Barriers hindering nursing students from adopting health promoting lifestyles

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Significance of Study

**Definition of Health-Promoting Lifestyle**

It has been defined as a multidimensional pattern of self initiated actions and perceptions that serve to maintain or enhance the level of wellness, self actualization and fulfillment of the individual (Pender, 1982).

Health-promoting lifestyle= major strategy to promote health and prevent illness

Nursing students are expected to assume the role of health promoter after graduation

Nursing students may not be able to practice healthy lifestyles due to a variety of barriers

The personal health practices of health promoters can affect their effectiveness
Knowledge Gap

- There are very limited studies to examine the health-promoting lifestyles of nursing students in Hong Kong.

- No study in worldwide has yet addressed the potential barriers that nursing students face to adopting the recommended behaviors.

- No study in worldwide has yet examined the impacts of health-promoting lifestyles on their health at young age.
Research Objectives

1. To identify the patterns of HPL & QOL among nursing students in HK

2. To examine the association between sociodemographic variables including gender, age, year of study and monthly family income and HPL & QOL among nursing students in HK

3. To identify the barriers that may hurdle nursing students to adopt HPL in HK

4. To examine the relationship between HPL & QOL among nursing students in HK
Study Paradigms & Design

Quantitative

- Objectivity
- Systemically & carefully investigate phenomenon
- Precise measurement
- With ability to generalize

Survey Design

- Descriptive
- Cross-sectional
- Data collected through self-administered questionnaires

(Gillis & Jackson, 2002)

(Lobiondo-Wood & Haber, 2002)
Selection of Participants

Inclusion criteria:
- Full-time students
- Pre-registration nursing students at the Hong Kong Polytechnic University (HKPU)
- With status as a student in academic year 09/10

Exclusion criteria:
- Part-time students
- Registered/Enrolled nurses in HK
- Non-university students
- Deferred as a student in academic year 09/10

Bachelor of Science (Honours) in Nursing
(Self-financed)

Bachelor of Science (Honours) in Nursing
(Government-funded)

Higher Diploma in Nursing

Bachelor of Science (Honours) in Mental Health Nursing

Master of Nursing

Target population: 1,460

Estimated Total Number: ~3000
(Source from JUPAS)
Questionnaire

Closed-ended & Structured questions

1. Health-Promoting Lifestyle Profile II (HPLP-II)
2. The World Health Organization Quality of Life (WHOQOL) - BREF
3. Barriers to adopt HPL
4. Demographic Information

- Walker, Sechrist and Pender (1995)
  - Measure how frequently students engaged in HPL

- WHOQOL Group (1998)
  - Assess student's perceptions
    (i.e. Their culture & value systems, personal goals, standards & concerns)

- Newly developed
- Based on reviewed literatures

- Gender, age, year of study, monthly family income, etc.
Pilot Study

**Content Validity**
- Reviewed by 3 experts in this area at HKPU
- Amendments made according to their suggestions:
  1) Giving example to illustrate terms like “physical environment”
  2) Separating the education level of parents into father and mother

**Test-retest Reliability**
- 42 university students who were in late adolescent or early adulthood
- Second trial done 2 weeks after the first

**Results** (Cronbach’s alpha in inter-item correlations):
- HPLP-II: **0.905** (for whole HPLP-II), **0.655-0.827** (for subscales)
- WHOQOL-BREF: **0.870** (for whole WHOQOL-BREF), **0.598-0.782** (for domains)
- Barriers: **0.787**
Data Collection

**Period**
- Between April and August 2010

**Final year students**
- During program leader’s meeting
- Questionnaires distributed by research teams

**Non-final year students**
- During clinical placements
- Questionnaires distributed by clinical mentors
  - *In both occasions, students had the choice either return the questionnaires to clinical mentors/ researchers or to the collection box in general office*

