FONDAZIONE BRUNO KESSLER
MAGAZINE

Pregnancy and diabetes, safety in an app

May 7, 2019

Developed by Fondazione Bruno Kessler and TrentinoSalute4.0, the App, designed for the constant monitoring of diabetic mothers, has been tested in Trentino for some years

Its name is "**TreC_Diabete**" and it is an application developed by TrentinoSalute4.0 and, in particular, by the ICT Center's E-health Research Unit at Trento-based Fondazione Bruno Kessler, as part of the **TreC – citizen's medical records project**.

At the **Trento Diabetes Center (CAD) of the Province Healthcare System**, the only reference center for the Trentino area for diabetic pregnant women, an experiment is underway that enables the diabetologist to prescribe the App to pregnant women with diabetes. Since 2014, **TreC_Diabete** has been prescribed to more than 26 women, including **23 mothers** who have used it daily from the first weeks of gestation until delivery. The application is also prescribed to selected cases of young people at the onset of their illness and to people living in the valleys, far from the center.

With the aim of reporting on this **health innovation project**, we invited some of these "special" mothers to tell us about their experience. The result was a **video documentary** that was presented on May 5 at the **TrentoFilmFestival** during the meeting "**Mountains and health technologies. Diabetic pregnant women** "(*here the short 8-minute version*). The event was attended by Dr. Tiziana Romanelli, head of the Diabetes Department of the **Trento Province Healthcare System**, the nurses and nutritionist of the Diabetology team of the Trento Diabetes Center, **Katia**, one of the four protagonists of the documentary and **Ileana**, a student from Trento, who was prescribed the App during a particular period of her life.

But why did we call them "special mothers"? For three reasons: the first is that they are mothers with diabetes. The second is that they are mothers who have decided to get involved and agreed to experience new technology first hand. The third reason: these mothers live, with their families, in the mountains and in the valleys of Trentino, far from the center, the city and its comforts.

To make the documentary, which is a summary, a digital fragment of the life of these four women, we traveled a few kilometers around the province last winter. We joined them at **Alba di Canazei** (Fassa Valley), where **Sarah** lives with her husband **Moreno** and their two children, at **Roveda**

(Frassilongo, Mocheni Valley), where we met **Katia and Diego with little Nicolas**. Also, we took our camera to **Comano** (in the Giudicarie Valley) where we met with **Gema** and her newborn son **Diego** and to **Riva del Garda**, where **Lara**, an entrepreneur and mother of two wonderful children, lives.



Dr. Tiziana Romanelli, diabetologist (Trento province Healthcare System)

“For some years” – explains in the **video** **Dr. Tiziana Romanelli** – “an innovative method to follow pregnant women with **type 1 diabetes** is being experimented”. Nurses and doctors monitor patients through an online “**medical dashboard**“. “Here” – Dr. **Romanelli** added – “we prescribe drugs, but we also prescribe this App that **allows us to collect data to check patients’ blood glucose levels on a daily basis** and to keep the diabetes center and the women in touch through a **chat** in order to suggest the best method for blood glucose levels control”. The App can be customized from the medical dashboard according to the needs of each woman. It’s a bit like prescribing doses and how to take a drug. “For us doctors” – **Romanelli** added – “innovation consists precisely in the possibility of prescribing the App for the management of a chronic condition”.



Sarah, a mother from Alba di Canazei (Fassa Valley, Trentino)

Interaction with patients through chat (a WhatsApp of sorts) allowed mothers to feel “reassured” and “in good hands” – said **Sarah**, an English girl who has lived in Val di Fassa, Trentino, for over seven years and is married to Moreno, with whom she has two children, said to our microphones.

Sarah used the App also when, into the sixth month of her second pregnancy, she decided to take a trip to the UK by car to spend her holidays at home. Carrying the tent along in her car, she left the Fassa Valley with her husband Moreno and the little first-born, just one year old. “It was a bit harder to follow the doctor’s instructions as when you travel you can’t always eat properly and monitor your blood sugar at the right time. But since you have to write sown what you eat, you pay more attention. As soon as I found wifi network, I would send the data entered in the app and wait for the response of the diabetes team. Without this App, it would have been impossible to set out on this “wild” trip and go home to see my family “.



Katia, one of the mothers who tried the App

“I’ve been the mother of a little… scamp for two years! When I found out that I was pregnant, Dr. **Romanelli** offered me to join a project “- said **Katia**, from Roveda (Frassilongo, Mocheni Valley), another mother who used the App during her first pregnancy. I thought it was about testing a new insulin pump, a new drug. And instead I was given a cell phone and an application… and I’m not into technology! From there I started the most beautiful trip that I have ever had. I felt at home ”.



