Health Related Quality of Life Among Menopausal Women in Sarawak.

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CHAPTER 1: INTRODUCTION

**Traditional Concept**

**Quantity of Life**
- A patient/person is either alive or dead
- How long a person lives

**Quality of Life**
- How much value (utility) a person/patient associated with the life he is living
- How well a person lives
The World Health Organization has defined the quality of life as:

An individual’s perception of his or her position in life in the context of the culture and value systems in which he or she lives and in the relation to his or her goals, expectations, standards and concerns (WHO, 1993).

Some women are suffering in silent without knowing what is happening to their own body and they are uncertain of where to get help (Wong & Nur Liyana, 2007).

Therefore it is crucial for us to identify the factors that lowered the quality of life in menopausal women and how does that weakened their health status.
1.2 Background Of The Study

• Natural menopause: Woman had amenorrhea for 12 continuous months, and there is not a hint of existence of other pathological or physiological cause (NIH, 2014).

• The four category of menopausal status as classified by SWAN (Johnston et al., 2006) are:

  - **Premenopausal:** 3 months of amenorrhea and no increase in menstrual irregularity in the past year
  - **Early Perimenopausal:** 3 months with some accumulation in menstrual irregularity
  - **Late Perimenopausal:** Between 3 and 11 months of amenorrhea.
  - **Post-Menopausal:** 12 or more consecutive months of amenorrhea with no medical cause other than menopause
Symptoms of early onset menopause:

- Hot flashes & night sweats
- Irregular periods
- Vaginal dryness
- Mood swings
- Reduced libido
- Disrupted sleeping patterns
- Heart palpitations
- Dry skin
- Hair loss
- Incontinence
The Seven Stages of Menopause

- Itchy
- Bitchy
- Sweaty
- Sleepy
- Bloated
- Forgetful
- Psycho
1.3 Statement of Problem

- Advanced and modern medical sciences -- ↑ life expectancy among women------spend more than 1/3 of their life after menopause (Nisar & Sohoo, 2010).

- Menopausal symptoms will lead to social impairment and work-related difficulties that significantly decrease a woman’s quality of life overall (Utian, 2005, Avis et al., 2003; Avis et al., 2009).

- Sexual health issues, including uneven diagnosis and treatment are prevalent problems. Women often have difficulties discussing sexual health issues with their doctors.

- Studies suggested a prevalence of approximately 75% of women in Europe experiencing vasomotor symptoms (Genazzani et al., 2005), while a study in Sarawak suggested 41.6% had vasomotor symptoms (Rahman, Zainudin & Lee, 2010).
1.4 Significance of the Study

- Limited specific health programs addressing the problems faced by menopausal women especially in the primary health clinics.
- Address the health issues faced by menopausal women - encourage them in seeking healthy lifestyles and medical help to take charge of their health.
- Dispense esteemed information to the advancement of understanding the factors affecting the quality of life among these menopausal women.
- Limited studies and inadequate baseline data look into relationship of factors - Address the gap in the literature.
1.5 General Objective

- To determine the Health Related Quality of Life among menopausal women in Sarawak and the factors influencing them.
1.6.1 Specific Objectives

1. To assess the socio-demographic characteristics of menopausal women in Sarawak;
2. To assess the reproductive history and health status of menopausal women;
3. To estimate the prevalence of menopausal related symptoms among the menopausal women;
4. To assess the health care seeking behaviour for menopausal symptoms among the menopausal women;
5. To assess the health related quality of life among the menopausal women; and
6. To determine the factors affecting the health related quality of life among menopausal women.
• The **average age of menopause** among women is **51 years**. Some as early as **40 years** and as late as **55 years** (Ismail, 2012; Rahman, Zainudin & Lee, 2010).

• Demographic characteristics in menopausal women such as **age**, **marital status**, **educational level**, **socioeconomic level**, and the **number of children** are some of the elements in affecting the menopausal life (Kuh & Hardy, 2003; Cohen, Soares & Joffe, 2005).

