Peer Education in China

Sun Zi-lin
Institute of Diabetes, Zhongda hospital, Medical School, Southeast University
Nanjing, P. R. China
6 Dec. 2011 Dubai
TOP One
Diabetic Population in China

A Total Diabetes

<table>
<thead>
<tr>
<th>Age (yr)</th>
<th>Men</th>
<th>Women</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 to &lt;30</td>
<td>1.2</td>
<td>3.0</td>
<td>2.6</td>
</tr>
<tr>
<td>30 to &lt;40</td>
<td>5.2</td>
<td>7.3</td>
<td>6.1</td>
</tr>
<tr>
<td>40 to &lt;50</td>
<td>7.3</td>
<td>11.1</td>
<td>9.3</td>
</tr>
<tr>
<td>50 to &lt;60</td>
<td>15.5</td>
<td>18.1</td>
<td>16.8</td>
</tr>
<tr>
<td>60 to &lt;70</td>
<td>20.3</td>
<td>21.8</td>
<td>21.0</td>
</tr>
<tr>
<td>≥70</td>
<td>22.0</td>
<td>22.0</td>
<td>22.0</td>
</tr>
</tbody>
</table>

B Total Diabetes

<table>
<thead>
<tr>
<th>Age (yr)</th>
<th>Crude</th>
<th>Standardized</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 to &lt;30</td>
<td>10.6</td>
<td>10.6</td>
</tr>
<tr>
<td>30 to &lt;40</td>
<td>8.7</td>
<td>8.7</td>
</tr>
<tr>
<td>40 to &lt;50</td>
<td>9.7</td>
<td>9.7</td>
</tr>
<tr>
<td>50 to &lt;60</td>
<td>10.6</td>
<td>10.6</td>
</tr>
<tr>
<td>60 to &lt;70</td>
<td>8.8</td>
<td>8.8</td>
</tr>
<tr>
<td>≥70</td>
<td>9.7</td>
<td>9.7</td>
</tr>
</tbody>
</table>

C Prediabetes

<table>
<thead>
<tr>
<th>Age (yr)</th>
<th>Men</th>
<th>Women</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 to &lt;30</td>
<td>5.7</td>
<td>7.6</td>
<td>6.7</td>
</tr>
<tr>
<td>30 to &lt;40</td>
<td>9.2</td>
<td>12.2</td>
<td>10.7</td>
</tr>
<tr>
<td>40 to &lt;50</td>
<td>17.7</td>
<td>16.0</td>
<td>16.7</td>
</tr>
<tr>
<td>50 to &lt;60</td>
<td>21.1</td>
<td>18.1</td>
<td>19.6</td>
</tr>
<tr>
<td>60 to &lt;70</td>
<td>22.2</td>
<td>24.1</td>
<td>23.2</td>
</tr>
<tr>
<td>≥70</td>
<td>26.4</td>
<td>26.2</td>
<td>26.3</td>
</tr>
</tbody>
</table>

D Prediabetes

<table>
<thead>
<tr>
<th>Age (yr)</th>
<th>Crude</th>
<th>Standardized</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 to &lt;30</td>
<td>14.9</td>
<td>14.9</td>
</tr>
<tr>
<td>30 to &lt;40</td>
<td>15.5</td>
<td>15.5</td>
</tr>
<tr>
<td>40 to &lt;50</td>
<td>16.1</td>
<td>16.1</td>
</tr>
<tr>
<td>50 to &lt;60</td>
<td>15.0</td>
<td>15.0</td>
</tr>
<tr>
<td>60 to &lt;70</td>
<td>15.5</td>
<td>15.5</td>
</tr>
<tr>
<td>≥70</td>
<td>15.5</td>
<td>15.5</td>
</tr>
</tbody>
</table>

92.4 million
a quarter of adults
Abnormal Glucose

148 million

High Rate of Unawareness

- known
- unknown

Education is cornerstone for diabetes prevention and management.
Diabetes Education in China

- Organization: CDS, diabetes education study group
- Educator training
- Guidelines for diabetes education
- Congress
- Research
Full-time DSME School in China