**Ethical consideration**
- Implied consent, autonomy, anonymity & confidentiality
## Data Analysis

Data analysis will be conducted using SPSS version 15.0

<table>
<thead>
<tr>
<th>Variables</th>
<th>Statistics Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographic variables, Health-Promoting Lifestyles, QOL</td>
<td>Descriptive statistics</td>
</tr>
<tr>
<td></td>
<td>✓ Mean</td>
</tr>
<tr>
<td></td>
<td>✓ Range</td>
</tr>
<tr>
<td></td>
<td>✓ Percentage</td>
</tr>
<tr>
<td></td>
<td>✓ Standard Deviation</td>
</tr>
<tr>
<td>Compare health promoting lifestyles profiles &amp; QOL of nursing students with sociodemographic characteristics</td>
<td>T-test</td>
</tr>
<tr>
<td></td>
<td>(2 groups comparison)</td>
</tr>
<tr>
<td></td>
<td>ANOVA</td>
</tr>
<tr>
<td></td>
<td>(&gt; 2 groups comparisons)</td>
</tr>
<tr>
<td>Barriers to adopting healthy lifestyles</td>
<td>Descriptive statistics</td>
</tr>
<tr>
<td></td>
<td>✓ Percentage</td>
</tr>
<tr>
<td>Correlation between HPLP II &amp; QOL</td>
<td>Pearson Correlation Analysis</td>
</tr>
</tbody>
</table>

The statistical significance level for each test was set at $P \leq 0.05$, based on a two-tailed test, & the 95% confidence intervals (CI) are presented.
Sample Characteristics, Results & Discussion
### Distribution of nursing students’ socio-demographic characteristics (N=538)

- **Gender**
  - Male = 146 (27.1)
  - Female = 392 (72.9)

- **Age Group**
  - Under 21 = 171 (31.8)
  - 21-25 = 345 (64.1)
  - Above 25 = 22 (4.1)

- **Programme**
  - Mental = 32 (5.9)
  - HD = 156 (29.0)
  - BSc = 200 (55.8)

- **Year of Study**
  - Year 1 = 295 (54.8)
  - Year 2 = 74 (13.8)
  - Year 3 = 121 (22.5)

- **Marital Status**
  - Single = 531 (98.7)
  - Married = 5 (0.9)

- **Monthly Family Income**
  - Under 10k = 146 (27.1)
  - 10k – 19,999 = 194 (36.1)
  - 20k – 29,999 = 106 (19.7)
  - 30k & over = 92 (17.1)

- **Education Level of Father**
  - No/Pre-prim = 19 (3.5)
  - Secondary = 271 (50.4)
  - Post-sec = 45 (8.4)

- **Education Level of Mother**
  - No/Pre-prim = 19 (3.5)
  - Secondary = 275 (51.1)
  - Post-sec = 31 (5.8)

Number of questionnaires discarded = 18
Objective 1
Patterns of HPL & QoL among nursing students in HK

HPLP Subscales

- Interpersonal Relations (2.78)
- Spiritual Growth (2.69)
- Nutrition (2.50)
- Stress Management (2.41)
- Health Responsibility (2.29)
- Physical Activity (2.06)

QOL Domains

- Social (13.7)
- Environment (13.5)
- Psychological (13.1)
- Physical (12.2)
Comparison of HPLP Scores among different Hong Kong studies

- Hui (2002): 116.28
- Lee & Loke (2005): 119.85
- Current study: 128.23

Students’ HPL Total Scores from Local Studies
Discussion

Nursing students scored highest in Interpersonal Relations (HPLP) and Social Domains (QOL)

Interpersonal Relations

Relatively Able to:
• Spend time and maintain meaningful and fulfilling relationships with others
• Discuss problems and concerns with other people
• Settle conflicts with others through discussion and compromise
• Show concern, love and warmth to others
• Praise other people for their achievement

Satisfied with:
• Personal Relations Sex life, Support from friends

*All of these are prerequisites for effective health teaching during health promotion
Discussion

Nursing students scored lowest in Physical Activity (HPLP) & Physical Domain (QOL)

Physical Activity

Relatively unable to:
• Follow a planned exercise program
• Take part in vigorous/light to moderate leisure-time physical activities or stretching exercise
• Get exercise during usual daily activities
• Check pulse rate and reach target heart rate when exercising

Consequences of lack of exercise
• Global trend in which people do not prioritize physical activity in their lifestyles
• Associated with common medical conditions
• Create future health problems