• Menopause has influence on health related quality of life (Hunter, 2003; Nisar & Sohoo, 2009).

• **Quality of life** was significantly **lower** among **illiterate participants** and those with **more children and longer duration of menopause** (Charandabi et al., 2012).
CHAPTER 2: LITERATURE REVIEW

• As the educational status escalates, women will have more rights on themselves and their health. **Improvement in educational and socioeconomic status** of women will have **positive after effect** on their life quality during menopause (Caylan et al., 2011).

• The **more severe menopausal symptoms** experienced the **more negative impact** they cause on the quality of life in menopausal women (Norozi et al., 2013).

• **Postmenopausal women have higher prevalence of menopausal symptoms** that significantly affect their quality of life more than pre-and perimenopausal women. Women in **perimenopausal have higher prevalence of psychological symptoms** with higher impact on their psychological welfare (Ibrahim, Sayed, & El-Hamid, 2015).
CONCEPTUAL FRAMEWORK

Health Related Quality of Life Among Menopausal Women

1) Predisposing Factors:
- Knowledge
- Attitude
- Perceived Self-Efficacy

2) Enabling Factors:
- Access to information
- Access to treatment

3) Reinforcing Factors:
- Feedback and support from others

Health Status

HRT/CAM

Reproductive History

Socio-demographic factors

Prevalence of Menopausal Symptoms

Health Seeking Behaviour
3.1 Study Design

- A cross-sectional community based quantitative study design.

- Respondents selected by multistage clustering sampling technique.

- The data and information from the respondents will be determined using a questionnaire.
3.2 Place of Study

- The annual population growth rate is 1.8 per cent (Department of Statistics Malaysia, Sarawak, 2010).
- The state is divided into three regions
  1. The northern region: Miri and Limbang
  2. Central region: Sarikei, Sibu, Mukah, Kapit, Bintulu

- Area: 124 000 km²
- Population: 2.4 million
- 11 divisions with 31 districts (Department of Statistics Malaysia Sarawak, 2010)
3.2 The Study Population

- **Women** aged *40 to 65 years old* from selected villages in Sarawak.
Inclusion & Exclusion Criteria

3.2.1 Inclusion Criteria:
• Women aged between the ages of 40 and 65 years;
• Malaysian citizens who agreed to participate;
• Understand either in English or in Malay; and
• Women who were not pregnant during the study period.

3.2.2 Exclusion Criteria
• Disagreed to participate in the study;
• Failure to interview after three attempts;
• Had severe mental illness and those unable to provide coherent and comprehensible response;
• Women who were pregnant during the study period;
• Women who were currently on Oral Contraceptive Pills (OCP); and
• Women known to have autoimmune diseases, thyroid disease, hormonal disorders, eating disorder, on treatments for cancers or other conditions that involve chemotherapy and/or radiation therapy to the pelvis, had surgical removal of the ovaries or uterus, pituitary and hypothalamic tumours, and psychiatric disorders.
3.3 Sample Size and Its Determination

- Sample population size estimation is done using the given formula (Naing et al., 2006):

\[ n = \frac{z^2 \times p \times (1-p)}{d^2} \]

\[ n = \frac{1.96^2 \times (0.41) \times (0.59)}{(0.05)^2} \]

\[ n = 372 \]

*With the research design effect of 3,*

\[ n = 372 \times 3 = 1107 \]

\[ n = 744 \times 1.2\% = 1,329 \] (Anticipated non-response: 20%)

- Confidence interval: 95%
- Absolute precision: ± 0.05
- Anticipated population: 0.41 (Based on a study done in Sarawak by Rahman, Zainudin & Lee (2010), 41% menopausal women suffered from menopausal symptoms)
3.5 Sampling Procedure

1. Region (North)
   - Two divisions (Randomly selected)
   - Two districts (Randomly selected)
   - Four Enumeration blocks (EB) each district
   - Living Quarters (LQ) (random sampling)

