

SUPPLEMENTARY DATA

Supplementary Appendix 1. Semi-structured interview: constructs and interview questions based on Technology Acceptance Model

Methods

The 14 items of the semi-structured interview were selected from the questions adopted by van Bon et al., (2010) by removing items felt to be redundant (e.g., "What kind of training will suit you?"), or inappropriate (e.g., "Are you willing to pay a financial contribution?") to the characteristics of the sample and, after translation, by reducing complex language.

The questions were translated with the assistance of a native English speaker and judged for appropriateness of content by a team of experts, consisting of 2 pediatric diabetologists and three clinical psychologists.

Contents

The interview aimed at evaluating perceived usefulness and its determinants (advantages, disadvantages, impact on health care, relevance of using the AP, image), perceived ease of use (ease of use, perceived self-efficacy of using it), and intention to use and trust in the new system. To assess the impact of using AP on the individual image, two questions were addressed to assess the parents' and children's opinions of teachers and classmates' reactions to AP (item 7-8).

		Items
Overall attitude		1. P/C: Overall, do you like the AP? 2. P/C: If so, what do you like about it?
	Advantages	3. P: What possible advantages do you foresee? C: Do you think that the use of the AP is useful? If so, why?
	Disadvantages	4. P: What possible disadvantages do you foresee? C: Do you think something bad can come from using the PA? If so, what?
	Impact health care	5. P/C: Do you think that the AP decreases the face-to-face visits of the doctor and the nurse?
Perceived usefulness	Relevance of using the AP	6. P: Do you think that the use of the AP will improve glucose control? C: Do you think that the use of the AP will make diabetes easier to control?
	Image	7. P: In your opinion, what the teacher would say if your son/daughter came back to school using the AP? C: In your opinion, what would the teacher say if you came back to school using the AP? 8. P: In your opinion, what would your child's classmates and friends would say if your child used the AP? C: In your opinion, what would your classmates and friends say if you used the AP?

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	Ease of use in general	9.	<i>P/C: Do you think that the AP is easy to use?</i>
Perceived ease of use	Ease of use for others	10.	<i>P/C: Do you think that other patients with diabetes would be able to use the AP?</i>
	Perceived child efficacy of using the AP	11.	<i>P: If the AP were available, then are you confident that your child could use the AP by him or herself? C: If the AP were available when you came back home, would you be confident that you could use the AP by yourself? Or would you need the help of your mother/father?</i>
Trust		12.	<i>P: Do you have confidence in the glucose regulation of the AP? C: Do you have confidence that the AP can control diabetes?</i>
		13.	<i>P/C: Are you willing to share the results of the AP with your doctor or nurse?</i>
Intention to use		14.	<i>P: If the AP were available, then would you be interested in your child's using it? C: If the AP were available when you came back home, would you be interested in using it?</i>

P= parent
C= children

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Supplementary Appendix 2. Diabetes Treatment Satisfaction Questionnaire for parents: adapted items

The DTSQ-parent is a 14-item measure that enables self-reporting by parents of the satisfaction about the current treatment of their children

1. How satisfied are you with your child's current treatment? (i.e. treatment during the past 3 days.)

very satisfied	6	5	4	3	2	1	0	very dissatisfied
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2. How well controlled do you feel your child's diabetes has been lately? (i.e. the past 3 days.)

very well controlled	6	5	4	3	2	1	0	very poorly controlled
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3. How often have you felt that your child's blood sugars have been too high lately? (i.e. the past 3 days.)

most of the time	6	5	4	3	2	1	0	none of the time
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4. How often have you felt that your child's blood sugars have been too low lately? (i.e. the past 3 days.)

most of the time	6	5	4	3	2	1	0	none of the time
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5. How easy or difficult is your child's diabetes treatment?

very easy	6	5	4	3	2	1	0	very difficult
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6. How flexible is your child's diabetes treatment?

very flexible	6	5	4	3	2	1	0	very inflexible
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7. How satisfied are you with your child's diabetes treatment during the *nursery/school/ college day?

very satisfied	6	5	4	3	2	1	0	very dissatisfied
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**If your child does not attend nursery, school or college, please tick here*
8. How satisfied are you with the way diabetes treatment affects what your child likes doing?

very satisfied	6	5	4	3	2	1	0	very dissatisfied
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9. How satisfied are you with the way your child's treatment is affecting family life?

very satisfied	6	5	4	3	2	1	0	very dissatisfied
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10. How satisfied are you with the way your child's treatment is affecting your own life?

very satisfied	6	5	4	3	2	1	0	very dissatisfied
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11. How satisfied are you with your understanding of your child's treatment? (i.e. the past 3 days.)

very satisfied	6	5	4	3	2	1	0	very dissatisfied
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12. How bothered is your child by any discomfort or pain involved in their present treatment? (i.e. the past 3 days.)

not at all bothered	6	5	4	3	2	1	0	very bothered
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13. How satisfied are you with the support you and your child are getting from nurses, doctors and dietitians in treating your child's diabetes?

very satisfied	6	5	4	3	2	1	0	very dissatisfied
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14. How satisfied would you be for your child to continue with their present form of treatment? (i.e. as used over the past 3 days.)

very satisfied	6	5	4	3	2	1	0	very dissatisfied
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Supplementary Appendix 3. AP Acceptance Questionnaire

The questionnaire, including 15 items measuring intention to use, perceived usefulness, perceived ease of use, and trust in AP, is usually aimed at patients. For this study it was modified to be appropriate for parents.

	For patients	Adapted for parents
1	I would like to use the AP long term	I would like my child use the AP long term
2	I Would like to change at this time my current treatment to the AP	I would like at this time for my child to move from current treatment to the AP
3	The AP will improve my glucose control/HbA1c	The AP will improve my child's glucose control/HbA1
4	The AP will reduce my number of hypoglycemias	The AP will reduce my child's number of hypoglycemias
5	The AP will reduce my number of hyperglycemias	The AP will reduce the number of hyperglycemias in my child
6	By wearing an AP I will have less worries about my diabetes	With the AP I will have worry less about my child's diabetes
7	By using the AP my life will be easier	With the AP my child's life will be easier
8	By using the AP I will spend less time every day on my diabetes	With the AP I will spend less time every day on my child's diabetes
9	People who are important to me (family and friends) will agree that I need to use the AP	People who are important to me (family and friends) will agree that my child needs to use the AP
10	Wearing an AP will make me an example to other people with diabetes	Wearing an AP will make my child an example to other people with diabetes
11	The AP seems easy to use	The AP seems easy to use
12	Wearing a CGM sensor will not hinder me from using the AP	Wearing a CGM sensor will not hinder my child from using the AP
13	I think that I will be able to handle the AP just fine	I think that my child will be able to handle the AP just fine
14	I trust that the AP will administer the right amount of insulin	I am confident that the AP will administer the right amount of insulin
15	I trust the glucose measurements of the AP	I trust the glucose measurements of the AP