Suggestions
• Revised school timetable settings to accommodate a schedule exercise program
• Integration into peer and school contexts
## Result

### Objective 1: Prevalence of Health-risk behaviors among nursing students

Table 3. Health-risk behaviors of nursing students in a HK university

<table>
<thead>
<tr>
<th>Health-risk behaviors</th>
<th>N (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cigarette Use</strong></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>513 (95.4%)</td>
</tr>
<tr>
<td>Past but not current</td>
<td>12 (2.2%)</td>
</tr>
<tr>
<td>Current</td>
<td>13 (2.4%)</td>
</tr>
<tr>
<td><strong>Alcohol Use</strong></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>305 (56.7%)</td>
</tr>
<tr>
<td>Past but not current</td>
<td>111 (20.6)</td>
</tr>
<tr>
<td>Current</td>
<td>122 (22.7)</td>
</tr>
<tr>
<td><strong>Illegal drug Use</strong></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>530 (98.5%)</td>
</tr>
<tr>
<td>Past but not current</td>
<td>4 (0.75%)</td>
</tr>
<tr>
<td>Current</td>
<td>4 (0.75%)</td>
</tr>
<tr>
<td><strong>Using Preventive Measures during Sexual Intercourse</strong></td>
<td></td>
</tr>
<tr>
<td>Never had sexual intercourse</td>
<td>426 (79.2)</td>
</tr>
<tr>
<td>Currently use preventive measures</td>
<td>104 (19.3%)</td>
</tr>
<tr>
<td>Never use preventive measures</td>
<td>8 (1.5%)</td>
</tr>
<tr>
<td><strong>Lose weight with inappropriate methods</strong></td>
<td></td>
</tr>
<tr>
<td>Never attempt to lose weight</td>
<td>293 (54.5%)</td>
</tr>
<tr>
<td>Never use these methods</td>
<td>148 (27.5%)</td>
</tr>
<tr>
<td>Currently use these methods</td>
<td>97 (18%)</td>
</tr>
</tbody>
</table>
## Discussion

Nursing Students’ Engagement in Health Risk-Behaviors in comparison with the general population

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Nursing Students (%)</th>
<th>General Population (%)</th>
<th>Source (Year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking</td>
<td>2.3%</td>
<td>24.2%</td>
<td>(Department of Health, 2009)</td>
</tr>
<tr>
<td>Alcohol Consumption</td>
<td>22.7%</td>
<td>36.3%</td>
<td>(Depart of Health, 2009)</td>
</tr>
<tr>
<td>Illegal Drug Use</td>
<td>0.75%</td>
<td>9.3%</td>
<td>(Lau et al., 2005)</td>
</tr>
<tr>
<td>Unsafe Sexual Intercourse</td>
<td>7.1%</td>
<td>10%</td>
<td>(Abdullah et al., 2004)</td>
</tr>
<tr>
<td>Unhealthy weight loss</td>
<td>18.0%</td>
<td>22.6%</td>
<td>(Lee &amp; Tsang, 2004)</td>
</tr>
</tbody>
</table>
Low engagement in health-risk behaviors

**Benefit for personal health:** Less vulnerable to conditions which are likely to imperil their health

**Benefit for future practice:** Clients are more likely to comply with health-related behavior if it is modeled by health professionals

Encourage them to continue with their good practice
### Objective 2: The association between Gender and HPL & QOL

Table 4. The association between gender, HPL & QOL among nursing students in a Hong Kong University.