2. Region (Central)
   - Two divisions (Randomly selected)
   - Two districts (Randomly selected)
   - Four Enumeration blocks (EB) each district
   - Living Quarters (LQ) (random sampling)

3. Region (Southern)
   - Two divisions (Randomly selected)
   - Two districts (Randomly selected)
   - Four Enumeration blocks (EB) each district
   - Living Quarters (LQ) (random sampling)
3.6 Development of Data Collection Instruments

Interview structure questionnaire and had the following section:

I • Socio-demographic factors and Reproductive History

II • Health status & Previous Medical Examination

III • Prevalence of Menopausal symptoms (MRS) (Heinemann, Potthoff, & Schneider, 2003)

IV • Health Seeking Behaviour on Menopausal treatment (Wong & Nur Liyana, 2007; The Health Self-efficacy Scale by Lee et al., 2008).

V • Health Related Quality of Life among menopausal women (WHQ) (Hunter, 2003).
3.7 Data Collection Procedure

• Face-to-face interviewer-administered questionnaire.

• Before survey, permission obtained from the Headman (*Ketua Kampung*) of each village.

• All of the respondents briefed and a written consent obtained prior to data collection.

• The *interviews were done in Bahasa Malaysia.*
4.0 RESULT
Specific Objectives

1. To assess the socio-demographic characteristics of menopausal women in Sarawak;
2. To assess the reproductive history and health status of menopausal women;
3. To estimate the prevalence of menopausal related symptoms among the menopausal women;
4. To assess the health care seeking behaviour for menopausal symptoms among the menopausal women;
5. To assess the health related quality of life among the menopausal women; and
6. To determine the factors affecting the health related quality of life among menopausal women.
Socio-demographic Characteristics

Objective 1: To assess the socio-demographic characteristics of menopausal women in Sarawak.

- Mean age: 53.18 years
Race of Menopausal Women in Sarawak (n=1195)

- Malay: 18%
- Iban: 43%
- Bidayuh: 17%
- Chinese: 11%
- Others: 11%

Religion of Menopausal Women in Sarawak (n=1195)

- Islam: 21%
- Christianity: 65%
- Buddhism: 7%
- Freethinker: 1%
- Others: 6%
Marital Status of Menopausal Women in Sarawak (n=1195)

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>84.4</td>
</tr>
<tr>
<td>Divorced</td>
<td>3.6</td>
</tr>
<tr>
<td>Widowed</td>
<td>9.2</td>
</tr>
<tr>
<td>Single</td>
<td>2.8</td>
</tr>
</tbody>
</table>

Level of Education of Menopausal Women in Sarawak (n=1195)

- No formal education: 38.70%
- Primary school: 25.40%
- Secondary school: 31.70%
- Tertiary education: 4.20%

Marital Status

- Married
- Divorced
- Widowed
- Single
Occupation of Menopausal Women in Sarawak (n=1195)

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Total Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housewife</td>
<td>683</td>
</tr>
<tr>
<td>Farmer</td>
<td>268</td>
</tr>
<tr>
<td>Own Business</td>
<td>66</td>
</tr>
<tr>
<td>Private Employee</td>
<td>55</td>
</tr>
<tr>
<td>Government Employee</td>
<td>112</td>
</tr>
<tr>
<td>Others</td>
<td>11</td>
</tr>
</tbody>
</table>

Monthly Income of Menopausal Women in Sarawak (n=1195)

