Estimating Clinical Burden and Valuation of Weight Management Strategies (using Willingness to Pay - WTP) for Overweight and Obesity in Primary Care Setting in Sarawak, Malaysia

Associate Professor Dr. Zafar Ahmed

MBBS, MBA, M Econ, PhD
Department of Community Medicine and Public Health, Faculty of Medicine, University Malaysia Sarawak

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DK1 (Lecture Hall 1), Academic Block, Faculty of Medicine UKM
Presentation Overview

• Introduction – Obesity Burden
• Management of Obesity & Overweight patients
• Our Investigation
• Research Objective & Design
• Methodology
• Clinical burden
• Valuation of Weight Management Strategies
• Discussion & Conclusion
Introduction – Obesity Burden

• Neglected public health problems

• In 2014, more than 1.9 billion adults, 18 years and older, were overweight. Of these over 600 million were obese.

• 41 million children under the age of 5 were overweight or obese in 2014.

At least one third of the world’s adult population are either overweight or obese.
Health Consequences of Obesity

• Obesity is indeed a major contributor to ill-health, disability and mortality in many regions of the world

• In 2010, overweight and obesity were estimated to cause
  • 3.4 million deaths,
  • 3.9% of years of life lost, and
  • 3.8% of disability-adjusted life-years (DALYs) worldwide
Management of Obesity

• Prevention is preferred

• Realization of obesity as a chronic condition

• Than only the principles of integrated care for disease management can be applied for managing Obesity

• Weight management is important to reduce obesity and the benefits are substantial

(Rippeet al., 2001; Ruelaz et al., 2007)
Management of Obesity

• A modest 5–10% weight loss maintained in the long term can significantly decrease health risk, few people engage in weight loss activities

(Rippe, McInnis, & Melanson, 2001; Ruelaz et al., 2007)

Why this weight management is not happening?
Current scenario
Our Investigation...

• Malaysian Health System

• Primary care
  • Accessible
  • Equitable
Proposition...

• Primary care clinics are the first point of contact for majority of population

• Investigation, Treatment and Follow up

• Specially for NCDs

How come these are NOT involved in the weight management for Obese & Overweight Population
Do the Overweight & Obese patients visits primary care clinics?

• YES; the Overweight & Obese patients do visits primary care clinics

• But for managing the different morbidities (co-morbidities) associated with obesity

• And NOT for weight management.....
Research Objective...

• Why these obese & overweight patients do not seek weight management at the primary care clinic?

1. Weight management is not considered a priority at the primary care level
   • Patients mass – Burden of obesity (& overweight)
   • Valuation of the burden – Economic burden

2. There exist barriers that prevent the patients seeking weight management at these facilities
We designed a study

**Objectives:**
- To estimate clinical and economic burden of overweight and obesity in patient population at these primary care clinics
- To valuate the weight management strategies using CVM (willingness to pay – WTP)
- To study the attitude of the obese patients toward weight management
Methodology

• Study design: Cross sectional study

• Study population: Overweight and obese adult patients attending Primary Health Care Facilities (with FMS) in Kuching District, Sarawak

• Sampling procedure: systematic random sampling
Methodology

• Data collection:
  - Sociodemographic characteristics
  - Anthropometric measurement
  - Willingness to pay for weight reduction intervention in 3 scenarios (*CV method*)
  - Clinic/administrative data on the prevalence of overweight and obese adult patients

• The clinic/administrative data and willingness to pay for weight management study was then used to developed the clinical and economic burden of overweight and obesity management in primary care setting in entire Sarawak.
Clinical Burden of Obesity & overweight at Primary care clinics in Sarawak
Estimating clinical burden of overweight/obesity in patient population

Based on secondary data (BSSK 2014 & 2015)

In Kuching District:
≈ 30% of the patients screened were overweight and obese

Patient population in Kuching District/year
estimated 60,173 overweight and obese patients

Patient population in Sarawak/year
estimated 451,433 overweight and obese patients

* Similar finding as NHMS 2015:
≈ 30% of general population were overweight and obese
Willingness to pay for weight reduction intervention in three different scenarios
Contingent valuation method

Hypothetical Scenarios

• Scenario 1: reduce your weight by 5 kg in 3 months with drug and exercise

• Scenario 2: reduce your weight by 5 kg in 3 months with diet and exercises

• Scenario 3: reduce your weight by 5 kg in 3 months with drug, diet and exercise
WTP for each scenario (n=252)

