MONGOLIA

HEALTH REVIEW

KAP ABOUT CERVICAL CANCER

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LAND LOCKED COUNTRY IN EAST ASIA. 19TH LARGEST COUNTRY WITH 2.8 MILLION POPULATION
ETHNICS: 82.4% - MONGOLS
RELIGION - BUDDHISM
ETHNIC MINORS - KAZAKH
RELIGION - MUSLIM
Democratic Country - Since 1990
URBAN 69%  NOMADS 31%

REGIONAL AVERAGE 54%
GLOBAL AVERAGE 52%

SOURCE: WWW.WHO/GHO/COUNTRIES/MN
• Gross national income per capita (PPP int $)- **4290**
  (reg-10925, gl-11536)

• Life expectancy at birth (both sexes)- **68.63**
  (reg-76, gl-70)

• Total fertility rate -**2.4**
  (reg-1.7, gl-2.4)

• Adult mortality rate male* -**309**
  (reg -118, gl-190)

  female-**147**
  (reg-81, gl-129)

* Probability of dying between 15-60 years per 1000 population

• Source: www.WHO/gho/countries/Mn
Age structure

0–14 years 27.1% (2012 est.)

15–64 years 68.9% (2012 est.)

65 and over 4% (2012 est.)
Average Monthly Temperature
1901 to 2009 (°C)

Mongolia
WORLD BANK REPORT: MONGOLIA

- Lower income country
- GDP (current US$) -$10.27 billion (2012)
HEALTH SYSTEM

Before 1990

• Centrally – planned Russian model hospital based medical system

• Fully financed by general government revenues

• Free of charge

• Large number of beds, medical personnel
After 1990 – collapse soviet union, democratic changes in Mongolia

- Health care financing reform with adoption of the **Health Insurance Law- 1993** as part of social security scheme
  
  It was amended five times

  2011 coverage - 98.6%

- Reorganization of primary care system in Urban
- Family group hospitals
- Fully coverage by the health service
- Privatization
DENSITY OF DOCTORS PER 10 000 POPULATION - 28.5
Mongolia

2010 total population: 2 756 001
Income group: Lower middle

<table>
<thead>
<tr>
<th>NCD mortality*</th>
<th>males</th>
<th>females</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008 estimates</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total NCD deaths (000s)</td>
<td>6.1</td>
<td>4.8</td>
</tr>
<tr>
<td>NCD deaths under age 60</td>
<td>48.0</td>
<td>35.4</td>
</tr>
<tr>
<td>(percent of all NCD deaths)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age-standardized death rate per 100 000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All NCDs</td>
<td>867.7</td>
<td>569.0</td>
</tr>
<tr>
<td>Cancers</td>
<td>259.5</td>
<td>166.4</td>
</tr>
<tr>
<td>Chronic respiratory diseases</td>
<td>33.6</td>
<td>22.7</td>
</tr>
<tr>
<td>Cardiovascular diseases and diabetes</td>
<td>456.4</td>
<td>303.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Behavioural risk factors</th>
<th>males</th>
<th>females</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008 estimated prevalence (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current daily tobacco smoking</td>
<td>43.0</td>
<td>5.2</td>
<td>23.7</td>
</tr>
<tr>
<td>Physical inactivity</td>
<td>7.9</td>
<td>8.4</td>
<td>8.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Metabolic risk factors</th>
<th>males</th>
<th>females</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008 estimated prevalence (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raised blood pressure</td>
<td>44.6</td>
<td>36.4</td>
<td>40.4</td>
</tr>
<tr>
<td>Raised blood glucose</td>
<td>9.7</td>
<td>7.8</td>
<td>8.7</td>
</tr>
<tr>
<td>Overweight</td>
<td>40.7</td>
<td>45.7</td>
<td>43.2</td>
</tr>
<tr>
<td>Obesity</td>
<td>10.4</td>
<td>18.3</td>
<td>14.4</td>
</tr>
<tr>
<td>Raised cholesterol</td>
<td>36.4</td>
<td>36.2</td>
<td>36.3</td>
</tr>
</tbody>
</table>