- ≤ RM 500: 26.40%
- RM 501 - 1000: 27.80%
- > RM 1000: 45.80%

Mean: RM 1,143.56
Min: RM 100.00
Max: RM 10,000.00
Specific Objectives

1. To assess the socio-demographic characteristics of menopausal women in Sarawak;
2. To assess the reproductive history and health status of menopausal women;
3. To estimate the prevalence of menopausal related symptoms among the menopausal women;
4. To assess the health care seeking behaviour for menopausal symptoms among the menopausal women;
5. To assess the health related quality of life among the menopausal women; and
6. To determine the factors affecting the health related quality of life among menopausal women.
Objective 2: To assess the reproductive history and health status of menopausal women in Sarawak.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of living children (n=1195)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤2</td>
<td>280</td>
<td>23.4</td>
<td>Mean(SD) : 3.79 (2.01)</td>
</tr>
<tr>
<td>3-4</td>
<td>550</td>
<td>46.0</td>
<td>Median : 4</td>
</tr>
<tr>
<td>&gt;4</td>
<td>365</td>
<td>30.5</td>
<td>Min, Max : 0, 13</td>
</tr>
<tr>
<td>Number of miscarriage (n=1195)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1003</td>
<td>83.9</td>
<td>Mean (SD): 0.19 (0.45)</td>
</tr>
<tr>
<td>1</td>
<td>160</td>
<td>13.4</td>
<td>Median : 0</td>
</tr>
<tr>
<td>2</td>
<td>32</td>
<td>2.7</td>
<td>Min, Max : 0, 2</td>
</tr>
<tr>
<td>Age at menarche (n=1195) years</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 12</td>
<td>572</td>
<td>47.7</td>
<td>Mean (SD): 12.8 (1.22) yrs</td>
</tr>
<tr>
<td>&gt; 12</td>
<td>628</td>
<td>52.3</td>
<td>Median : 13 years</td>
</tr>
<tr>
<td>Menopausal status (n=1195)</td>
<td></td>
<td></td>
<td>Min, Max : 10, 16 years</td>
</tr>
<tr>
<td>Pre-menopause</td>
<td>389</td>
<td>32.6</td>
<td></td>
</tr>
<tr>
<td>Peri-menopause</td>
<td>209</td>
<td>17.5</td>
<td></td>
</tr>
<tr>
<td>Post-menopause</td>
<td>597</td>
<td>50.0</td>
<td></td>
</tr>
<tr>
<td>Age at menopause (n=597) years</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40-45</td>
<td>39</td>
<td>6.5</td>
<td>Mean (SD): 50.66(3.03) yrs</td>
</tr>
<tr>
<td>46 - 50</td>
<td>256</td>
<td>42.9</td>
<td>Median : 51 years</td>
</tr>
<tr>
<td>51 - 55</td>
<td>278</td>
<td>46.6</td>
<td>Min, Max : 40, 61 years</td>
</tr>
<tr>
<td>&gt; 55</td>
<td>24</td>
<td>4.02</td>
<td></td>
</tr>
</tbody>
</table>
Total Health Risk (n=1195)

- No risk: 44%
- Medium risk: 31%
- High risk: 25%
Specific Objectives

1. To assess the socio-demographic characteristics of menopausal women in Sarawak;

2. To assess the reproductive history and health status of menopausal women;

3. To estimate the prevalence of menopausal related symptoms among the menopausal women;

4. To assess the health care seeking behaviour for menopausal symptoms among the menopausal women;

5. To assess the health related quality of life among the menopausal women; and

6. To determine the factors affecting the health related quality of life among menopausal women.
Prevalence of Menopausal Symptoms

Objective 3: To estimate the prevalence of menopausal related symptoms among menopausal women in Sarawak.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Menopausal symptoms</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No complaints</td>
<td>338</td>
<td>28.3%</td>
<td></td>
</tr>
<tr>
<td>Having complaints</td>
<td>857</td>
<td>71.7%</td>
<td></td>
</tr>
<tr>
<td>Number of complaints (n=857)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-3</td>
<td>261</td>
<td>30.4%</td>
<td>Mean (SD): 4.27</td>
</tr>
<tr>
<td>4-6</td>
<td>233</td>
<td>27.2%</td>
<td>(3.91)</td>
</tr>
<tr>
<td>&gt; 6</td>
<td>363</td>
<td>42.4%</td>
<td>Median: 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Min, Max: 1, 11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Menopausal Status</th>
<th>No complaint</th>
<th>≥ 1 complaints</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-menopause</td>
<td>14.90%</td>
<td>85.10%</td>
</tr>
<tr>
<td>Peri-menopause</td>
<td>33.00%</td>
<td>67.00%</td>
</tr>
<tr>
<td>Post-menopause</td>
<td>39.70%</td>
<td>60.30%</td>
</tr>
</tbody>
</table>
Figure 4.2: Level of mean prevalence of menopausal symptoms based on menopausal status of respondents (n=1195)
Table 4.8 Mean score of menopausal symptoms based on domains by menopausal status (n=1195)