<table>
<thead>
<tr>
<th>Scenarios</th>
<th>Percentage</th>
<th>MYR/year</th>
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<tbody>
<tr>
<td>Scenario 1 (Drug &amp; Exercise)</td>
<td>71.8</td>
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<tr>
<td>Scenario 2 (Diet &amp; Exercise)</td>
<td>94.1</td>
<td>88.80</td>
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<tr>
<td>Scenario 3 (Drug, Diet, Exercise)</td>
<td>70.6</td>
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</table>
WTP for each scenario

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<thead>
<tr>
<th>Scenario</th>
<th>WTP</th>
<th>MYR/year</th>
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<tbody>
<tr>
<td>Scenario 1</td>
<td>48.87</td>
<td>Median: 10, Min: 10, Max: 500</td>
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<tr>
<td>Scenario 2</td>
<td>88.80</td>
<td>Median: 10, Min: 10, Max: 1000</td>
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<tr>
<td>Scenario 3</td>
<td>60.18</td>
<td>Median: 10, Min: 10, Max: 1000</td>
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Valuation of Weight Management Strategies: Economic Burden of Overweight/Obesity (based on WTP)
Estimating economic burden of overweight/obesity in patient population

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<th>WTP</th>
<th>MYR/year</th>
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<tbody>
<tr>
<td></td>
<td>Overweight and obese individuals</td>
<td>Overweight and obese patient population in Kuching District (estimated n=60, 173)</td>
<td>Overweight and obese patient population in Sarawak (estimated n=451, 433)</td>
</tr>
<tr>
<td><strong>Scenario 1</strong></td>
<td>49.87</td>
<td>3,000,827.51</td>
<td>22,512,963.71</td>
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<tr>
<td>(Drug &amp; Exercise)</td>
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<tr>
<td><strong>Scenario 2</strong></td>
<td>88.80</td>
<td>5,343,362.40</td>
<td>40,087,250.40</td>
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<tr>
<td>(Diet &amp; Exercise)</td>
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<tr>
<td><strong>Scenario 3</strong></td>
<td>60.18</td>
<td>3,621,211.14</td>
<td>27,167,237.94</td>
</tr>
<tr>
<td>(Drug, Diet, Exercise)</td>
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Discussion

• Health benefits from weight management intervention which does not include the drug involvement was shown to be a significant driver of for higher willingness to pay, comparatively among the three different weight management intervention.

• Contradict to the study done in UK and US revealed that the study samples highly valued therapies that did not require substantial lifestyle modifications but instead were more into obesity medications in seeking weight loss

(Doyle, 2012)
Valuation of Non-Marketing Goods

- It is common today for different technology evaluation agencies to seek to take decisions based on predefined values; for e.g. NICE

- WTP is a methodological tool that seeks to estimate the capacity to pay of certain social groups in a search to find out the hypothetical monetary value for programs and specific medical interventions and treatments.

- Underlying the growing enthusiasm for willingness to pay is that WTP is the ‘theoretically correct’ metric for quantifying the value of a health program;
Valuation of Non-Marketing Goods

• The concept of contingent market is powerful and can be used to assign monetary values to all the suggested elements of a health program and not simply to the value of health.

• This is relevant for all decision-makers who could use it as a broad measure of health results.

• Because there is no true market with which to compare the results encountered in WTP estimates, establishing a validity criterion becomes almost impossible.
Willingness to pay (WTP)

• The importance of weight management intervention for the overweight and obese patients can be assessed based on the concept of their willingness to pay (WTP)

• WTP definition: the maximum amount of money an individual could sacrifice, based on his or her own ‘preference’, to procure benefits from services

(Wedgwood & Sansom, 2003)
Implications of this study

• Create awareness that clinical and economic burden of overweight and obesity is high in Sarawak
Implications of this study

• Facilitate in policy making in response to the epidemic of obesity;
  - Prioritization of programs
  - Justification to allocate scarce resources for efficient and equitable use (especially in publicly funded HC system)
  - Provide important cost benefit analysis information
Conclusion

• Clinical and economic burden of overweight and obesity in Sarawak are substantial

• There is a need for effective and efficient weight management program for the overweight and obese patients in the future

• Translation of research into policy/practice;
  - Target on weight reduction intervention (exclude drug usage)

  - In order to ensure efficiency, cost of weight reduction intervention in Sarawak should be less than MYR 40 million/year
Reference


QUESTIONS?

zafar.he@gmail.com
+6019 254 2482