Proportional mortality (% of total deaths, all ages)*

- CVD: 37%
- Injuries: 13%
- Communicable, maternal, perinatal and nutritional conditions: 14%
- Other NCDs: 12%
- Respiratory diseases: 3%
- Cancers: 21%

NCDs are estimated to account for 72% of all deaths.
LEADING CAUSES OF DEATH, BY GENDER IN MONGOLIA, 2011

Males
- Circulatory system: 34.1%
- Neoplasms: 19.4%
- Injury, poisoning and certain other consequences of external causes: 24.3%
- Digestive system: 8.3%
- Respiratory system: 4.0%
- Perinatal period: 3.0%
- Other: 6.9%

Females
- Circulatory system: 40.9%
- Neoplasms: 22.6%
- Injury, poisoning and certain other consequences of external causes: 8.6%
- Digestive system: 9.9%
- Respiratory system: 3.8%
- Perinatal period: 3.9%
- Other: 10.3%
COMMON CANCERS IN MONGOLIA (FEMALE)

Liver: 33%
Uterine cervix: 17%
WORLD HEALTH ORGANIZATION: COMPONENTS OF CANCER CONTROL

- **Prevention**: Sufficient knowledge can prevent 40% of cancer (1/3 of all cases)
- **Early detection**: Interventions are available which permit the early detection and effective treatment of around (1/3 cases)
- **Palliative care**: Quality of life can be improved (1/3 cases)
Cause of liver cancer – Hepatitis virus B, C (HCV, HBV)
HBV-vaccine (+), HCV- treatment (+)

Cause of uterine cervical cancer-Human papilloma virus (HPV)
HPV-Vaccine (+), early detection method (+): Pap test, VIAA, HPV testing
AGE-STANDARDIZED PREVALENCE OF HPV

- Mongolia 35%
- South America 13-18%
- India 17%
- Sub-Saharan Africa 26%

Dondog B. Cancer Ep Biom Prev 2008;1731-8
ASR AND MASR: CERVIX CANCER MONGOLIA
Every year 530'000 women worldwide are diagnosed with cervical cancer, and around 275,000 die from the disease, with 88% of deaths occurring in developing countries (Globocan 2008 (IARC), Section of Cancer Information, January 2012).
THE GOOD NEWS IS THAT CERVICAL CANCER IS UNIQUE IN THAT THE KNOWLEDGE AND SCIENCE TO SUCCESSFULLY PREVENT, EARLY DETECT AND TREAT IT ARE AVAILABLE. THESE TOOLS COULD MAKE CERVICAL CANCER A DISEASE OF THE PAST.
National Cervical Cancer Program (2009-2013) with support of Millennium Challenge project USA

• Baseline studies

• Public education on cervical cancer risk factors knowledge, behavior changes

• Medical personnel education and training development of guidelines

• Screening (Pap test at the Family hospital, every 3 years women age of 30-60)- Aug 2012

• Pilot HPV vaccination (4 regions)
CERVICAL CANCER KNOWLEDGE, ATTITUDE AND PRACTICE CHANGES AFTER NATIONAL SCREENING PROGRAM
- Randomly selected women 30-60 years old
- General information (age, place, occupation, how far from family hospital etc...)
- Screening related questions (place to be tested, frequency of screening)
- Cervical Cancer risk factors questions
- Mothers acceptance of HPV vaccine

Total 31 questions
RISK FACTOR KNOWLEDGE – SCORED
(0-4 POOR, 5-10 GOOD)

PRACTICE AND ATTITUDE – TRUE, FALSE, NOT SURE

SELF RATED KNOWLEDGE ABOUT HPV-
I HEARD VERY WELL, FEW WORDS, ONLY TERMS

MOTHERS ATTITUDE TO HPV VACCINATION - AGREE, NO, NOT SURE
Total number of participants - 760