<table>
<thead>
<tr>
<th>Variable</th>
<th>HPL</th>
<th>Health Responsibility</th>
<th>Physical Activity</th>
<th>Nutrition</th>
<th>Spiritual Growth</th>
<th>Interpersonal Relations</th>
<th>Stress Management</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>128.05 (16.68)</td>
<td>2.30 (0.42)</td>
<td>1.96 (0.46)</td>
<td>2.53 (0.42)</td>
<td>2.70 (0.45)</td>
<td>2.82 (0.43)</td>
<td>2.41 (0.41)</td>
</tr>
<tr>
<td>Male</td>
<td>128.71 (19.16)</td>
<td>2.29 (0.47)</td>
<td>2.33 (0.55)</td>
<td>2.44 (0.42)</td>
<td>2.67 (0.48)</td>
<td>2.69 (0.45)</td>
<td>2.41(0.46)</td>
</tr>
<tr>
<td><strong>Mean diff</strong></td>
<td>-0.657</td>
<td>-0.006</td>
<td>-0.361</td>
<td>0.091</td>
<td>0.028</td>
<td>0.127</td>
<td>0.0017</td>
</tr>
<tr>
<td><strong>T-Test</strong></td>
<td>-0.390</td>
<td>0.990</td>
<td>-7.091</td>
<td>2.222</td>
<td>0.531</td>
<td>3.018</td>
<td>0.041</td>
</tr>
<tr>
<td><strong>P-value</strong></td>
<td>0.697</td>
<td></td>
<td>0.000</td>
<td>0.027</td>
<td>0.531</td>
<td>0.003</td>
<td>0.967</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>QOL Physical</th>
<th>QOL Psychological</th>
<th>QOL Social</th>
<th>QOL Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>12.20 (1.85)</td>
<td>13.16 (1.77)</td>
<td>13.98 (2.17)</td>
<td>13.57 (2.00)</td>
</tr>
<tr>
<td>Male</td>
<td>12.02 (1.90)</td>
<td>12.95 (1.73)</td>
<td>13.13 (2.53)</td>
<td>13.38 (2.15)</td>
</tr>
<tr>
<td><strong>Mean Difference</strong></td>
<td>0.183</td>
<td>0.191</td>
<td>0.844</td>
<td>0.193</td>
</tr>
<tr>
<td><strong>T-Test</strong></td>
<td>1.012</td>
<td>1.123</td>
<td>3.835</td>
<td>0.973</td>
</tr>
<tr>
<td><strong>P-value</strong></td>
<td>0.312</td>
<td>0.262</td>
<td>0.000</td>
<td>0.331</td>
</tr>
</tbody>
</table>
Discussion

Gender as a key factor determining health-promoting behaviors

Performed Better in: Nutrition and Interpersonal Relations

Possible Explanations:

• More confident in social and communication skills (Lee & Loke, 2005) and be more empathetic and with more emotionally awareness (Weisman & Teitelbaum, 1988)
• Societal expectations that women must fulfill certain functions within the family
• More concerned on their health considerations (Oksuzyan et al., 2008) and weight control (Wardle et al., 2004)
Discussion

**Gender** as a key factor determining health-promoting behaviors

Performed Better in: Physical Activity

Possible Explanations:

- Physical activities are always reflected as masculine events (Vilhialmsson & Thorlindsson, 1998)

- Young female were always discourage from participating exercise by their previous “bad experience” in the physical education classes (Ennis et al., 1996)
Health education programs should be planned to cater to the different and specific needs of male and female students according to their inclinations and characteristics.

Recommendation
Tailor-made health education programs
Result

Objective 2: The association between Year of study and HPL & QOL

Table 5. The association between year of study, HPL & QOL among nursing students in a Hong Kong University.