<table>
<thead>
<tr>
<th>Menopausal symptoms based on domains</th>
<th>Mean score (SD) of menopausal symptoms</th>
<th>p-value of ANOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-Menopause</td>
<td>Peri-Menopause</td>
</tr>
<tr>
<td>Psychological Symptoms</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
</tr>
<tr>
<td></td>
<td>2.90 (2.80)</td>
<td>4.36 (3.00)</td>
</tr>
<tr>
<td>Somato-vegetative Symptoms</td>
<td>2.92 (2.76)</td>
<td>4.62 (2.64)</td>
</tr>
<tr>
<td>Urogenital Symptoms</td>
<td>1.55 (1.98)</td>
<td>2.94 (2.37)</td>
</tr>
</tbody>
</table>
Specific Objectives

1. To assess the socio-demographic characteristics of menopausal women in Sarawak;

2. To assess the reproductive history and health status of menopausal women;

3. To estimate the prevalence of menopausal related symptoms among the menopausal women;

4. To assess the health care seeking behaviour for menopausal symptoms among the menopausal women;

5. To assess the health related quality of life among the menopausal women; and

6. To determine the factors affecting the health related quality of life among menopausal women.
Objective 4: To assess the health seeking behaviour on menopause treatment among the menopausal women in Sarawak.

- Out of 857 women who had suffered from the symptoms of menopause, only 21.8% had good health seeking behaviour and the remaining 78.2% had poor seeking behaviour.
Majority of these women had:

- **Poor knowledge** on menopause (52.5%)
- **Poor attitude** towards menopause (56.5%)
- **Feeling nervous** (35.9%) and **fear** about menopause (31.2%)
- **Negative feeling** towards menopause (68.3%),
- **Poor self-efficacy** towards menopause (55.9%)
- **Negative perception** towards menopause (50.2%)
- **Good access to information** on menopause (84.2%)
- **Good access to resources** on menopausal treatment/advice (65.5%)
- **Good feedback and support** on other on menopause (84.8%).
Factors Affecting Health Seeking Behaviour: Bivariate Analysis

1) Predisposing Factors:
   - Knowledge
   - Attitude
   - Perceived Self-Efficacy

2) Enabling Factors:
   - Access to information
   - Access to treatment

3) Reinforcing Factors:
   - Feedback and support from others
Specific Objectives

1. To assess the socio-demographic characteristics of menopausal women in Sarawak;

2. To assess the reproductive history and health status of menopausal women;

3. To estimate the prevalence of menopausal related symptoms among the menopausal women;

4. To assess the health care seeking behaviour for menopausal symptoms among the menopausal women;

5. To assess the health related quality of life among the menopausal women; and

6. To determine the factors affecting the health related quality of life among menopausal women.
Health-related quality of life among menopausal women in Sarawak

Objective 5: To assess the health related quality of life among the menopausal women in Sarawak.

Health Related Quality of Life Among Menopausal Women

- Good: 52.90%
- Poor: 47.10%
### Table 4.37 Health Related Quality of Life Based on Menopausal Symptoms

