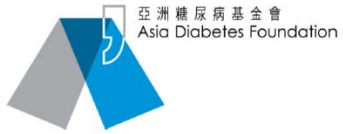
Peer Support, Empowerment, and Remote Communication Linked by Information Technology (PEARL):

A Multi-Component Program to Improve Community-Based Diabetes Care

Juliana Chan, MBChB, MD, FRCP
Department of Medicine and Therapeutics, The Chinese University of Hong Kong
Prince of Wales Hospital, Hong Kong, China

The program is also partially supported by Asia Diabetes Foundation and the International Diabetes Federation Centre of Education at the CUHK and PWH.



In type 2 diabetes mellitus (T2DM), team management using protocols with regular feedback improves clinical outcomes, although suboptimal self-management and psychological distress remain significant challenges. This randomized clinical trial investigated whether frequent contacts via a telephone-based peer support program (PEARL) would improve cardiometabolic risk and health outcomes by enhancing psychological well-being and self-care in patients receiving integrated care implemented through a web-based multicomponent quality improvement program, the Joint Asia Diabetes Evaluation (JADE).

Population & Setting

Adult T2DM patients from 3 publicly funded hospital-based diabetes centers in Hong Kong, China.

Who Are the Peer Supporters?

Motivated T2DM patients with good glycemic control (HbA1c<8.0%) were selected by diabetes educators from 13 hospital-based Diabetes Centers in Hong Kong and invited to join the 'Train the Trainer' program. Out of the 79 patients invited, 59 completed the training; 33 agreed to become peer supporters.

Four Key Functions

Assistance with Diabetes Management in Daily Living

Peer supporters interacted with their patients and shared their experiences of living with diabetes

Social/Emotional Support

Patients were encouraged to call their peer supporters whenever they needed support

Linkages to Care

Patients received reports on their trends of risk factor control and were encouraged to discuss with their health care team or peer supporter any uncertainty or to seek medical advice

Ongoing Support over Time

Peer supporters provided telephone support biweekly for 3 months, monthly for 3 months, every other month for 6 months, plus ad lib meetings and activities by peer supporters and patients

Peer Supporter Training and Quality Assurance

The 'Train the Trainer' program consisted of four 8-hour workshops designed by health care professionals and behavioral scientists and run by neurolinguistic consultants, sports scientists, psychologists, nurses, and physicians. The training format included tutorials, case sharing, reflections, role playing, games, and activities with peer supporters receiving tutorial notes and reference materials. Throughout the sessions, the principles of communication and empathic listening were reinforced and participants were encouraged to share positive experiences to assist their peers in managing diabetes on a day-to-day basis.

All participants underwent a before and after evaluation of diabetes knowledge and psychological-behavioral measures. The 33 participants that agreed to become peer supporters attended an additional 3-hour briefing session led by the project team on the rationale, objectives, and protocol of the study. Peer supporters were reminded to advise patients to seek medical advice for uncertain issues.

All peer supporters were given a booklet on resources (e.g., websites and telephone numbers of community centers, lay associations, and hospital diabetes centers and titles of self-help books) and a 3-month checklist to document the discussion items (diet, exercise, self-monitoring of blood glucose, sick day management, foot care, emotional support, resources for information, and clinical care), duration of each call, and relevant remarks. Peer supporters were asked to mail the completed checklist to the Asia Diabetes Foundation project coordinator, who entered the data and sent new checklists and a stipend to the peer supporters. The physicians, nurses, and project coordinators met all peer supporters on 3 occasions for a half-day meeting to facilitate experience sharing, mutual support, and problem-solving.

TRAINING SUMMARY

Duration: 32 hours

Content:

- Workshop 1: Food & Nutrition
- Workshop 2: Physical Activity
- Workshop 3: Psychology
  - Positive thinking and self-efficacy
  - Problem-solving skills
  - Decision-making skills
  - Stress management
- Workshop 4: Effective Communication
  - Non-judgmental, empathetic, and encouraging interaction
  - Reflective listening and positive affirmations for goal setting

Approach: Lectures, tutorials, role playing, and group sharing

Language: Chinese

PEARL: Peer Support, Empowerment And Remote Communication Linked by Information Technology

PLATINUM: Peer Leaders Accelerated Training Initiative to Unleash Potential of Mentorship

Peer Supporter Roles & Responsibilities

The peer supporter was first introduced to their assigned 10 peers as a group by the nurse educator who explained the what, why and how of a peer support program. After exchanging telephone numbers, the peer supporters were instructed to call their assigned peers (with an anticipated 15 minutes per call) at least 12 times during the 12-month intervention as follows:

- biweekly for 3 months
- monthly for 3 months
- every other month for 6 months

Both peer supporters and peers were encouraged to call one another ad lib. Including 15 minutes of documentation after each call, it was estimated that each peer supporter would spend 60 hours calling their 10 assigned peers including documentation time. Although they were happy to volunteer, all peer supporters were offered a $500 stipend at 80% hourly rate (USD 10).