中大医院糖尿病自我管理培训学校
Multidisciplinary diabetes education team

Diabetologist

Chief: Sun Zelin

Physician: Jin Hui

Physician: Wang Yao

Podiatrist: Yang Bingquan

TCM Doctor: Ding Hongming

Dietician: Lu Qing Cong

Sports Therapist: Liu Lili

Nurse Educator: Han Jing

Psychologist: Xu Min
<table>
<thead>
<tr>
<th>时间</th>
<th>星期一</th>
<th>星期二</th>
<th>星期三</th>
<th>星期四</th>
<th>星期五</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30-9:00</td>
<td>入学准备</td>
<td>医生检查和治疗</td>
<td>入学准备</td>
<td>医生检查和治疗</td>
<td>入学准备</td>
</tr>
<tr>
<td>9:00-9:30</td>
<td>入学登记</td>
<td>低血糖的危害，症状</td>
<td>糖尿病慢性</td>
<td>糖尿病足部的防护</td>
<td>糖尿病足部的防护</td>
</tr>
<tr>
<td></td>
<td></td>
<td>并发症的发生</td>
<td>并发症的发生</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:00-10:00</td>
<td>开学典礼</td>
<td>低血糖的发现与急救</td>
<td>慢性并发症重在预防</td>
<td></td>
<td>讨论：如何</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>长期坚持</td>
</tr>
<tr>
<td>10:00-10:30</td>
<td>自我评价</td>
<td>急性高血糖并发症认识</td>
<td>放松自我，</td>
<td>每日足部</td>
<td>学员自我</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>轻松旅游</td>
<td></td>
<td>目标设定</td>
</tr>
<tr>
<td>10:30-11:00</td>
<td>何谓</td>
<td>“糖尿病”</td>
<td>体操，运动</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00-11:30</td>
<td>强化治疗</td>
<td>食物热卡构成和确定</td>
<td>糖尿病治疗常见误区及正确认识</td>
<td>自我设定</td>
<td>强化治疗方案执行监督</td>
</tr>
<tr>
<td></td>
<td>方案介绍</td>
<td></td>
<td></td>
<td>食谱</td>
<td></td>
</tr>
<tr>
<td>11:30-14:00</td>
<td>午餐休息</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:00-14:30</td>
<td>患者心理因素分析</td>
<td>口服降糖药的选择</td>
<td>常用运动方式</td>
<td>胰岛素注射演示</td>
<td>总结（各级医生、营养师、运动师）</td>
</tr>
<tr>
<td>14:30-15:00</td>
<td>与“糖”共舞，战胜“糖凶”</td>
<td>胰岛素及其使用选择</td>
<td>户外运动</td>
<td>胰岛素注射操作</td>
<td>健康咨询</td>
</tr>
<tr>
<td>15:00-15:30</td>
<td>课间活动</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15:30-16:00</td>
<td>营养膳食</td>
<td>糖尿病并发症监测</td>
<td>户外运动</td>
<td>血糖监测指导</td>
<td>节日饮食</td>
</tr>
<tr>
<td></td>
<td>糖尿病并发症监测</td>
<td>户外运动</td>
<td>血糖监测指导</td>
<td>节日饮食</td>
<td>考试（理论和操作）</td>
</tr>
<tr>
<td>16:00-16:50</td>
<td>运动准备</td>
<td>个性化运动方案的设定</td>
<td>户外运动</td>
<td>游戏</td>
<td>水果“自制”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>户外运动</td>
<td>游戏</td>
<td>效果评估，发放证书</td>
</tr>
<tr>
<td>16:50</td>
<td>晚餐活动</td>
<td>会餐（全体学员参与）</td>
<td>晚餐</td>
<td>晚餐</td>
<td>晚餐</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>晚餐</td>
<td>晚餐</td>
<td>出院</td>
</tr>
</tbody>
</table>
Focus on skill training

Give a fish
feed him for a day

Teach him how to fish
feed him for a lifetime
Focus on skill training
Scores of diabetes knowledge

- Control
- Intensive DMSE

*P<0.01
Scores of self-management skill

- Control
- Self Management

**Figure Description:**
- The graph illustrates the scores of self-management skill over different months (0, 3, 6, 12, 24).
- The control group is represented by white bars, and the self-management group is represented by blue bars.
- Significant differences are indicated by symbols: ▲ for P<0.05 and * for P<0.01.