- Umnugobi: 311 (41%)
- Domod: 254 (33%)
- Ulaanbaatar: 195 (26%)
DISTANCE FROM CAPITAL CITY

Distance from family hospital

- Not so far: 61%
- Above 400 km: 39%

<table>
<thead>
<tr>
<th>Distance</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-50KM</td>
<td>90.1</td>
</tr>
<tr>
<td>50-100KM</td>
<td>5.8</td>
</tr>
<tr>
<td>100-150KM</td>
<td>2</td>
</tr>
<tr>
<td>150-200KM</td>
<td>0.1</td>
</tr>
<tr>
<td>Above 200KM</td>
<td>2</td>
</tr>
</tbody>
</table>
MEDIAN AGE: 41,2±7,848

- 30-35: 29%
- 36-40: 23%
- 41-45: 19%
- 46-50: 15%
- 51-55: 9%
- 56-60: 5%
- 51-60: 5%
**EDUCATION**

**65.5% MIDDLE LEVEL OF EDUCATION**

<table>
<thead>
<tr>
<th></th>
<th>Grade 1-3</th>
<th>Grade 4-8</th>
<th>Grade 9-10</th>
<th>Initial technical certificate</th>
<th>Technical certificate</th>
<th>Higher</th>
<th>Non educated</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SOUM CENTER</strong></td>
<td>10.4</td>
<td>10</td>
<td>43.4</td>
<td>2.8</td>
<td>13.9</td>
<td>16.7</td>
<td>2.8</td>
</tr>
<tr>
<td><strong>AIMAG CENTER</strong></td>
<td>6.6</td>
<td>5.6</td>
<td>47.5</td>
<td>1.1</td>
<td>21.2</td>
<td>17.2</td>
<td>1</td>
</tr>
<tr>
<td><strong>CAPITAL</strong></td>
<td>2.3</td>
<td>6.1</td>
<td>26.7</td>
<td>2.3</td>
<td>20.6</td>
<td>41.2</td>
<td>1</td>
</tr>
</tbody>
</table>
SOURCE OF INFORMATION

- Family doctor: 44.3
- TV: 43.3
- Midwife/nurse: 16.7
- Pamphlet, posters: 16.6
- Whoever had cancer: 12.6
- Internet web source: 12.1
- Social worker: 12
- Never heard: 5.3
- Internet web source: 5.1
- TV: 4.3
- Social worker: 3
- Never heard: 2.1
- Husband: 2.1
- Never heard: 1.8
- Husband: 1.8
- School teacher: 1.6
- School teacher: 1.6
- Husband: 0.8
- School teacher: 0.7
- School teacher: 0.7
SOURCE OF INFORMATION

- **TV**: 55% (2010) vs. 41% (2013)
- **Radio**: 20% (2010) vs. 3% (2013)
- **IEC**: 44% (2010) vs. 29% (2013)
- **Health Personnel**: 86% (2013) vs. 100% (2013)
IS CERVICAL PREVENTABLE? 2013: 93, 2010: 45

WHICH IS USEFULL TEST 2013: 71, 2010: 47

HAVE YOU HEARD ABOUT HPV 2013: 58, 2010: 21
MEDIAN RISK FACTOR KNOWLEDGE SCORE
64% had knowledge about HPV vaccine

82% of women who has girl age 11-15, agree to vaccinate their daughters
FREQUENCY OF SCREENING

- 3 year, 42%
- Other, 55%

2010: 36%
2013: 42%
## REASONS NOT HAVING SCREENING TEST

<table>
<thead>
<tr>
<th>Social factors</th>
<th>Knowledge factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Big distant to hospital</td>
<td>2.4</td>
</tr>
<tr>
<td>unavailable in the region</td>
<td>1.8</td>
</tr>
<tr>
<td>I did not have time</td>
<td>12.3</td>
</tr>
<tr>
<td>Doctors never offer be to be tested</td>
<td>16.9</td>
</tr>
<tr>
<td>Not necessary to be tested</td>
<td>16.9</td>
</tr>
<tr>
<td>I never knew</td>
<td>16.9</td>
</tr>
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</table>

