Chronic Disease
a Global Challenge:
is it here to stay?

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MOH
Contents

- Magnitude of chronic diseases (diabetes mellitus and hypertension) in Malaysia
- The way forward: WHO Model - Innovative Care for Chronic Conditions
- What are the roles of healthcare providers?
Definition of Chronic Disease

Health problems that require ongoing management over a period of years.

Include

- Non communicable disease – Cardiovascular disease, HPT, DM, cancer, etc
- Long term mental disorders - depression and schizophrenia
- Ongoing impairment - amputation, blindness, joint disorders
- Certain communicable diseases, e.g. TB, HIV/AIDS
Magnitude of Chronic Diseases

- **Global**
  - 60% of global disease burden
  - 50% of them with chronic illness have multiple conditions

- **USA**
  - 133 million people, or almost half of all Americans
  - increase by more than 1% per year

- **Malaysia .......**
CHRONIC DISEASE BURDEN IN MALAYSIA

THE THIRD NATIONAL HEALTH AND MORBIDITY SURVEY 2006

VOLUME II

INSTITUTE FOR PUBLIC HEALTH
NATIONAL INSTITUTES OF HEALTH
MINISTRY OF HEALTH MALAYSIA 2008

National Health & Morbidity Survey (NHMS) III, 2006
Burden of Hypertension, Diabetes & Hyperlipidemias in MALAYSIA

They are very common, poorly controlled in the community, costly to treat and of course deadly.
Prevalence of Major Chronic Diseases 1996 and 2006

Hypertension: 33% (1996), 42.6% (2006)
Diabetes mellitus: 8.3% (1996), 14.9% (2006)
Hyperlipidaemia: 5% (1996), 24% (2006)

National Health Morbidity Surveys II & III
Rising Epidemic of Hypertension

Prevalence of Hypertension in Malaysians aged ≥30 years

1986: 14.4%
1996: 29.9%
2006: 42.6%
2016: ??


Research that matters to patients
Rising Epidemic of DM

Prevalence of Diabetes Mellitus

Yr 1986: 6.3%
Yr 1996: 8.3%
Yr 2006: 14.9%

CRC
Research that matters to patients
Patient Awareness of Major Chronic Diseases

Why so??
Do doctors or other HCP talk to patients?
Do patients given chance to ask doctors or other HCP?

National Health Morbidity Surveys II & III
Proportion of patients who has treatment

- Diabetes mellitus: 59% (1996), 86% (2006)
- Hyperlipidaemia: 54% (1996), 44% (2006)

National Health Morbidity Surveys II & III
Proportion under control

National Health Morbidity Surveys II & III

<table>
<thead>
<tr>
<th>Condition</th>
<th>1996</th>
<th>2006</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypertension</td>
<td>26%</td>
<td>26%</td>
<td>52%</td>
</tr>
<tr>
<td>Diabete mellitus</td>
<td></td>
<td></td>
<td>33%</td>
</tr>
<tr>
<td>Hyperlipidaemia</td>
<td></td>
<td></td>
<td>69%</td>
</tr>
</tbody>
</table>

**Target BP < 140/90 mmHg**  
**Target HbA1C < 7%**  
**Target TC < 5.2 mmol/l**

Complications- end organ damage:
HPT and hyperlipidaemia- stroke, renal impairment, CVS diseases
DM- as above and blindness, amputation
National Medicine Used Survey

1. Cost
2. Why still not under control - Not just taking drug, but healthy life style
3. So what?
Causes of Death - mainly due to chronic diseases

WHO Chronic Disease Report 2005

Projected deaths by major cause and World Bank income group, all ages, 2005

Death fr chronic dis >>>> Dengue, TB, HIV/AIDS
And the price we pay.. **Kidney disease**

Malaysia tops the world in diabetic nephropathy needing dialysis. In 2006, 15,000 patients on dialysis & 2000 kidney transplant (Prevalence 600 on RRT pmp; 120 new RRT pmp)

Source: National Renal Registry & USRDS
The price we pay... ... Eye disease

Among new diabetic patients seen at MOH eye clinic in 2008

- Any DR - 34.6%
- Sight threatening eye disease – 19.4%
- Need laser - 8.7%
- Severe DR - Irreversible blindness
- Need yearly follow-up

Source: Diabetic Eye Registry 2007 National Eye Database
By the time it gets to this,

