HEALTH AND HUMAN DEVELOPMENT

Written examination

Monday 7 November 2005
Reading time: 3.00 pm to 3.15 pm (15 minutes)
Writing time: 3.15 pm to 5.15 pm (2 hours)

QUESTION AND ANSWER BOOK

Structure of book

<table>
<thead>
<tr>
<th>Number of questions</th>
<th>Number of questions to be answered</th>
<th>Number of marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>5</td>
<td>100</td>
</tr>
</tbody>
</table>

- Students are permitted to bring into the examination room: pens, pencils, highlighters, erasers, sharpeners and rulers.
- Students are NOT permitted to bring into the examination room: blank sheets of paper and/or white out liquid/tape.
- No calculator is allowed in this examination.

Materials supplied
- Question and answer book of 17 pages.

Instructions
- Write your student number in the space provided above on this page.
- All written responses must be in English.

Students are NOT permitted to bring mobile phones and/or any other unauthorised electronic devices into the examination room.
**Question 1**

Cancer is one of the National Health Priority Areas (NHPA) in Australia.

a. Table 1 shows the contribution of cancer and other NHPAs to the burden of disease.

<p>| Table 1. Indicators of the impact of NHPA diseases and conditions (various years) |
|---------------------------------|-----------------|----------------|----------------|-----------------|</p>
<table>
<thead>
<tr>
<th>NHPA</th>
<th>Prevalence</th>
<th>Disability</th>
<th>Deaths</th>
<th>Burden of disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiovascular problems</td>
<td>16.8</td>
<td>8.6</td>
<td>37.6</td>
<td>21.9</td>
</tr>
<tr>
<td>Cancers</td>
<td>1.4</td>
<td>1.7</td>
<td>28.1</td>
<td>19.1</td>
</tr>
<tr>
<td>Mental disorders</td>
<td>9.6</td>
<td>14.7</td>
<td>2.4</td>
<td>13.3</td>
</tr>
<tr>
<td>Injury and poisoning</td>
<td>11.9</td>
<td>6.8</td>
<td>5.8</td>
<td>8.4</td>
</tr>
<tr>
<td>Diabetes</td>
<td>2.9</td>
<td>1.8</td>
<td>2.5</td>
<td>4.9</td>
</tr>
<tr>
<td>Asthma</td>
<td>11.6</td>
<td>4.7</td>
<td>0.3</td>
<td>2.6</td>
</tr>
<tr>
<td>Arthritis</td>
<td>32.0</td>
<td>34.4</td>
<td>0.8</td>
<td>3.6</td>
</tr>
</tbody>
</table>


i. Define Disability Adjusted Life Years (DALY).

ii. Describe two differences in the way cancer and arthritis contribute to the burden of disease as shown in Table 1.

1. 

2. 

2 marks
There were 88,398 new cancer cases and 36,319 deaths due to cancer in Australia in 2001. Cancer currently accounts for 31% of male deaths and 26% of female deaths. In males, prostate cancer is the most common registrable cancer, followed by colorectal cancer, lung cancer and melanoma. These four cancers account for 60% of all registrable cancers in males. In females, breast cancer is the most common registrable cancer, followed by colorectal cancer, melanoma and lung cancer. These four cancers account for 60% of all registrable cancers in females.


b. Various factors impact on health status. Choose three factors and describe how each may contribute to the differences or similarities in cancers between males and females.

<table>
<thead>
<tr>
<th>Factor 1</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Factor 2</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Factor 3</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2 + 2 + 2 = 6 marks
c. The Ottawa Charter outlines five priority areas for the practice of health promotion. Choose one area and explain how a focus on this area could make an impact on the burden of disease from cancer.

Priority area _____________________________________________________________

_______________________________________________________________________

_______________________________________________________________________

_______________________________________________________________________

3 marks

Question 2

Social and economic circumstances can affect health and development throughout life.

a. Briefly describe the likely difference in the health status of higher and lower socioeconomic groups in Australia.

_______________________________________________________________________

_______________________________________________________________________

_______________________________________________________________________

2 marks

b. Generally, those most at risk of not eating healthy and nutritious food include people with low income.

i. Dietary imbalance has consequences for individuals and for communities. Explain one consequence for the community and one consequence for the individual of dietary imbalances experienced by people with low incomes.

Consequence for the community __________________________________________

_______________________________________________________________________

_______________________________________________________________________

Consequence for the individual __________________________________________

_______________________________________________________________________

_______________________________________________________________________

4 marks

Question 2 – continued
ii. List one example each of behavioural, social, economic and environmental factors that may affect food selection and purchase.