<table>
<thead>
<tr>
<th>Variable</th>
<th>HPL</th>
<th>Health Responsibility</th>
<th>Physical Activity</th>
<th>Nutrition</th>
<th>Spiritual Growth</th>
<th>Interpersonal Relations</th>
<th>Stress Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year of study</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>129.75 (17.86)</td>
<td>2.86 (0.46)</td>
<td>2.095 (0.53)</td>
<td>2.541 (0.43)↑</td>
<td>2.741 (0.46)↑</td>
<td>2.809 (0.44)</td>
<td>2.449 (0.43)</td>
</tr>
<tr>
<td>2</td>
<td>128.49 (18.61)</td>
<td>2.279 (0.46)</td>
<td>2.091 (0.56)</td>
<td>2.526 (0.44)</td>
<td>2.700 (0.48)</td>
<td>2.776 (0.47)</td>
<td>2.404 (0.49)</td>
</tr>
<tr>
<td>3</td>
<td>125.77 (15.46)</td>
<td>2.325 (0.38)</td>
<td>1.990 (0.44)</td>
<td>2.457 (0.40)</td>
<td>2.613 (0.43)↓</td>
<td>2.714 (0.39)</td>
<td>2.359 (0.37)</td>
</tr>
<tr>
<td>4</td>
<td>124.67 (16.16)</td>
<td>2.299 (0.42)</td>
<td>1.997 (0.40)</td>
<td>2.368 (0.42)↓</td>
<td>2.588 (0.44)↓</td>
<td>2.773 (0.46)</td>
<td>2.305 (0.41)</td>
</tr>
<tr>
<td>F</td>
<td>2.256</td>
<td>0.267</td>
<td>1.553</td>
<td>2.982</td>
<td>0.031</td>
<td>1.368</td>
<td>2.434</td>
</tr>
<tr>
<td>Sig</td>
<td>0.081</td>
<td>0.849</td>
<td>0.200</td>
<td>0.849</td>
<td>0.081</td>
<td>0.252</td>
<td>0.064</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>QOL_Physical</th>
<th>QOL_Psychological</th>
<th>QOL_Social</th>
<th>QOL_Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year of study</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>12.217 (1.86)</td>
<td>13.137 (1.80)</td>
<td>13.862 (2.31)</td>
<td>13.649 (2.03)↑</td>
</tr>
<tr>
<td>2</td>
<td>11.992 (1.84)</td>
<td>13.135 (1.62)</td>
<td>13.622 (2.28)</td>
<td>13.858 (2.03)↑</td>
</tr>
<tr>
<td>3</td>
<td>12.104 (2.00)</td>
<td>12.915 (1.80)</td>
<td>13.609 (2.35)</td>
<td>13.273 (2.00)</td>
</tr>
<tr>
<td>4</td>
<td>12.131 (1.62)</td>
<td>13.320 (1.58)</td>
<td>13.583 (2.14)</td>
<td>12.833 (2.07)↓</td>
</tr>
<tr>
<td>F</td>
<td>0.328</td>
<td>0.750</td>
<td>0.546</td>
<td>3.520</td>
</tr>
<tr>
<td>Sig</td>
<td>0.805</td>
<td>0.523</td>
<td>0.651</td>
<td>0.015</td>
</tr>
</tbody>
</table>
Discussion

Effect of year of study on HPL and QOL

Total HPL
Health responsibility
Nutrition
Spiritual growth
Stress management
Social and environment domain of QOL

Year of nursing study

(Hui, 2002; Staib, Fusner & Consolo, 2006)
Discussion

Effect of **year of study** on HPL and QOL

Emphasis on health promotion in nursing curriculum

Impact on nursing students’ perception of health and practices

- ↑ Health promotion education
- ↑ Academic stress from final year study
- ↑ Career stress from role change

Suggestion:
1) Technical consultation
2) Emotional Support

(Alpar, Senuran, Karabacak & Sabuncu, 2008; Cubit, 2010; Stark, Manning & Vliem, 2005)
Objective 2: The association between Age and HPL & QOL among nursing students at a university in HK

Table 6. The association between age, HPL & QOL among nursing students in a Hong Kong University.

