Diabetes Mellitus Complication Screening

- Primary Health Care Nursing Perspectives

Ms. Carol A.L. Wong (RN, MPHC)

Kowloon Central Cluster General Outpatient Clinic

2008/5/15 HA Convention 2008
UKPDS

• Upon diagnosis of type 2 DM
  ➢ 33% HT
  ➢ 22% retinopathy of certain degree
  ➢ 20% microalbuminuria

• Suboptimal DM control
  ➦ deterioration in severity of complications
  ➦ increase morbidity & mortality
Macro-vascular Complications

- Stroke attack
  - Coronary heart disease
  - Peripheral vascular disease
Micro-vascular Complications

- **Diabetic Eye diseases**
  - leading cause of visual impairment
  - glaucoma; cataract
  - retinopathy & maculopathy

- **Diabetic Neuropathy & DM foot**
  - non-traumatic amputation of lower limb

- **Diabetic Nephropathy**
  - leading cause of end-stage renal failure

- **Diabetic Erectile Dysfunction**
High medical cost for Major DM Complications

- Stroke bed
- Leg amputation
- Renal dialysis
- PTCA
- Laser therapy for DM retinopathy
Quality care for DM

- **Prevent** occurrence of DM complications
- **Delay** inevitable occurrence of the complications
- **Decrease damage** from existing complications
Local Clinical Situation

- DM High prevalence rate
- Asymptomatic in suboptimal control
- Non-invasive screening tool available
- Effective intervention available
- Potential gain in quality of life
- Save medical resources in long run
Objectives

- Early detection of DM complications
- Evaluation of level of DM control
- Promote patient self management
  - Increase the awareness of DM complication
  - Empowerment for self management
- Reduce DM related Morbidity / Mortality
- Save the Society Cost in Long-run
DMCS for DM Patients attending KCC GOPCs

LKK YMT CK LM HH
• Target: DM Patients
• Protocol: HA DMCS Protocol
• Annual target: 7,800 cases
• Fee of charge: as SOPC
• Exclusion criteria:
  ➢ Patients with limited lifespan
    (e.g. terminal cancer with diffuse metastasis)
  ➢ Patients with poor cognitive / communication function (e.g. severe dementia)
• Waiting time: 1 – 2 week
Role of Team Member

- Registered Nurse (Project Manager)
  - Preparation, Arrangement & Supervision
  - Foot assessment
  - Digital retinal photo capturing
  - Case assessment, education & counselling
  - Recruit patient to DM Support Group
  - Liaise with FM Specialist
  - Call back & follow up
  - Staff training, statistic & research
Role of Team Member

- **Technical Service Assistant**
  - Specimen collection (blood & urine)
  - Simple Parameter Measurement
    - BP, Pulse, BMI, WHR, VA
  - +/- data entry
Role of Team Member

- **Family Medicine Specialist**
  - Laboratory data analysis
  - Retinal photo interpretation
  - DMCS report synthesis
  - Problem case referral & follow up
  - Professional advice & support in staff training
Workflow & Logistic

- Booking
- Registration
- Specimen Collection
- Parameter Measurement
- Retinal Photo Capturing
- Foot Assessment
- Report synthesis

2008/5/15

HA Convention 2008
**Implementation Phase**

**Phase I**
Dec 05 – Aug 06 (Pilot)

- LKK case only

**Phase II**
Sep 06 – Sep 07

- 15 ~ 21 case /session
- one session per wk
- Extended to 5 GOPCs

- **Personnel training**
- **Logistic design & arrangement**
- **Increase Output in limited manpower**
Implementation Phase

Phase III
Since Oct 07
(Full Implementation)

30 case /session
5 sessions per wk

Full implementation of the project
• Additional manpower
• Support from Administration / Specialist
• Target for whole coverage all DM in KCC
Service Output

DMCS Attendance

Year | Attendance
--- | ---
2005 | 15
2006 | 557
2007 | 1812
2008 (Jan-Apr) | 1584
Total | 2384
Service Output

DMCS Attendance by Clinic
2005-2007

<table>
<thead>
<tr>
<th>Clinic</th>
<th>Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>LKK</td>
<td>867</td>
</tr>
<tr>
<td>HH</td>
<td>481</td>
</tr>
<tr>
<td>CK</td>
<td>470</td>
</tr>
<tr>
<td>YMT</td>
<td>420</td>
</tr>
<tr>
<td>LM</td>
<td>146</td>
</tr>
<tr>
<td>Total</td>
<td>2384</td>
</tr>
</tbody>
</table>
Case Summary

- Maculopathy: 2%
- DMR: 15%
- Cataract: 41%
- Microalbumin: 23%
- FBS > 6: 51%
- HbA1c ≥ 7: 68%
- Cholesterol > 4.5: 68%
- VPT ≥ 25: 10%
- Hypertension ≥ 130/85: 71%
- BMI > 23: 68%
Potential Benefit

• Patient
  ➢ Enhance self awareness
  ➢ Empowerment in self Management
  ➢ Early detection & intervention
  ➢ Improve the quality of life
  ➢ Improved patient satisfaction

• Nurse
  ➢ Professional development & autonomy
  ➢ Job satisfaction
Potential Benefit

Primary Health Care Team work

- Enhance Intrasectoral Collaboration

Contribution to the Community

- Chronic disease management model
- Reduce the medical expenditure
Essence of Success

Establishing a New Service Model

- Entertain high volume of patient
- One Stop Complication Screening
- Comprehensive program
- Quality service in primary sector
- Consistent staff training standard
Conclusion

- Successful in detecting complication
- Provide **timely intervention**
- Increased patient **awareness & empowerment for self care**
- Enhanced **nurse role in DM management**
  → relieving doctor’s heavy workload
Acknowledgement

- Dr. David Chao, CCOS(FM & PHC)/KEC & KCC
- Dr. S C Tiu, CON (MED)/QEH
- Dr. Victor Choi, SMO YMT JCC
- Dr. Ching Kam Wing, FM Specialist / MO i/c LKKC
- Dr. Law Tung Chi, FM Specialist / MO HHC
- Dr. Ng Ying Wai, MO(MED)/QEH
- Ms. Winnie Cheng, NS(MED)/QEH
- Ms. Kathy Cheung, APN (W & UMgt) LKKC & HHC
- Ms. Shirley Hung, APN (W & UMgt) CKHC & LKMD
- Ms. Chan Lai Hung, APN (W & UMgt) YMT JCC

The Retinal Camera was sponsored by S K YEE Medical Foundation 2005
Thank You