Periodic Reporting for period 2 - Feel4Diabetes (Developing and implementing a community-based intervention to create a more supportive social and physical environment for lifestyle changes to prevent diabetes in vulnerable families across Europe)

Reporting period: 2016-06-01 to 2017-11-30

Summary of the context and overall objectives of the project

Worldwide, the prevalence of type 2 diabetes has increased, with the highest rates observed among low- and middle-income countries, as well as among certain ethnic groups and low socioeconomic groups in high-income countries. Although the clinical manifestation of type 2 diabetes appears later in life, some of the risk factors and behaviours are developed from childhood. More specifically, the family, the school and community environment play an important role in determining lifestyle habits, behaviours and health indices of all family members. Therefore, any initiative aiming to promote healthy and active lifestyle for the prevention of type 2 diabetes needs to address these aforementioned three components.

A multidisciplinary team of researchers has joined forces to develop, implement and evaluate the Feel4Diabetes-intervention, a school- and community-based intervention for the prevention of type 2 diabetes targeting families in low- and middle-income countries (Bulgaria and Hungary) and in vulnerable populations in high-income countries (Belgium, Finland, Greece and Spain) in Europe over the academic years 2016-2017 and 2017-2018. In total, 11,511 children/families and among them 2,230 high risk for type 2 families were recruited to participate.

More specifically, Feel4Diabetes’ objectives are to:

• Identify the behaviours and their determinants related to risk factors for type 2 diabetes in low/middle-income countries and in vulnerable populations in high-income countries.
• Develop a low-cost, low-resource and tailored-made school and community-based intervention, aiming to create a supportive social and physical environment and promote healthy lifestyle changes for children and their families.
• Identify high-risk families for type 2 diabetes, implement and evaluate the impact, outcome, process, cost-effectiveness and scalability of a 2-years intervention by providing counselling sessions during the 1st year and motivation/support via a mobile application during the 2nd year.
• Disseminate the results of the study and develop recommendations for health policy makers, aiming at embedding the learnings derived from the project into policies and practices on a local, national and international level.

The outcomes of the Feel4Diabetes-study are periodically uploaded on the project website (www.feel4diabetes-study.eu).

Work performed from the beginning of the project to the end of the period covered by the report and main results achieved so far
During the first period of the project, the following studies and tasks were completed by the Feel4Diabetes partners:

1. Two systematic literature reviews were conducted to identify which are the vulnerable groups with regard to type 2 diabetes development and the most important (sub-)behaviours related to risk factors for type 2 diabetes development in vulnerable families.

2. Focus groups with parents, grandparents, teachers and health promotion professionals were executed in the six intervention countries participating in Feel4diabetes to identify the key barriers and facilitators from the social and physical environment which are associated with the (sub-)behaviours related to risk factors for type 2 diabetes development in vulnerable families.

3. Two literature reviews were conducted to identify school-based programs aiming to promote healthy eating and physical activity, with emphasis on socioeconomic position and vulnerable groups and research programs focusing on the identification of adults at high risk for type 2 diabetes and on interventions for the prevention of type 2 diabetes in those high-risk population groups.

4. A local and national Stakeholder Advisory Board, including policy makers, experts on type 2 diabetes, health educators, etc., was established in the six intervention countries participating in Feel4diabetes, along with an international Stakeholder Advisory Board, consisting of international and national policy makers.

5. Two surveys to identify the existing guidelines and policies, as well as the current practices and availability of human resources and infrastructure for the prevention of type 2 diabetes, were conducted in the six intervention countries participating in Feel4diabetes.

6. The questionnaires to be used for the impact and outcome evaluation of the Feel4Diabetes-intervention were developed, along with the relevant databases. Moreover, studies to assess the validity and reliability of the questionnaires and the intra- and inter-observer reliability of the measurements performed by the researchers from the six countries, were conducted.

7. The municipalities/areas in the six intervention countries where the Feel4Diabetes-intervention will take place were identified. Approvals from the relevant local authorities were taken. The recruitment and baseline measurements with the families were started, using common protocols, tools and procedures across the six countries.

8. The intervention material was drafted in English.

9. The tools that will be used to assess the cost-effectiveness of the Feel4Diabetes-intervention were developed.

10. A communication and dissemination plan was set to prepare the ground for disseminating Feel4Diabetes-study’s main outcomes to stakeholders and target groups.

During the second period of the project, the following tasks were completed by the Feel4Diabetes partners:

1. The baseline and 1st follow up measurements were completed and the data retrieved were entered in the relevant databases.

2. The intervention material was finalised in English and further translated and adapted to the local needs of each of the six intervention countries.

3. The 1st year of the Feel4Diabetes-intervention was completed. The 2nd year is under progress.

4. A process evaluation plan and relevant tools, along with their databases, were developed to assess whether the Feel4Diabetes-intervention is implemented as planned.

The key findings of the studies conducted during the first and second period of the project are planned to be disseminated in the next months.

**Progress beyond the state of the art and expected potential impact (including the socio-economic impact and the wider societal implications of the project so far)**

During the first and second period of its implementation, the Feel4Diabetes project made the following progress beyond the state of the art:

- Development of a screening procedure to identify families at high risk for type 2 diabetes: a simple screening algorithm
based on the family adult members’ FINDRISC score was created.

- Identification of the behaviours and their determinants associated with type 2 diabetes risk factors in vulnerable groups: the relevant lifestyle (sub-)behaviours and their determinants were identified via executed systematic reviews and focus groups.
- Record of European and national guidelines relevant to the prevention and treatment of type 2 diabetes and available personnel/infrastructure that could be potentially used in the Feel4Diabetes intervention programme: the relevant guidelines and information on the available personnel and infrastructure were retrieved via a survey conducted specifically for this purpose.
- Identification of local, national and international stakeholders: local/national and international stakeholder advisory boards (SAB) were established in the six participating intervention countries.
- Development, implementation and evaluation of an innovative community-based intervention program: The Feel4Diabetes-project developed an intervention targeting the overall population, as well as high-risk for type 2 diabetes families. Mobile technology and face-to-face sessions are used as a part of the intervention.

**Related information**

![feel4diabetes](feel4diabetes.jpg)

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