



**KERALA
DIABETES
PREVENTION
PROGRAM**

Case Study – Kerala Diabetes Prevention Program

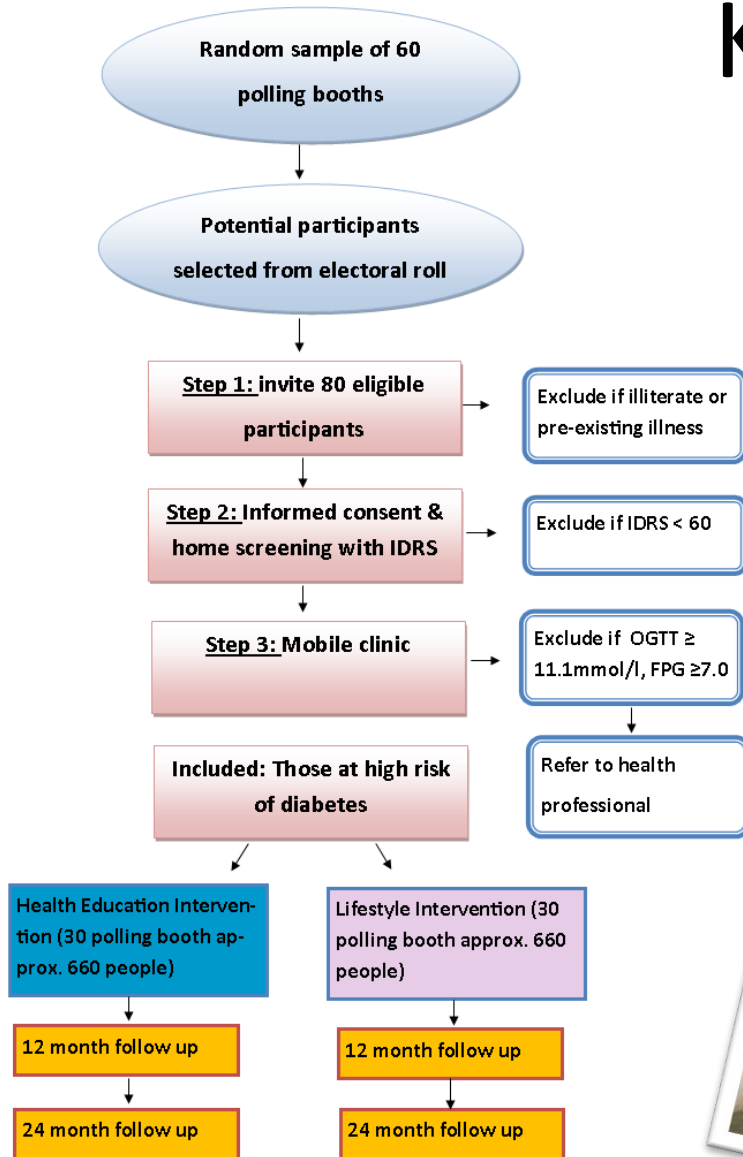
1. What is the implementation challenge that K-DPP is addressing?
2. How big is the diabetes problem in India and the world?
3. What are some of the components of the program and how is the program being delivered?
4. At what level(s) is the program being evaluated?
5. What factors might suggest future program sustainability, spread and/or scalability?

Show video clip and then answer
questions

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KDPP Study design



Sathish et al. BMC Public Health 2013, 13:1035
http://www.biomedcentral.com/1471-2458/13/1035



STUDY PROTOCOL

Open Access

Cluster randomised controlled trial of a peer-led lifestyle intervention program: study protocol for the Kerala diabetes prevention program

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Abstract

Background: India currently has more than 60 million people with Type 2 Diabetes Mellitus (T2DM) and this is predicted to increase by nearly two-thirds by 2030. While management of those with T2DM is important, preventing or delaying the onset of the disease, especially in those individuals at 'high risk' of developing T2DM, is urgently needed, particularly in resource-constrained settings. This paper describes the protocol for a cluster randomised controlled trial of a peer-led lifestyle intervention program to prevent diabetes in Kerala, India.

Design: A total of 60 polling booths are randomised to the intervention and control groups. The intervention is conducted in two steps. Step 1 (Home



RESEARCH ARTICLE

Open Access

Lifestyle change in Kerala, India: needs assessment and planning for a community-based diabetes prevention trial

Meena Daivadanam^{1,2*}, Pilvikki Absetz³, Thirunavukkarasu Sathish⁴, K R Thankappan¹, Edwin B Fisher⁵, Neena Elezabeth Philip¹, Elezabeth Mathews¹ and Brian Oldenburg⁴

Abstract

Background: Type 2 Diabetes Mellitus (T2DM) has become a major public health challenge in India. Factors relevant to the development and implementation of diabetes prevention programmes in resource-constrained countries, such as India, have been under-studied. The purpose of this study is to describe the findings from research aimed at informing the development and evaluation of a Diabetes Prevention Programme in Kerala, India (K-DPP).