<table>
<thead>
<tr>
<th>Menopausal Status</th>
<th>Poor</th>
<th></th>
<th>Good</th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Percentage</td>
<td>n</td>
<td>Percentage</td>
<td></td>
</tr>
<tr>
<td>Pre-menopause</td>
<td>156</td>
<td>40.1</td>
<td>233</td>
<td>59.9</td>
<td>389</td>
</tr>
<tr>
<td>Peri-menopause</td>
<td>129</td>
<td>61.7</td>
<td>80</td>
<td>38.3</td>
<td>209</td>
</tr>
<tr>
<td>Post-menopause</td>
<td>347</td>
<td>58.1</td>
<td>250</td>
<td>41.9</td>
<td>597</td>
</tr>
<tr>
<td>TOTAL</td>
<td>632</td>
<td>52.9</td>
<td>563</td>
<td>47.1</td>
<td>1195</td>
</tr>
</tbody>
</table>
Specific Objectives

1. To assess the socio-demographic characteristics of menopausal women in Sarawak;
2. To assess the reproductive history and health status of menopausal women;
3. To estimate the prevalence of menopausal related symptoms among the menopausal women;
4. To assess the health care seeking behaviour for menopausal symptoms among the menopausal women;
5. To assess the health related quality of life among the menopausal women; and
6. To determine the factors affecting the health related quality of life among menopausal women.
Factors affecting Health Related Quality Of Life Among Menopausal Women

Objective 6: To determine the factors affecting the health related quality of life among menopausal women.

Bivariate analysis (Chi-square test, p<0.05):

- Socio-demographic characteristics (age, race, religion, level of education, and occupation);
- Reproductive history (number of miscarriages and menopausal status);
- Total health risk;
- Health-seeking behaviour;
- Severity of menopausal symptoms; and
- Treatment of menopausal symptoms.
Factors affecting the health-related quality of life among menopausal women: Binary logistic regression analysis

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Premenopausal (n=331)</th>
<th>Peri-Postmenopausal (n=526)</th>
<th>Total Menopausal (n=857)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Adj. OR</td>
<td>95% CI</td>
<td>Adj. OR</td>
</tr>
<tr>
<td><strong>Religion</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Islam</td>
<td>Nil</td>
<td>0.941</td>
<td>(0.539, 1.642)</td>
</tr>
<tr>
<td>Christian</td>
<td>0.523**</td>
<td>(0.334, 0.820)</td>
<td>0.484***</td>
</tr>
<tr>
<td>Other (RC)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Level of Education</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No formal education (RC)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Primary education</td>
<td>0.969</td>
<td>(0.520, 1.805)</td>
<td>1.120</td>
</tr>
<tr>
<td>Secondary and above</td>
<td>1.763</td>
<td>(0.990, 3.140)</td>
<td><strong>1.741</strong></td>
</tr>
<tr>
<td><strong>Monthly household income in RM</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 500</td>
<td>Nil</td>
<td><strong>1.858</strong></td>
<td>(1.188, 2.906)</td>
</tr>
<tr>
<td>501 - 1000</td>
<td>1.090</td>
<td>(0.675, 1.759)</td>
<td>1.325</td>
</tr>
<tr>
<td>&gt; 1000(RC)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Dependency Status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alone (RC)</td>
<td>Nil</td>
<td>1</td>
<td>Nil</td>
</tr>
<tr>
<td>With husband, and other family members</td>
<td></td>
<td><strong>3.172</strong></td>
<td>(1.247, 8.067)</td>
</tr>
<tr>
<td>With children and other family members</td>
<td></td>
<td>2.673</td>
<td>(1.000, 7.147)</td>
</tr>
<tr>
<td><strong>Menopausal Status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Premenopause (RC)</td>
<td>Not included</td>
<td>Not included</td>
<td>Not included</td>
</tr>
<tr>
<td>Perimenopause</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postmenopause</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Independent variables</td>
<td>Premenopausal (n=331)</td>
<td>Peri-Postmenopausal (n=526)</td>
<td>Total Menopausal (n=857)</td>
</tr>
<tr>
<td>------------------------</td>
<td>------------------------</td>
<td>-----------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td></td>
<td>Adj. OR</td>
<td>95% CI</td>
<td>Adj. OR</td>
</tr>
<tr>
<td>Health Risk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low (RC)</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Medium</td>
<td><strong>0.432</strong> (0.237, 0.788)</td>
<td><strong>0.560</strong> (0.402, 0.780)</td>
<td><strong>0.635</strong> (0.424, 0.950)</td>
</tr>
<tr>
<td>High</td>
<td>0.658 (0.332, 1.304)</td>
<td>0.974 (0.691, 1.373)</td>
<td>1.155 (0.772, 1.728)</td>
</tr>
<tr>
<td>Prevalence of menopausal symptoms</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No complaints (RC)</td>
<td>Nil</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>With one or more</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>complaints</td>
<td></td>
<td></td>
<td><strong>0.623</strong> (0.395, 0.983)</td>
</tr>
<tr>
<td>Severity of symptoms</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not severe (RC)</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Severe</td>
<td><strong>0.168</strong> *** (0.103, 0.274)</td>
<td><strong>0.275</strong> *** (0.183, 0.413)</td>
<td><strong>0.251</strong> *** (0.180, 0.349)</td>
</tr>
<tr>
<td>Methods of treatment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None (RC)</td>
<td>Nil</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>HRT</td>
<td><strong>3.499</strong> ** (1.193, 10.26)</td>
<td><strong>3.385</strong> ** (1.405, 8.157)</td>
<td></td>
</tr>
<tr>
<td>CAM</td>
<td>1.346 (0.310, 5.842)</td>
<td>1.223 (0.383, 3.907)</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>1.646</td>
<td></td>
<td>0.169</td>
</tr>
<tr>
<td>Model chi square (df)</td>
<td>80.570</td>
<td>p&lt;0.001</td>
<td>166.085</td>
</tr>
<tr>
<td>N</td>
<td>389</td>
<td></td>
<td>806</td>
</tr>
<tr>
<td>Hosmer and Lemeshow Test</td>
<td>p&gt;0.05</td>
<td>p&gt;0.05</td>
<td>p&gt;0.05</td>
</tr>
</tbody>
</table>