Lara, a mother fromRiva del Garda (TN)I

“You always felt as if you were at the clinic. Instead of being hospitalized, you can stay at home and live your life”- said Lara, from Riva del Garda, who used the app with both her children. “By now we are all used to using Apps on mobile phones. This one was developed so that anyone

could understand how it works.”



Gema, another mom who was prescribed theApp

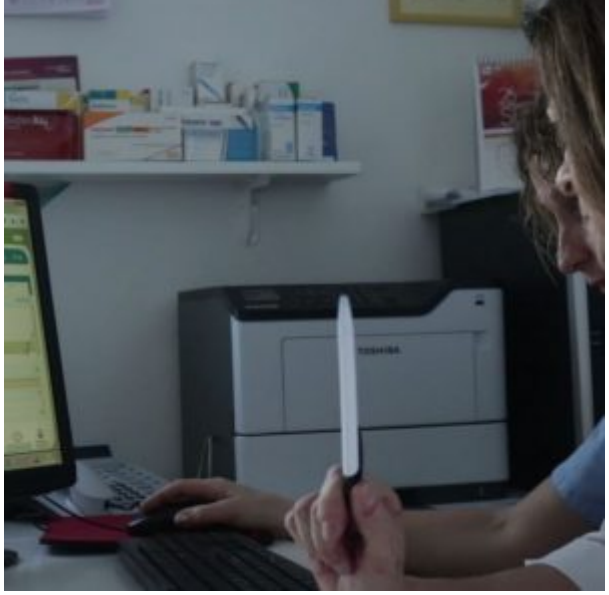
“I liked this experience. Both the doctor and the team were available to help me with anything I needed. Knowing that behind the technology there were professionals ready to help me in case I needed them, made me feel safe” – says **Gema** , Diego’s newly mother who moved fom Spain two years ago and now lives in Comano, in the Giudicarie Valley, in the **video**.

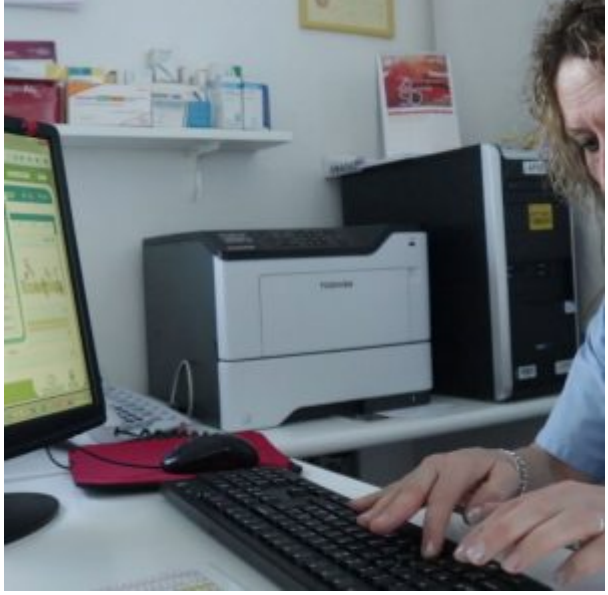
“The artificial intelligence technologies developed at Fondazione Bruno Kessler” – explained **Paolo Traverso**, director of the ICT Center of Trento-based FBK – “allow the construction of systems and applications that interact with people and help them take care of their health”.

During the first trial, the digital diabetes diary was available for **Android** operating system smartphones, while with the new version of the App, **Apple** mobile phones can install it as well.

The innovation, unique in Italy, was featured in a **story by ANSA Italy** on March 15, 2019.

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- [VIDEO PLAYLIST] Per saperne di più sul progetto TreC: https://www.youtube.com/playlist?list=PLkvwdtTEhOkuGlQgBXmTpSWV1neJV2duZ
- Per info su TrentinoSalute4.0: www.trentinosalutedigitale.it
- [VIDEO] MAMME DIABETICHE IN GRAVIDANZA. La sperimentazione della App "TreC_Diabete" in Trentino (8 minuti): https://www.youtube.com/watch?v=OoIsqaGdHng&t=7s
- [AUDIO MP3] Intervista a Radio Dolomiti per il lancio dell'evento (5/5/2019): https://magazine.fbk.eu/wp-content/uploads/2019/05/2019_RadioDolomiti_intervista_per_TFF_5maggio2019.mp3

AUTHORS

- Marzia Lucianer