<table>
<thead>
<tr>
<th>Variable</th>
<th>HPL</th>
<th>Health Responsibility</th>
<th>Physical Activity</th>
<th>Nutrition</th>
<th>Spiritual Growth</th>
<th>Interpersonal Relations</th>
<th>Stress Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Under 20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21-25</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Above 25</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig</td>
<td>8.392</td>
<td>2.337 (0.45)</td>
<td>2.155 (0.50)</td>
<td>2.585 (0.41)</td>
<td>2.784 (0.42)</td>
<td>2.872 (0.45)</td>
<td>2.524 (0.40)</td>
</tr>
<tr>
<td></td>
<td>0.000</td>
<td>2.278 (0.42)</td>
<td>2.017 (0.51)</td>
<td>2.468 (0.43)</td>
<td>2.646 (0.46)</td>
<td>2.738 (0.42)</td>
<td>2.361 (0.42)</td>
</tr>
<tr>
<td></td>
<td>2.212 (0.48)</td>
<td>2.028 (0.54)</td>
<td>2.450 (0.43)</td>
<td>2.707 (0.56)</td>
<td>2.722 (0.49)</td>
<td>2.278 (0.46)</td>
<td>2.278 (0.46)</td>
</tr>
<tr>
<td></td>
<td>1.437</td>
<td>4.295 0.015</td>
<td>4.557 0.011</td>
<td>5.366 0.005</td>
<td>5.718 0.003</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.238</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>QOL_Physical</th>
<th>QOL_Psychological</th>
<th>QOL_Social</th>
<th>QOL_Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;=20</td>
<td>12.462 (1.72)</td>
<td>13.357 (1.67)</td>
<td>14.109 (2.19)</td>
<td>13.881 (1.94)</td>
</tr>
<tr>
<td>21-25</td>
<td>12.010 (1.90)</td>
<td>12.984 (1.74)</td>
<td>13.597 (2.33)</td>
<td>13.330 (2.02)</td>
</tr>
<tr>
<td>25+</td>
<td>11.974 (2.16)</td>
<td>12.970 (2.44)</td>
<td>13.273 (2.31)</td>
<td>13.682 (2.70)</td>
</tr>
<tr>
<td>F</td>
<td>3.503</td>
<td>2.652</td>
<td>3.360</td>
<td>4.297</td>
</tr>
<tr>
<td>Sig</td>
<td>0.031</td>
<td>0.071</td>
<td>0.035</td>
<td>0.014</td>
</tr>
</tbody>
</table>
**Objective 2:** To examine the association between **Family Income** and HPL & QOL among nursing students at a university in HK

Table 7. The association between family income, HPL & QOL among nursing students in a Hong Kong University.

<table>
<thead>
<tr>
<th>Variable</th>
<th>HPL</th>
<th>Health Responsibility</th>
<th>Physical Activity</th>
<th>Nutrition</th>
<th>Spiritual Growth</th>
<th>Interpersonal Relations</th>
<th>Stress Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below 10,000</td>
<td>125.60 (17.61)</td>
<td>2.25 (0.42)</td>
<td>2.02 (0.50)</td>
<td>2.47 (0.44)</td>
<td>2.62 (0.45)</td>
<td>2.72 (0.43)</td>
<td>2.36 (0.42)</td>
</tr>
<tr>
<td>10,000-19,999</td>
<td>128.39 (17.21)</td>
<td>2.30 (0.46)</td>
<td>2.06 (0.49)</td>
<td>2.51 (0.41)</td>
<td>2.70 (0.45)</td>
<td>2.77 (0.41)</td>
<td>2.42 (0.43)</td>
</tr>
<tr>
<td>20,000-29,999</td>
<td>128.29 (17.33)</td>
<td>2.30 (0.44)</td>
<td>2.08 (0.52)</td>
<td>2.53 (0.42)</td>
<td>2.66 (0.44)</td>
<td>2.77 (0.43)</td>
<td>2.41 (0.42)</td>
</tr>
<tr>
<td>Above 30,000</td>
<td>131.98 (16.92)</td>
<td>2.34 (0.41)</td>
<td>2.11 (0.55)</td>
<td>2.50 (0.44)</td>
<td>2.83 (0.48)</td>
<td>2.90 (0.48)</td>
<td>2.48 (0.42)</td>
</tr>
<tr>
<td>F</td>
<td>2.576</td>
<td>0.831</td>
<td>0.630</td>
<td>0.468</td>
<td>4.581</td>
<td>3.400</td>
<td>1.594</td>
</tr>
<tr>
<td>Sig</td>
<td>0.053</td>
<td>0.477</td>
<td>0.596</td>
<td>0.705</td>
<td>0.004</td>
<td>0.018</td>
<td>0.190</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>QOL_Psychological</th>
<th>QOL_Social</th>
<th>QOL_Environment</th>
<th>QOL_Psychological</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below 10,000</td>
<td>11.89 (1.74)</td>
<td>13.00 (1.72)</td>
<td>13.82 (2.23)</td>
<td>13.05 (2.07)</td>
</tr>
<tr>
<td>10,000-19,999</td>
<td>12.02 (1.90)</td>
<td>12.92 (1.84)</td>
<td>13.43 (2.29)</td>
<td>13.29 (1.99)</td>
</tr>
<tr>
<td>20,000-29,999</td>
<td>12.19 (1.85)</td>
<td>13.08 (1.73)</td>
<td>13.67 (2.23)</td>
<td>13.59 (1.91)</td>
</tr>
<tr>
<td>Above 30,000</td>
<td>12.81 (1.89)</td>
<td>13.67 (1.55)</td>
<td>14.39 (2.38)</td>
<td>14.67 (1.82)</td>
</tr>
<tr>
<td>F</td>
<td>5.291</td>
<td>4.188</td>
<td>3.785</td>
<td>14.183</td>
</tr>
<tr>
<td>Sig</td>
<td>0.001</td>
<td>0.006</td>
<td>0.010</td>
<td>0.000</td>
</tr>
</tbody>
</table>
Discussion