Behavioural factor

Social factor

Economic factor

Environmental factor

4 marks

iii. Identify two factors in part ii. above and demonstrate the effect they may have on the ability of low socioeconomic individuals to select and purchase nutritious food.

Factor 1

Effect

Factor 2

Effect

4 marks
c. The description below is of local action to create access to healthy eating for low socioeconomic groups.

**Access to healthy eating**

The Café Meals Program targets people who are homeless or at risk of homelessness and therefore lack both access and opportunities to prepare food for healthy eating. The program provides social dining opportunities in participating cafés that are affordable, easy to access and acceptable to homeless people. Once in the program, clients are given a membership card that entitles them to access one subsidised meal per day from any of four participating cafés. Clients present their membership cards at the café and pay $2 toward a meal valued up to $8.80. The program provides reliable access to food that is socially acceptable. The program was established as part of the food insecurity demonstration program funded by VicHealth and the Department of Human Services working with the North Yarra Community Service and the City of Yarra.

Adapted from: VicHealth 2003, *Food For All?* Food Insecurity Community Demonstration Projects, Maribyrnong City Council and North Yarra Community Health, Case Studies, VicHealth, Melbourne, December, 2003. pp. 5–6

i. Explain why nutrition is important in public health programs.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

3 marks
ii. Discuss the use of a public health nutrition program like the Café Meals Program for sustaining the health and development of low socioeconomic status groups.

5 marks
Total 22 marks
Question 3

a. As part of the 2001 National Health Survey, older Australians living in private households were asked to assess their own health status. The table below details the findings showing the percentage at each age level and how they rate their health.

Table 2. Self-assessed health status of older Australians

<table>
<thead>
<tr>
<th>Self-assessed health status</th>
<th>Males (%)</th>
<th>Females (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>65–74</td>
<td>75–84</td>
</tr>
<tr>
<td>Excellent</td>
<td>11.0</td>
<td>8.5</td>
</tr>
<tr>
<td>Good/very good</td>
<td>57.6</td>
<td>52.0</td>
</tr>
<tr>
<td>Poor/fair</td>
<td>31.4</td>
<td>39.5</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>


i. Describe two differences in how older Australians have assessed their own health status as shown in Table 2 above.

Difference 1

__________________________________________________________________________________________________________________________

__________________________________________________________________________________________________________________________

Difference 2

__________________________________________________________________________________________________________________________

__________________________________________________________________________________________________________________________

2 marks

ii. Predict two criteria that older Australians may have used to assess their own health status.

Criterion 1

__________________________________________________________________________________________________________________________

__________________________________________________________________________________________________________________________

Criterion 2

__________________________________________________________________________________________________________________________

__________________________________________________________________________________________________________________________

2 marks
b. The table below illustrates the average Medicare benefits paid per person, broken down by age and sex, in 2002–03.

Table 3. Medicare benefits paid to males and females in each age group

<table>
<thead>
<tr>
<th>Age group</th>
<th>Males ($)</th>
<th>Females ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–4</td>
<td>259.99</td>
<td>229.60</td>
</tr>
<tr>
<td>5–9</td>
<td>138.13</td>
<td>130.06</td>
</tr>
<tr>
<td>10–14</td>
<td>133.05</td>
<td>129.47</td>
</tr>
<tr>
<td>15–19</td>
<td>151.22</td>
<td>241.86</td>
</tr>
<tr>
<td>20–24</td>
<td>159.07</td>
<td>325.32</td>
</tr>
<tr>
<td>25–34</td>
<td>192.11</td>
<td>451.34</td>
</tr>
<tr>
<td>35–44</td>
<td>258.95</td>
<td>460.51</td>
</tr>
<tr>
<td>45–54</td>
<td>376.88</td>
<td>543.84</td>
</tr>
<tr>
<td>55–64</td>
<td>582.63</td>
<td>687.13</td>
</tr>
<tr>
<td>65–74</td>
<td>920.04</td>
<td>882.49</td>
</tr>
<tr>
<td>75 and over</td>
<td>842.69</td>
<td>954.06</td>
</tr>
<tr>
<td>All</td>
<td>338.66</td>
<td>475.68</td>
</tr>
</tbody>
</table>


i. Explain two reasons that might contribute to the different levels of Medicare benefits paid for the 10–14 age group compared with the 75+ age group as shown in Table 3.

Reason 1

Reason 2

4 marks
ii. Give two possible reasons as to why the average Medicare benefits paid for females aged 25–34 is greater than those paid to males of the same age group as shown in Table 3.