**Legend:**
- ▲: P<0.05
- *: P<0.01
Mean HbA1c (%)
Targeted Rate in HbA1c (<6.5%)
Targeted rate in BMI

Months
0 3 6 12 24

control intensive DMSE

*P<0.01
DSME School

- Increase knowledge
- Improve self-management skills
- Reduce HbA1c
- Increase targeted rate of HbA1c and BMI
Limitation of DSME School

- Educator support
- Time limited
- Resource-intensive
- Expensive
- Number of patients limited
92.4 millions vs 20/week
Other Educator Model?
Other Educator Resource?
Peers - people sharing similar experiences with a disease or condition - can be great sources of support for each other. People with a common condition are able to share knowledge and experiences - including some that many health workers do not have. Peer support refers to the practical, social, and emotional support from a person sharing similar experiences with a disease or condition.
“If the average person with diabetes spends as many as six hours a year in a doctor’s office, that still leaves 8,760 hours “on your own”. That’s where peer support comes in.”

Professor Edwin B. Fisher
Global Director
Advantage of Peer Support

- Patient-led
- Ongoing
- Low to no cost
- Number of patients unlimited
Peer education in China

Applications of PfP

- Breast Cancer
- Drug Addition and Relapse Prevention
- HIV/AIDS
Peer education for DM in China
Peer education for DM in Nanjing

Peer leader screening

Inclusion criteria

• Type-2 diabetic patients from DSME school
• Has good glycemic control ($H_bA_{1c} < 7.5\%$)
• Has plenty of time and willing to help other patients
• Has good communication skills
• Preference given to patients with insulin injection treatment experience
Peer education for DM in Nanjing

Training Program

• 10 peer leaders undergo a 7-day training program
• Training curriculum (5 major modules)
  – Strengthening basic diabetes knowledge
  – Diabetes Education Self-Management Training
  – Skills training
  – Peer leader responsibilities and team management abilities
  – Interactive teaching and learning
Module 1: Strengthening Basic Diabetes Knowledge

- Diabetes diagnosis and control standards
- Diabetes acute, chronic, and complication risks
- Diabetic patients’ nutrition and exercise
- Preventing and addressing hypoglycemia
Module 2: Diabetes Education Self-Management Training

- Diabetes self-management and monitoring
- OTDMS software introduction
- Integrated management of blood sugar monitoring data
- IPAD software introduction
达盈糖尿病远程管理平台系统概述
Peer education for DM in Nanjing

Module 3: Skills Training

• Advancing diabetic patients’ mental well-being
• Behavioral change
• Effective communication methods
Module 4: Peer Leader Responsibilities and Team Management Abilities

- Diabetes educator responsibilities
- Peer leader roles, significance, and responsibilities
- Peer leader performance review and evaluation
- Sense of community among diabetic patients and diffusion of innovation
- Critical steps to begin working in the community
What Peer leader can do?

Peer Support can take many forms:

- Phone calls
- Text messaging
- Group meetings
- Home visits
- Walks together
- Shopping
Peer education for DM in Nanjing

Module 5: Interactive teaching and learning

• Inviting experts for guidance and teaching courses in-person
• Roleplaying exercises
Follow-Up and Evaluation