Diabetic Macular Edema

Advanced Diabetic Eye Disease

it’s already too late
## Prevalence of DM vs. Proportion had Eye Screening, by state

<table>
<thead>
<tr>
<th>State</th>
<th>Proportion with eye examination (%)</th>
<th>Prevalence known DM (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terengganu</td>
<td>31.6</td>
<td>5.7</td>
</tr>
<tr>
<td>Kedah</td>
<td>32.3</td>
<td>9.3</td>
</tr>
<tr>
<td>WP Labuan</td>
<td>37.8</td>
<td>4.8</td>
</tr>
<tr>
<td>Perak</td>
<td>39.4</td>
<td>1.1</td>
</tr>
<tr>
<td>Sarawak</td>
<td>41.1</td>
<td>7.6</td>
</tr>
<tr>
<td>Pahang</td>
<td>44.0</td>
<td>8.1</td>
</tr>
<tr>
<td>Johor</td>
<td>44.5</td>
<td>7.0</td>
</tr>
<tr>
<td>Perlis</td>
<td>45.3</td>
<td>8.0</td>
</tr>
<tr>
<td>Kelantan</td>
<td>45.4</td>
<td>6.8</td>
</tr>
<tr>
<td>Selangor</td>
<td>47.8</td>
<td>8.3</td>
</tr>
<tr>
<td>WPKL</td>
<td>49.2</td>
<td>6.6</td>
</tr>
<tr>
<td>Melaka</td>
<td>51.1</td>
<td>11.4</td>
</tr>
<tr>
<td>P. Pinang</td>
<td>51.4</td>
<td>8.9</td>
</tr>
<tr>
<td>Sabah</td>
<td>55.2</td>
<td>2.4</td>
</tr>
<tr>
<td>N. Sembilan</td>
<td>58.0</td>
<td>8.8</td>
</tr>
<tr>
<td>National</td>
<td>45.0</td>
<td>7.0</td>
</tr>
</tbody>
</table>

Source: National Health Survey NHMS 2006
Can we bridge the gap?

Adv. biomedical knowledge,
Modern technology (drugs, devices etc)
Trained professionals skilled in management of chronic diseases

Control of risk factors in the community & Preventing end organ damage i.e. CVD, CKD, stroke, amputation & blindness
Some countries have shown this can be done.

**Heart disease death rates among men aged 30 years and over, 1950–2002**

**Causes for decrease?**
- **47%** due to treatments, including secondary prevention
- **44%** due to changes in risk factors, including lipids, BP, stop smoking, physical activity
Deficiencies in current healthcare system

1. Attend to acute episodic care and urgent concerns
2. Patients seek medical care only when sick
3. Rushed practitioners not following established practice guidelines
4. Lack of care coordination among healthcare providers
5. Lack of active follow-up to ensure the best outcomes
6. Patients inadequately trained to manage their illnesses

Transform current healthcare system *from a system that is essentially reactive - responding mainly when a person is sick - to one that is proactive and focused on keeping a person as healthy as possible.*

WHO Chronic Care Model focus at the community, organization, practice and patient levels.

http://www.improvingchroniccare.org/
THE CHRONIC CARE MODEL

The Chronic Care Model

Community
Resources and Policies
Self-Management Support

Health Systems
Organization of Health Care
Delivery System Design
Decision Support
Clinical Information Systems

Improved Outcomes
Improving primary care for patients with chronic illness: the chronic care model

## The 6 elements of Chronic Care Model

<table>
<thead>
<tr>
<th>#</th>
<th>Elements</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Health care organization</td>
<td>Goals, values &amp; incentive to care providers must be aligned with payers &amp; MOH</td>
</tr>
<tr>
<td>2</td>
<td>Community resources &amp; policies</td>
<td>Patients &amp; care providers need linkages with community resources like home care, patient education, exercise program, support groups..</td>
</tr>
<tr>
<td>3</td>
<td>Self management support</td>
<td>Enhance patient’s self-management capacity; including acceptance of responsibility for self-care, the self-confidence and know-how (knowledge, skills &amp; tools) required; build quality relationship &amp; communication</td>
</tr>
<tr>
<td>4</td>
<td>Delivery system</td>
<td>Multi-disciplinary practice team with clear division of labour; planned management and visits</td>
</tr>
<tr>
<td>5</td>
<td>Decision support</td>
<td>Evidence based clinical practice; working to protocol, practice oversight and access to specialist expertise</td>
</tr>
<tr>
<td>6</td>
<td>Clinical information system</td>
<td>Computerized system to remind &amp; prompt actions; to support shared care among multiple professionals, to feedback to providers, and to track progress</td>
</tr>
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</table>
Components in Chronic Care Model (1)