Methods: Data were collected from three main sources: (1) a systematic review of key research literature; (2) a review of relevant policy documents; and (3) focus groups conducted among individuals with a high risk of progressing to diabetes. The key findings were then triangulated and synthesised.

Results: Prevalence of risk factors for diabetes is very high and increasing in Kerala. This situation is largely attributable to rapid changes in the lifestyle of people living in this state of India. The findings from the systematic review and focus groups identified many environmental and personal determinants of these unhealthy lifestyle changes, including: less than ideal accessibility to and availability of health services; cultural values and norms; optimistic bias and other misconceptions related to risk; and low expectations regarding one's ability to make lifestyle changes in order to influence health and disease outcomes. On the other hand, there are existing intervention trials conducted in India which suggests that risk reduction is possible. These programmes utilize multi-level strategies including mass media, as well as strategies to enhance community and individual empowerment. India's national programme for the prevention and control of major non-communicable diseases (NCD) also provide a supportive environment for further community-based efforts to prevent diabetes.

Conclusion: These findings provide strong support for undertaking more research into the conduct of community-based diabetes prevention in the rural areas of Kerala. We aim to develop, implement and evaluate a group-based peer support programme that will address cultural and family determinants of lifestyle risks, including family decision-making regarding adoption of healthy dietary and physical activity patterns. Furthermore, we believe that this approach will be feasible, acceptable and effective in these communities; with the potential for scale-up in other parts of India.

Keywords: Diabetes mellitus, Real world intervention, Diabetes prevention, Pre-diabetes