1. Follow-Up Testing

<table>
<thead>
<tr>
<th>Content</th>
<th>Person Evaluated</th>
<th>Frequency</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-site behavioral guidance observation</td>
<td>Peer leader</td>
<td>Every 3 months</td>
<td>Peer leaders will primarily be providing support, and helping solve problems. Peer leaders will be expected to organize 1-2 activities per month around their communities</td>
</tr>
<tr>
<td>Collection and delivery of patient data</td>
<td>Peer leader</td>
<td>Every 3 months</td>
<td></td>
</tr>
<tr>
<td>Organization of healthy lifestyle activities</td>
<td>Peer leader</td>
<td>Every 3 months</td>
<td></td>
</tr>
<tr>
<td>Diabetes knowledge, hypoglycemia incidence rate</td>
<td>Patient</td>
<td>Every 3 months</td>
<td></td>
</tr>
</tbody>
</table>

Next Step
Peer education for DM in Nanjing
Follow-Up and Evaluation

2. Selecting outstanding peer leaders

Every half year, choose outstanding peer leaders through public appraisal. These individuals will have opportunities to receive continuing diabetes education and to participate in academic exchanges.

Selection criteria: engagement, professionalism, innovation, perseverance, teaching patients self management and behavioral change, patient blood glucose standard achievement rate, etc.
Follow-Up and Evaluation

3. Medical evaluation standards

- Lowered hypoglycemia incidence rate
- Reasonable blood sugar monitoring habits
- Lowered HbA1c levels
- Average blood sugar levels
- Incidence rates of complications
Follow-Up and Evaluation

4. Cognitive-psychological-behavioral assessments

- Self-efficacy
- Summary of Diabetes Self Care Activities (SDSCA)
- Quality of Life – Depression (PHQ-8)
- Quality of Life – Diabetes (DSS-4)
- Process evaluation – perceived availability of peer support by core functions (Fisher)
### Anticipated Outcomes

#### 1. Patients

<table>
<thead>
<tr>
<th>Immediate Outcomes</th>
<th>Short-Term Outcomes</th>
<th>Long-Term Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Increased diabetes knowledge</td>
<td>• Improved control of blood glucose</td>
<td>• Decreased rate of complications</td>
</tr>
<tr>
<td>• Increased blood glucose monitoring rate</td>
<td>• Improved self management ability</td>
<td>• Decreased rate of hospitalizations</td>
</tr>
<tr>
<td>• Increased perception of peer support</td>
<td>• Decreased rate of hypoglycemia</td>
<td>• Decreased medical expenses</td>
</tr>
<tr>
<td>• Increased compliance with medical advice</td>
<td>• Increased HbA1c standard achievement rate</td>
<td>• Decreased mortality rate</td>
</tr>
<tr>
<td></td>
<td>• Increased quality of life and satisfaction</td>
<td></td>
</tr>
</tbody>
</table>
2. Peer Leaders

- Improved mastery of diabetes knowledge
- Ability to cover many patients and communities
- Ability to be a health counselor or program ambassador
- Enhanced self-esteem and value
- More opportunities for exchange including media coverage, academic meetings, etc.
3. Hospital

- Remotely manage patient information
- Relieve strain on the hospital with respect to patient education
- Increase patient compliance with physician prescriptions
Future Peer education for DM in China
Future Peer education for DM in China

Development prospects in China

- Explore appropriate next steps in the dissemination of the peer leader education model
- Provide multiple models of patient education that will make up for the lack of educational resources in the health system
- Promote integration of hospitals and community through the implementation of the peer leader model
- Improve patient self-management ability through the peer leader educational model
China Network of Peers for Progress

- Pharmacy
- Global PfP
- Media
- CDS-DESG
- Hospital
- Community
- Peer Leader
- Peer patients
Future Peer education for DM in China
Acknowledgment

Southeast University
Jin Hui
Ju Chang-ping
Liu Lili
Han Jin
Lu Qingsong
Yang Bingquan

Anhui CDC
Zhong XF

UUIm, Germany
B Boehm

Hong Kong
J Chan
S Au

USA PfP
E Fisher
M Coufal

IDF
JC Mbanya
M McGill

Monash University
B Oldenburg
Meetings for Diabetes education in China

4th ISDEM, 10-12 Aug. 2012, Chengdu
2nd APCDE and 5th ISDEM, 9-11 Aug. 2013, Shanghai?
Thank You