1. Multidisciplinary health-care teams

2. Effective clinical information systems

3. Evidence-based decision support tools – Clinical Practice Guidelines

4. Patient self-management support

5. Quality assurance system – Clinical Audit
Components in Chronic Care Model (2)

6. Quality incentives

7. Community resources

8. Universal funding mechanism

9. Well-trained human resources

10. Leadership and advocacy
BRIDGING THE GAP

TRANSLATING

CHRONIC CARE MODEL INTO

CORSFIS

COMMUNITY BASED MULTIPLE RISK FACTORS INTERVENTION STRATEGY

a demonstration project of multidisciplinary chronic disease management in primary care setting
CORFIS 1.0 INTERVENTION

1. Protocol driven care and simplified drug regimen
2. Patient centred healthcare delivery
3. Patient self management capacity
4. Integrated multi-disciplinary team (nurse educator, pharmacist, dietician)
   - Medical nutrition therapy (MNT)
   - Pharmaceutical care
   - Patient education & counselling services on therapeutic lifestyle changes
   - Telephony nurse advisory service (follow-up & empowerment)
   - Specialist Medical advisory service (remote review of screening reports & patient’s disease control)
5. Efficient coordination, communication & information sharing among health professionals & patient through IT application
6. Social support & connection with community resources
7. Incentives – Loan of self-monitoring devices
**Evidence from CORFIS**

<table>
<thead>
<tr>
<th>Treatment goal</th>
<th>CORFIS</th>
<th>Control</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diabetes</strong></td>
<td>HbA$_1^C$ $\leq$ 7%</td>
<td>43%</td>
<td>23%</td>
</tr>
<tr>
<td><strong>Hypertension</strong></td>
<td>BP $&lt;140/90$ mmHg; Or $&lt;130/80$ mmHg if Diabetes or CKD</td>
<td>57%</td>
<td>34%</td>
</tr>
<tr>
<td><strong>Hyperlipidemia</strong></td>
<td>$&lt;4.1$ mmol/l; or $&lt;3.4$ mmol/l if 2 or more CVD factors; or $&lt;2.6$ if DM or CAD</td>
<td>50%</td>
<td>32%</td>
</tr>
</tbody>
</table>

- Healthcare for people with chronic diseases in Malaysia is not well organized.
- When we make an effort to organize healthcare to meet their needs, the outcomes are uniformly positive.
What is my role?
As a doctor

- Chronic care is NOT a single person job.
- Chronic care demands a change in the way we work
  - Multi disciplinary
  - Patient centered
- DOCTORS can become the change agent
  - Seek and share evidence for change (new treatment)
  - Provide leadership role
  - Encourage teamwork – have team goals, mission, slogan “we care team” at clinic level.
- Train and empower staff
- Facilitate such that change can happen
- Evaluate outcome and promote continuous learning for improvement – collect data to show effect/impact of your team’s effort.
What is my role?
As a nurse/MA

- A nurse or MA has many advantages
  - Can relate better with patients
  - More time with patient
- Role as nurse/case manager and become good advocates for patients
- Can help team with
  - Defaulter tracing
  - Follow ups / reminders
  - Educator and counselor – with patients and careers
  - Facilitate self support group
What is my role?
As a reception clerk/attendant

- Can be active member of Chronic care team
- Be genuinely interested in their problem (most times social problem will impact control e.g. transport problem to come for appointment) so as can find ways to help
- Defaulter tracing / appointment giving
- Promote and ask about self care
- Promote support groups in the community
What is my role?
As a pharmacist/dieticians/physiotherapists

- Be part of the Chronic care team
- Impart knowledge and skill related to your content area (drugs related, diet related, exercise related) to promote better compliance and holistic approach to care
- Provide counseling and education session
- Act as advocator for patients during CC team meet
Chronic Disease a Global Challenge: is it here to stay?
Yes

But
YOU can make a difference for YOUR patients!!!!

Whoever renders services to many puts himself in line for greatness
– great wealth, great return, great satisfaction, great reputation, and great joy!!!
Jim Rohn
Thank You

www.crc.gov.my