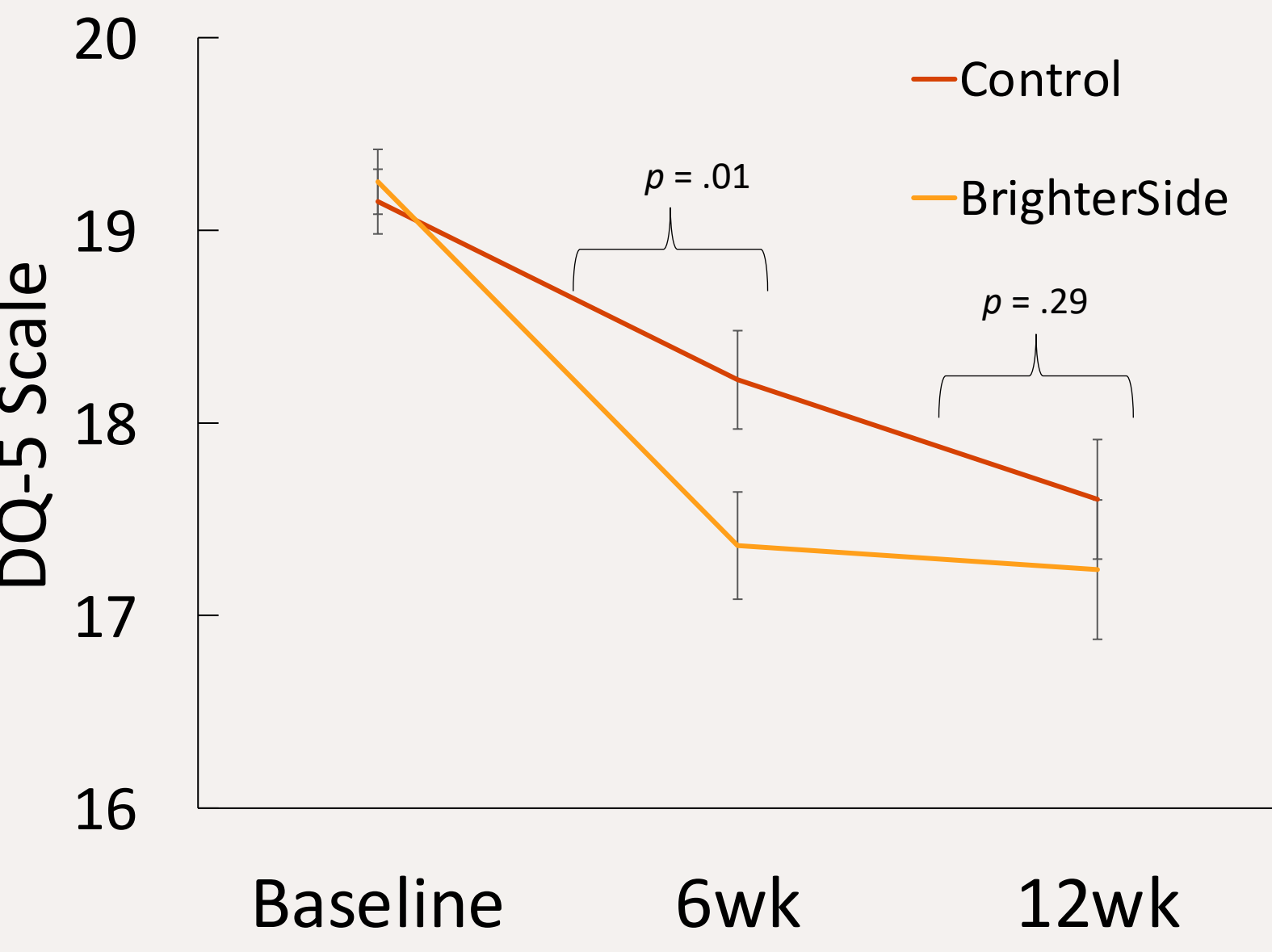


Figure 2. Psychological Distress (DQ-5) scores by group at baseline, 6 weeks and 12 weeks. Error bars represent +/- 1 standard error of the mean.

Why did we not see a significant difference for those in the BrighterSide group?

- Only 68% of participants in the intervention group actually downloaded the app, and even fewer engaged with more than one activity in the app:
 - 41% of the intervention group *engaged* with one or more of activities in the first module
 - 24% for the second
 - 23% for the third
 - 16% for the fourth
 - a slight upturn for the final module, with 19%.

Conclusions

- While SI decreased for all participants over the course of the study, there was no significant difference for those who had access to BrighterSide. This was also true for SH and SA.
- Psychological distress did decrease faster with those that had access to the app.
- Engagement was very low, suggesting that those who had access to the app did not receive the actual powered intervention.
 - Is the app actually helpful for people with SI?
 - Does the content need to be refined to actually address the needs of those with SI?



References

- Nock, M. K., Borges, G., Bromet, E. J., Alonso, J., Angermeyer, M., Beautrais, A., ... & Williams, D. (2008). Cross-national prevalence and risk factors for suicidal ideation, plans and attempts. *The British journal of psychiatry*, 192(2), 98–105.
- Torok, M., Han, J., Baker, S., Werner-Seidler, A., Wong, I., Larsen, M. E., & Christensen, H. (2020). Suicide prevention using self-guided digital interventions: a systematic review and meta-analysis of randomised controlled trials. *The Lancet Digital Health*, 2(1), e25–e36.
- Van Spijker, B. A., Werner-Seidler, A., Batterham, P. J., Mackinnon, A., Caley, A. L., Gosling, J. A., ... & Christensen, H. (2018). Effectiveness of a web-based self-help program for suicidal thinking in an Australian community sample: randomized controlled trial. *Journal of Medical Internet Research*, 20(2), e15.

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