*p<0.05; **p<0.01; ***p<0.001

RC= Reference category; CI= Confidence Interval; Adj.OR= Adjusted Odds Ratio
Dependent variable = Health-related quality of life (Good (RC) vs. Poor)
Binary Logistic regression for premenopausal sample (n=389)

- Medium health risk were 57% (95% CI: 0.237, 0.788) less likely to have a good quality of life compared to those with low health risk.

- Women with severe menopausal symptoms were 87% (95% CI: 0.103, 0.274) less likely to have a good quality of life compared to those without any severe symptoms.
Binary Logistic regression for peri-postmenopausal sample (n=806)

- **Christians** were **48% less likely** to have good quality of life compared to other religion.
- Level of education of **secondary and above** were found to be **1.7 times** more likely to have good quality of life compared to those with no education.
- Monthly household **income of RM 500 and below** were **1.9** more likely to have good quality of life compared to those having a monthly household income above RM1000 per month.
- **Staying with their husband and other family members** were **3.2** times more likely to have a good quality of life compared to those staying alone.
Binary Logistic regression for peri-postmenopausal sample (n=806)

- **Medium health risk** were 44% less likely to have a good quality of life compared to those with no health risk at all.
Women who were on Hormone Replacement Therapy (HRT) were 3.5 times (95% CI: 1.193, 10.26) more likely to have a good quality of life compared to those without any treatment.
Binary Logistic regression for peri-postmenopausal sample (n=806)

- More menopausal symptoms were 38% less likely to have a good quality of life compared those with no symptoms.
- Having severe menopausal symptoms were 72% less likely to have a good quality of life.
• The **prevalence of menopausal symptoms** in this study was 71.7%.

• Prevalence of symptoms was 40.8% (Rahman, Zainudin & Lee, 2010)

• The **highest complaints** among the respondents in this study were **physical and mental exhaustion symptoms** (68.5%), followed by hot flushes (67.9%), and joint and muscular discomfort (67.4%). The least symptoms complained were bladder problems (49.5%).

