



Reflections on a successful hybrid type 1 diabetes summer camp in China during the COVID-19 pandemic

Dear Editor,

Type 1 diabetes (T1D) summer camps provide a platform for children and adolescents to learn about diabetes and its management in a supportive environment. Attending camps is associated with better glycemic control and improved diabetes self-management skills.¹ Unfortunately, the COVID-19 pandemic made it difficult for youth to attend T1D summer camps worldwide. Telemedicine is increasingly playing a role in care for individuals with T1D, but it is unclear what the best approach is for providing engaging, easy-to-understand diabetes education using these new technologies.

Live broadcast is a popular form of information transmission for youth. In order to extend the reach of the benefits of T1D summer camps during the COVID-19 pandemic, we conducted a hybrid T1D summer camp from 15 to 18 July 2021 in Beijing, China. A total of 200 000 participants took part in the online component of the camp, and 41 families attended the in-person component. The online participants were from all provinces in China, and the families who participated in person were from 13 provinces. Of the in-person participants, 69.7% were juveniles.

The live broadcast was interactive, so online participants could follow all summer camp activities, and they were encouraged to ask questions and share their ideas about diabetes management. The broadcasters included endocrinologists, pediatricians, diabetes educators, nurses, dietitians, and T1D volunteers. The online summer camp included both formal and informal education. The formal part included lectures provided by physicians, nurses, dietitians, and diabetes educators covering T1D self-management skills and topics of interest collected in advance from individuals with T1D. During the informal part, they could follow the broadcasters live during the summer camp and observe how they participated in physical activities, shopping, cooking, eating, and chatting with peers. They could also share their feelings with other online participants and talk freely about the topics they were interested in. They were encouraged to share their

diet, sports activities, and talent show videos on the online platform. In order to encourage them to follow the whole summer camp, an online lucky draw which contained needle free insulin injectors, insulin pumps and other supplies for diabetes care, was performed every 1 to 2 hours during the 4-day camp.

Many online participants shared their personal thoughts with us, with most mentioning words such as “supportive” and “deeply moved.” Previous studies have found that peer support can help alleviate diabetes-related distress and is important for T1D management.^{1,2} Our hybrid summer camp engaged T1D individuals' personal experiences with health care professionals interpreting.

Telemedicine has been widely accepted since the COVID-19 pandemic and has shown some unique characteristics when it comes to caring for those with diabetes.³ How to sufficiently and effectively adopt new online technologies in all aspects of diabetes care remains an open question. Our attempt in holding a hybrid T1D summer camp provided a new idea of performing structured diabetes education based on a summer camp, which is more attractive and emotionally acceptable among those with T1D, especially youth. The live broadcast by experts combined the engagement of reality TV shows with the knowledge of a professional education program. The online community meant that participants were able to get peer support and sympathy from fellow participants. In summary, the hybrid T1D summer camp in China proved to be an effective substitute during the COVID-19 pandemic. We are planning to hold it again next year and possibly even after the COVID-19 pandemic.

ACKNOWLEDGEMENTS

This work was supported by the National Natural Science Foundation of China (81700722, 81970698).

FUNDING INFORMATION

National Natural Science Foundation of China, Grant/Award Numbers: 81970698, 81700722

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**CONFLICT OF INTEREST**

No competing financial interests exist.

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AUTHOR CONTRIBUTIONS

Wei Liu, Xiaoling Cai, and Linong Ji initiated and led the project. Yu Zhu, Mingxia Zhang, Juan Li, Xiangqing Wang, and Linong Ji reviewed and edited the article. Wei Liu, Xiaoling Cai, Yu Zhu, Mingxia Zhang, Juan Li, Chu Lin, and Xiangqing Wang conducted the program under the supervision of Linong Ji.

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