Effect of **family income** on HPL and QOL

- Better living environment
- More accessibility to health promoting measures
- Less economic burden

More compliance in HPL

Better QOL

(Alder et al., 1994)
### Result

**Objective 3: The barriers that may hurdle nursing students to adopt HPL**

<table>
<thead>
<tr>
<th>Barriers</th>
<th>N (Percentage)</th>
<th>HPL Scores</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Heavy Study Load</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>107 (19.8)</td>
<td>132.48 (15.22)</td>
<td>0.002 **</td>
</tr>
<tr>
<td>Agree</td>
<td>431 (80.1)</td>
<td>127.17 (17.72)</td>
<td></td>
</tr>
<tr>
<td><strong>Academic Stress</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>91 (16.9)</td>
<td>132.08 (16.59)</td>
<td>0.020 *</td>
</tr>
<tr>
<td>Agree</td>
<td>447 (83.1)</td>
<td>127.44 (17.44)</td>
<td></td>
</tr>
<tr>
<td><strong>Fatigue After Placement</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>70 (13)</td>
<td>133.83 (18.41)</td>
<td>0.004 **</td>
</tr>
<tr>
<td>Agree</td>
<td>468 (87)</td>
<td>127.39 (17.07)</td>
<td></td>
</tr>
</tbody>
</table>

* p < 0.05    ** p<0.01     ***p<0.001
### Objective 3: The barriers that may hurdle nursing students to adopt HPL

<table>
<thead>
<tr>
<th>Barriers</th>
<th>N (Percentage)</th>
<th>HPL Scores</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of exposure to school education in health promotion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>294 (54.8)</td>
<td>131.21 (16.73)</td>
<td>0.000***</td>
</tr>
<tr>
<td>Agree</td>
<td>244 (45.1)</td>
<td>124.64 (17.48)</td>
<td></td>
</tr>
<tr>
<td>See no value in engaging health-promoting lifestyles</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>404 (75.1)</td>
<td>129.89 (16.94)</td>
<td>0.000***</td>
</tr>
<tr>
<td>Agree</td>
<td>134 (24.9)</td>
<td>123.21 (17.74)</td>
<td></td>
</tr>
<tr>
<td>Lack of encouragement and support from family in adopting healthy lifestyles</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>390 (72.5)</td>
<td>130.19 (17.04)</td>
<td>0.000***</td>
</tr>
<tr>
<td>Agree</td>
<td>148 (27.5)</td>
<td>123.06 (17.23)</td>
<td></td>
</tr>
<tr>
<td>Lack of encouragement and support from peer in adopting healthy lifestyles</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>389 (72.3)</td>
<td>130.19 (16.97)</td>
<td>0.000***</td>
</tr>
<tr>
<td>Agree</td>
<td>149 (27.7)</td>
<td>123.11 (17.41)</td>
<td></td>
</tr>
<tr>
<td>Lack of money to access the facilities for health-promoting activities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>341 (63.4)</td>
<td>130.54 (16.69)</td>
<td>0.000***</td>
</tr>
<tr>
<td>Agree</td>
<td>197 (36.6)</td>
<td>124.23 (17.83)</td>
<td></td>
</tr>
<tr>
<td>Lack of convenient access to adequate facilities for health-promoting activities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>353 (65.6)</td>
<td>130.54 (17.27)</td>
<td>0.000***</td>
</tr>
<tr>
<td>Agree</td>
<td>185 (34.4)</td>
<td>123.81 (16.74)</td>
<td></td>
</tr>
</tbody>
</table>