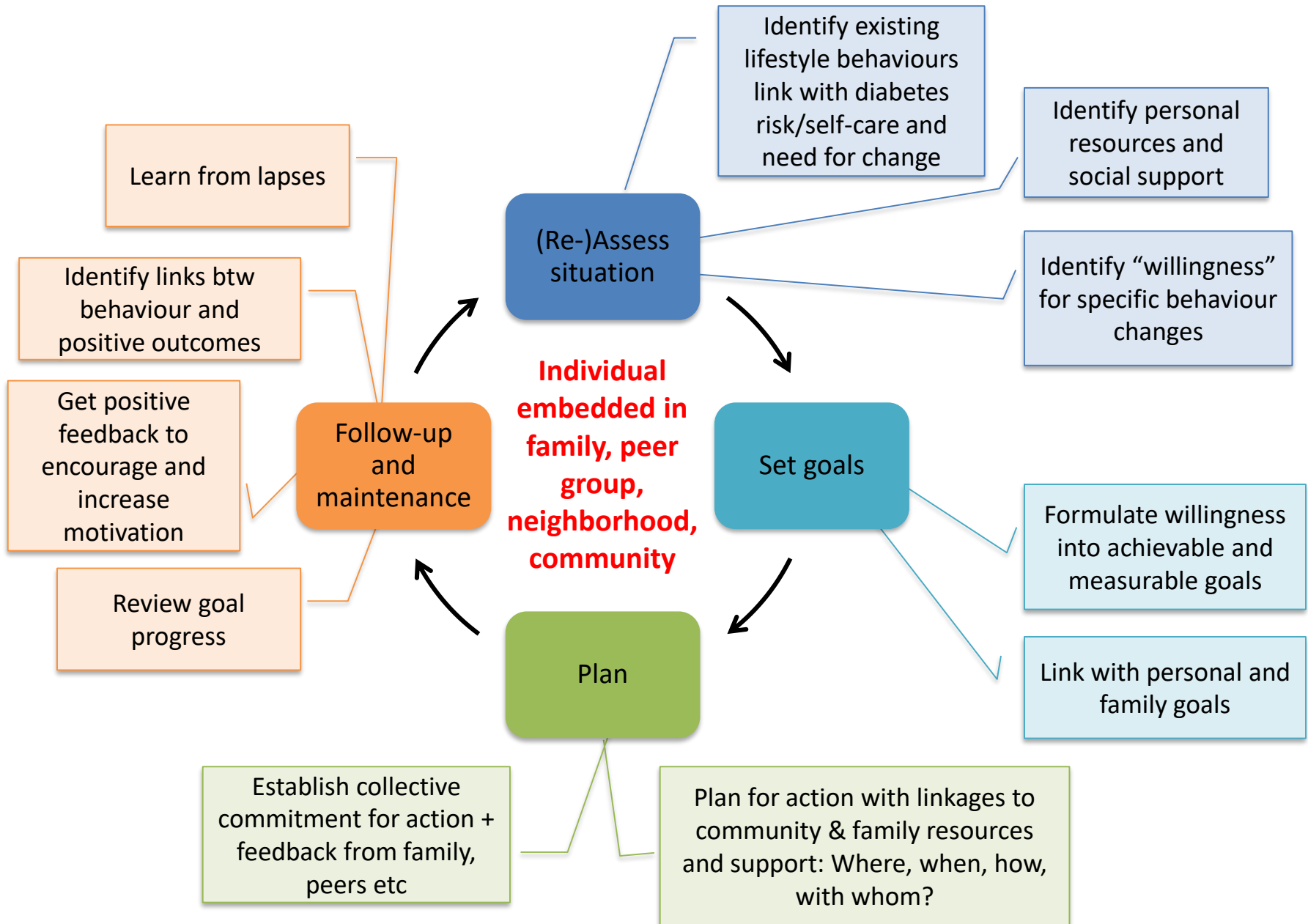


Understand local context

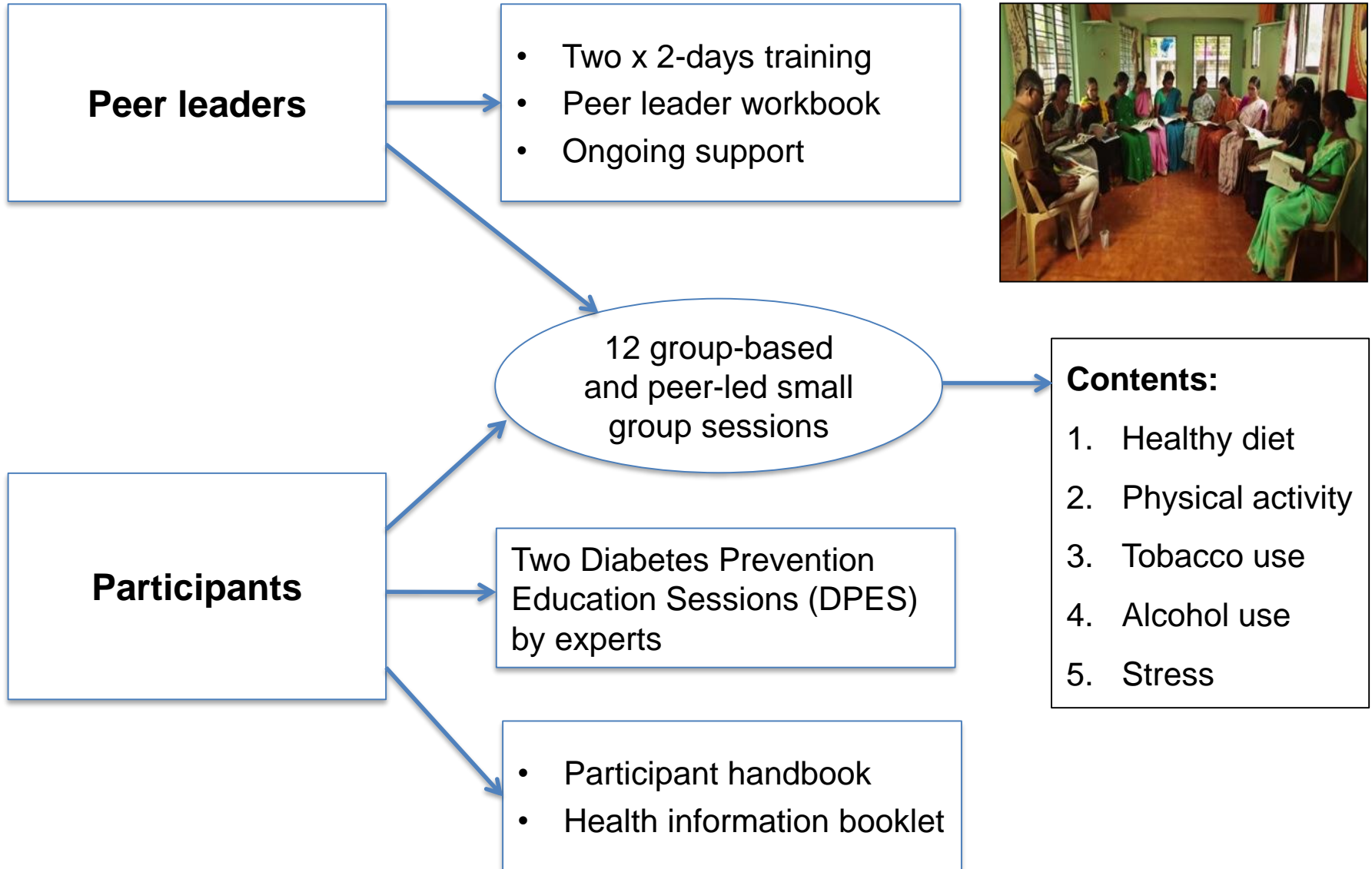
Intervention targets

- Dietary
 - Reduction of sugar-containing food items
 - Reduction of sugar containing beverages
 - Increase in fruit and vegetable consumption
 - Reduction of fatty food items
 - Reduction of rice portion size
- Physical activity
 - Increase amount of physical activity
 - Reduce sitting time
 - Increase amount of incidental exercise
- Alcohol use- no consumption
- Tobacco use- no use