• Similar findings with studies in Sarawak and Kelantan (Rahman, Zainudin & Lee, 2010; Jahanfar et al., 2006).
CHAPTER 5: DISCUSSION (2)

- 52.9% had poor quality of life and 47.1% had good quality of life. Majority of menopausal women were suffering from menopausal symptoms that had significantly caused poor quality of their lives.

- **Egypt**: 77.8% (Moustafa et al., 2015).

- **Taiwan**: 20% (Shyu et al., 2012)

- In this study, sexual behaviour was the most causing poor quality of life among these menopausal women, followed by sleep problems, memory and concentration, somatic symptoms, attractiveness, vasomotor symptoms, menstrual problems and the least was depressed mood.

- **Nigeria**: Most prevalent menopausal symptom reported by the participants was loss of libido which causes poor quality of life (Dienye, Judah & Ndukwu, 2013).

- **South India**: Top 3- somatic symptoms, poor memory, and difficulty in sleeping. Vasomotor and sexual domains- less frequently (Bairy et al., 2009).
• The menopause-specific quality of life is enhanced with the level of education.

• Women with high school and university education had significantly higher quality of life compared to all the other educational levels (Kalarhoudi et al., 2011).

• As the educational status escalates, women will have more rights on themselves and their health --- positive after effect on their life quality during menopause and for the community as well (Caylan et al., 2011).
• Peri-menopausal women were most likely to have a poor quality of life— even though they suffered less menopausal symptoms compared to the rest of the group, but severity of symptoms were more intense, which eventually causes significant poor quality of life.

• Chille: The variable found to cause a significant impairment in quality of life was menopause status (Blumela et al., 2000).
• The method of menopausal treatment was statistically significant in influencing the health related quality of life among these women (3.5 times with HRT in this study).

• An improved quality of life rating can be achieved with hormone replacement therapy (Derman, Dawood & Stone, 1995).

• Short-term hormone replacement therapy has been shown to increase quality-adjusted life expectancy for women with menopausal symptoms (Col et al., 2004).


Limitation of Study

• Cross sectional design study
  - self-reported

• Recall bias

• Measures menopausal status subjectively and did not measure any the level of FSH or estradiol hormone for a more accurate diagnosis of menopausal status.
CHAPTER 6: CONCLUSION AND RECOMMENDATION

• Though majority of women did suffer severe menopausal symptoms, they have poor health seeking behaviour which leads to most of them having poor health related quality of life.

• Poor quality of life: 52.9%

• Health status and the severity of menopausal symptoms significantly affected the quality of life among pre-menopausal women.

• Sociodemographic factors (religion, level of education, monthly household income and living status), health status, HRT, and the severity of menopausal symptoms significantly affected the quality of life among peri and postmenopausal women.
6.2 Recommendation (1)

1. Active intervention should be done in increasing their health seeking behaviour in encouraging the use of HRT to reduce their severity of their menopausal symptoms, as well as controlling their health risk to ensure a better quality of life.

2. The prevalence of menopausal symptoms was significantly predicted by age, race, occupation, menopausal status, the existing of health risk, and method of menopausal symptoms treatment. Early screening for these predictors, especially those in the premenopausal stage, could reduce the prevalence of menopausal symptoms earlier; thereby improving health related quality of life among these menopausal symptoms.
6.2 Recommendation (2)

3. Level of knowledge on menopause was poor in this study and it had influenced their health seeking behaviour. **Active intervention, counselling or community programme should be done in improving the knowledge of these women to improve their health seeking behaviour.**

4. There were unequal numbers of respondents and limited time in determining the benefits of HRT and CAM against those without any treatment in this study. **Further control and longitudinal study should be done in determining the effects of these treatments.**
REFERENCES


• **Appendix I: Informed consent form**
• Appendix II: Respondent Info Sheet
• Appendix III: Questionnaire in English
• Appendix I: Questionnaire in Bahasa Melayu
Menstruation Menopause Mental breakdowns notice how all women's problems begin with men.

GIRLFROMPARIS | TUMBLR
Thank You!!!