Reason 1

Reason 2

2 marks

c. State and territory health departments spent $690.7 million on public health activities in 2000–01. Figure 1 shows the expenditure on public health by activity in 2000–01.

**Figure 1.** The expenditure on public health by activity in 2000–01

i. Identify two areas of expenditure in Figure 1 that represent a biomedical approach to health.
   1. 
   2. 
   2 marks

ii. Identify two areas of expenditure in Figure 1 that represent a preventative approach to health.
   1. 
   2. 
   2 marks

iii. Predict whether the biomedical or preventative approach would be more effective in decreasing the average Medicare benefits paid and, ultimately, expenditure on health generally. Justify your answer.

   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   5 marks
   Total 19 marks
Question 4

Trudie and Tim are both 13 and attend the same school and live close to each other. Both are healthy and active.

a. i. List two similarities in their physical development at this stage of the lifespan.

Similarity 1


Similarity 2


2 marks

ii. List two differences in their physical development at this stage of the lifespan.

Difference 1


Difference 2


2 marks

iii. Describe how his physical development may impact on Tim’s social and emotional development.

Impact on social development


Impact on emotional development


4 marks
b. On the table below, list three hormones that influence the physical development of Tim and/or Trudie. Explain the roles these hormones play in physical development.

<table>
<thead>
<tr>
<th>Hormone</th>
<th>Role the hormone plays in physical development</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
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<tr>
<td></td>
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</tr>
</tbody>
</table>

9 marks

c. i. Choose one environmental factor and show how it may influence Tim’s development at his stage of the lifespan.

Environmental factor

Influence of the environmental factor on development


2 marks

c. ii. Choose one environmental factor and show how it may influence Trudie’s health at her stage of the lifespan.

Environmental factor

Influence of the environmental factor on health


2 marks

Total 21 marks

TURN OVER
**Question 5**
a. Dietary imbalance is one of the factors contributing to the global burden of disease. Figure 2 shows the burden of disease (measured in DALYs) attributable to undernutrition and other diet-related risks and physical inactivity.

**Figure 2.** Burden of disease attributable DALYs in 2000 by undernutrition and diet-related risks and physical inactivity (000s)


i. Using the information in Figure 2 list three differences and/or similarities in the DALYs in high mortality developing countries, low mortality developing countries and developed countries.

1. 

2. 

3. 

3 marks
ii. Choose one area from Figure 2 and describe how it affects health or development in a high mortality developing country compared with a developed country.

Area ____________________________________________

Health or development ____________________________________________

Effect ____________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

3 marks

iii. Fruit and vegetable intake contribute to DALYs.

Complete the following table outlining three major nutrients found in fruit and vegetables, their major food sources and their function for optimal health and development.

<table>
<thead>
<tr>
<th>Major nutrient</th>
<th>Major food source</th>
<th>Function for optimal health and development</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
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<tr>
<td>2.</td>
<td></td>
<td></td>
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<tr>
<td>3.</td>
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</tbody>
</table>

9 marks
b. Read the following media report and then answer the questions that follow.

WHO AND FAO ANNOUNCE GLOBAL INITIATIVE TO PROMOTE CONSUMPTION OF FRUIT AND VEGETABLES.

The World Health Organization's (WHO) mandate is to improve the health around the world. In May 2002, WHO was requested to develop a Global Strategy on Diet, Physical Activity and Health.

In November 2003 WHO and the Food and Agricultural Organisation (FAO) announced a unified approach to promote greater global consumption of fruit and vegetables to optimise the health and development of all individuals.

The WHO and FAO joint fruit and vegetable promotion, ‘5-a-day’ initiative, has been developed within the framework of the Global Strategy on Diet, Physical Activity and Health. ‘5-a-day’ is an international program designed to encourage fruit and vegetable consumption, encouraging all women, children and men to consume at least five servings of fruit and vegetables (approximately 400 g) every day (excluding starchy tubers such as potatoes).

Adapted from: http://www.who.int/dietphysicalactivity/fruit/en/index3.html
Accessed February 2005

i. Given the contribution of DALYs to the burden of disease of low fruit and vegetable intake, outline two reasons why resources should be put into a fruit and vegetable promotion.

1. 

2. 

4 marks
ii. Discuss one factor in each of a high mortality developing country, a low mortality developing country and a developed country that would impact on implementing the WHO program in urban areas.

High mortality developing country


Low mortality developing country


Developed country


6 marks
Total 25 marks