Unique Features or Strengths

Peer supporters were asked to call each patient 12 times with an anticipated 15 minutes per call, equaling 180 minutes per patient, but the average number of calls was 19 with a call duration of 300 minutes per patient. This demonstrated the patients' high appreciation for peer support. The majority of calls were initiated by peer supporters, and the most popular discussion items were related to diet, self-monitoring of blood glucose, emotional support, and drug compliance. Patients who received more telephone calls had greater improvements in medication compliance and diabetes-related literacy, more stable risk scores, greater reductions in body weight, and reduced hospitalization rates, especially those patients who had psychological distress.

Major Challenges & How They Were Addressed

- **Patient engagement:** Some patients were reluctant to receive calls from peer supporters, despite having given written informed consent, and due to difficulties in understanding or communication, some elderly patients were initially hesitant to share their experiences of living with diabetes. Nurses contacted these patients to explain the purpose of the calls and sought their willingness to share their experiences with peer supporters. This led to patients being more willing to speak with their peer supporters.

LESSONS LEARNED

- It is important that patients attend introductory meetings led by health care professionals and to make sure they are familiar with the nature and details of the intervention protocol
- To ensure smooth implementation and evaluation, it is helpful to have additional staff to serve as liaisons between doctors, nurses, peer supporters, and patients

Key Results & Major Accomplishments

Peer support did not improve cardiometabolic risks or psychological well-being in patients with T2DM receiving integrated care. However, in an exploratory analysis, benefits of peer support were observed in 20% of patients with elevated levels of emotional distress. The hospitalization rate for such patients was 48% for those who participated in JADE and 17% for those who participated in the JADE+PEARL program. Lower hospitalization rates may be attributed to peer support reducing non-adherence and negative emotions of patients. These results suggest that patients with psychological distress may receive the greatest benefit from peer support.

RESOURCES	➢ Site & Intervention Characteristics Please visit www.adf.org.hk and www.idfce-hk.org for more information
PUBLICATIONS	➢ Chan, JC et al. **Effects of telephone-based peer support in patients with type 2 diabetes mellitus receiving integrated care: A randomized clinical trial.** *JAMA Internal Medicine.* 2014 Apr 28. doi: 10.1001/jamainternmed.2014.655 ➢ Ko, GT et al. **From design to implementation--the Joint Asia Diabetes Evaluation (JADE) program: A descriptive report of an electronic web-based diabetes management program.** *BMC Medical Informatics and Decision Making*. 2010;10:26. ➢ Chan, J et al. **The Joint Asia Diabetes Evaluation (JADE) program: A web-based program to translate evidence to clinical practice in type 2 diabetes.** *Diabetic Medicine*. 2009;26:693-699. ➢ Fisher, EB et al**. Co-occurrence of diabetes and depression: Conceptual considerations for an emerging global health challenge**. *Journal of Affective Disorders*. 2012;142 Suppl:S56-66.

FOR MORE INFORMATION, PLEASE CONTACT:

Rebecca Wong, BN, MSc
Nurse Consultant
Diabetes and Endocrine Centre
Prince of Wales Hospital
Shatin, Hong Kong
Email: wongymr@ha.org.hk

Harriet Chung, BN, MSc
Nurse Specialist
Yao Chung Kit Diabetes Assessment Centre
The Chinese University of Hong Kong
Prince of Wales Hospital
Shatin, Hong Kong
Email: harrietchung@cuhk.edu.hk

Juliana CN Chan, MBChB, MD, FRCP
Chair Professor of Medicine and Therapeutics
Department of Medicine and Therapeutics
Prince of Wales Hospital,
The Chinese University of Hong Kong
Shatin, Hong Kong
Email: jchan@cuhk.edu.hk