Putting it all together Model for behavior change

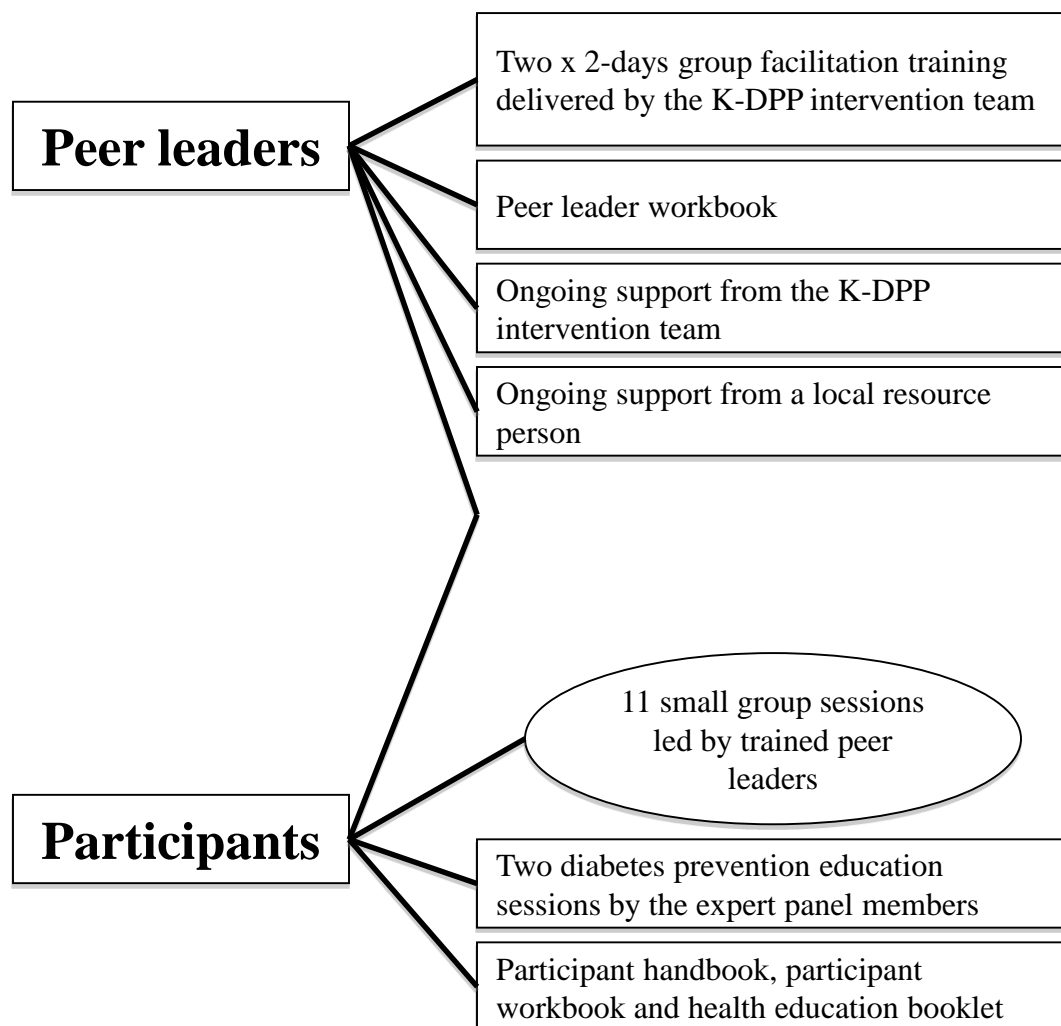


Intervention design for KDPP in India



Intervention components

K-DPP Intervention components



K-DPP Outcomes

Peer leader and Peer group outcomes

- 1 Increased provision of emotional and social support to /within the group
- 2 Increased utilization of community resources by the group
- 3 Increased linkages to social support networks of the group

Participant outcomes

1. Behavioural outcomes

- Improved diet
- Increased physical activity
- Reduced tobacco use
- Reduced alcohol consumption

2. Psychosocial outcomes

- Reduced stress
- Improved quality of life

3. Clinical outcomes

- Reduced blood pressure
- Reduced waist circumference
- Reduced body fat

4. Biochemical outcomes

- Reduced incidence of diabetes
- Improved glycaemic control
- Improved lipid profile

KDPP Intervention flow – An Adaptive Intervention and Delivery