* p < 0.05      ** p<0.01      ***p<0.001
### Result

**Objective 3: The barriers that may hurdle nursing students to adopt HPL**

<table>
<thead>
<tr>
<th>Barriers</th>
<th>N (Percentage)</th>
<th>HPL Scores</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Constraints Related to the Academic Commitments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>100 (18.6)</td>
<td>130.92 (16.37)</td>
<td>0.086</td>
</tr>
<tr>
<td>Agree</td>
<td>438 (81.4)</td>
<td>127.61 (17.55)</td>
<td></td>
</tr>
<tr>
<td>Time Constraints Related to the Social Commitments of University Life</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>204 (37.9)</td>
<td>130.06 (16.37)</td>
<td>0.056</td>
</tr>
<tr>
<td>Agree</td>
<td>334 (62.1)</td>
<td>127.11 (17.89)</td>
<td></td>
</tr>
<tr>
<td>Time Constraints Related to the Family Responsibility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>248 (46.1)</td>
<td>128.85 (16.96)</td>
<td>0.441</td>
</tr>
<tr>
<td>Agree</td>
<td>290 (53.9)</td>
<td>127.69 (17.73)</td>
<td></td>
</tr>
</tbody>
</table>

* p < 0.05     **p<0.01     ***p<0.001
### Result

Objective 4: The relationship between HPL and QOL

Table 9. Pearson correlation between Health Promotion Lifestyle Profile II and World Health Organization Quality of Life Instrument-BREF scores

<table>
<thead>
<tr>
<th>QOL</th>
<th>HPLP Total</th>
<th>Physical</th>
<th>Psychological</th>
<th>Social</th>
<th>Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>0.392</strong></td>
<td>0.392**</td>
<td>0.443**</td>
<td>0.324*</td>
<td>0.457**</td>
<td></td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed).
Discussion

An Intricate Linkage between HPL and QOL
Implication of the Positive Relationship between HPL and QOL
Discussion
Identification of Barriers to HPL

Little time in HPL
(i.e. physical activities)
In view of undergraduates’ age & health status…

Poor health practices not be considered as an imminent future health threat

Our findings

• Increase organizational awareness
• Strengthen rationales for encouraging them in adopting HPL before too late to restore health in later life (Lee & Yuen-Loke, 2005)
Identification of Barriers to HPL

Recommendations for Nursing Educators

- Revise arrangement of study program and placement
- Provide tailor-made time management counseling services
- Offer low-price and convenient accessibility of health-promoting activities

Outcome

- Facilitate nursing students in engaging HPL
- Improve nursing students’ health status & QOL
- Reduce likelihood of future health risks
Study Limitation, Future Studies & Conclusion
### Study Limitations

**Cross-sectional design**
- Precludes any conclusive causal linkage between HPL & QOL
- Unable to study the change of HPLP & QOL throughout the nursing training
- Further longitudinal studies are needed

**Survey**
- Trends to produce superficial information
- Lack of in-depth exploration of the phenomenon

**Self-administrated questionnaire**
- Respondent may give social desirable answers & distorted from reality $\rightarrow$ Bias

**Limited time & resources**
- Restricted the researcher to invite more participants from different institutes to further increase reliability
Study Limitations

Various kinds of health promoting behavior

Important predictors of QOL
Study Limitations

Modest amount of variance

Other important factors have not been included
Further Studies

- To explore more proximal factors that may be related to health promoting behaviors in nursing students
- Further explicate the causal linkages between variables
- Predict long term effects of health promoting behavior on QOL during nursing students’ university years
- Promote health of future nurses in long term

Longitudinal studies
Conclusion

Expansion of coherent body of knowledge about QOL

Awareness of nursing students’ acquiescence in HPL and QOL

Current Study
Facilitate health promotion behaviors through health promoting activities.

Improve overall health of nursing students.

Finally enhance their QOL.

Examples for patients and public with regard to health-related behaviors in future.
THE END

Thank You


References (2)


References (3)


References (4)