### Age group

<table>
<thead>
<tr>
<th>Age group</th>
<th>N</th>
<th>Big distant to hospital</th>
<th>unavailable in the region</th>
<th>I did not have time</th>
<th>Doctors never offer be to be tested</th>
<th>Not necessary to be tested</th>
<th>I never knew</th>
</tr>
</thead>
<tbody>
<tr>
<td>40-49</td>
<td>105</td>
<td>1.0-2.9</td>
<td>7.819-9.5</td>
<td>27.619-36.5</td>
<td>14.376-21</td>
<td>22.915-30.8</td>
<td>29.521-37.7</td>
</tr>
<tr>
<td>50-59</td>
<td>65</td>
<td>-</td>
<td>-</td>
<td>12.346-21.5</td>
<td>18.510-27.7</td>
<td>35.424-47.7</td>
<td>33.823-46.2</td>
</tr>
<tr>
<td>Total</td>
<td>336</td>
<td>3,4</td>
<td>65,2</td>
<td>54,5</td>
<td>74</td>
<td>91</td>
<td></td>
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### Residency

<table>
<thead>
<tr>
<th>Residency</th>
<th>N</th>
<th>Big distant to hospital</th>
<th>unavailable in the region</th>
<th>I did not have time</th>
<th>Doctors never offer be to be tested</th>
<th>Not necessary to be tested</th>
<th>I never knew</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital</td>
<td>167</td>
<td>1.80-4.2</td>
<td>7.236-11.4</td>
<td>32.316-40.1</td>
<td>127.2-16.8</td>
<td>24.618-31.1</td>
<td>22.215-28.1</td>
</tr>
<tr>
<td>Aimag center</td>
<td>82</td>
<td>1.20-3.7</td>
<td>-</td>
<td>14.674-22.2</td>
<td>25.616-35.9</td>
<td>15.986-24.1</td>
<td>42.732.5-53</td>
</tr>
<tr>
<td>Soum center</td>
<td>65</td>
<td>1.50-4.6</td>
<td>6.215-12.3</td>
<td>16.977-26.2</td>
<td>129.2-29.2</td>
<td>29.218.5-41.5</td>
<td>27.716.9-40</td>
</tr>
<tr>
<td>Rural</td>
<td>22</td>
<td>4.50-13.6</td>
<td>9.10-22.7</td>
<td>45.522.7-63.6</td>
<td>-</td>
<td>-</td>
<td>40.922.7-63.6</td>
</tr>
<tr>
<td>Total</td>
<td>3364,5</td>
<td>17.9</td>
<td>72.9</td>
<td></td>
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MOTHERS ACCEPTANCE TO HPV VACCINE

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>yes</td>
<td>28</td>
<td>82</td>
</tr>
<tr>
<td>no</td>
<td>36</td>
<td>4</td>
</tr>
<tr>
<td>I don't know</td>
<td>36</td>
<td>14</td>
</tr>
</tbody>
</table>
ASSOCIATION BETWEEN MOTHERS KNOWLEDGE OF HPV AND PERCEPTION TO VACCINATE THEIR DAUGHTERS

<table>
<thead>
<tr>
<th>HPV knowledge</th>
<th>Acceptance of HPV vaccine</th>
<th>Numbers</th>
<th></th>
<th></th>
<th>CI</th>
<th>OR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Doubt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heard very well</td>
<td>131</td>
<td>52,2</td>
<td>5</td>
<td>2.0</td>
<td>15</td>
<td>6,0</td>
</tr>
<tr>
<td>Never heard</td>
<td>74</td>
<td>29,5</td>
<td>6</td>
<td>2.4</td>
<td>20</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>205</td>
<td>81,7</td>
<td>11</td>
<td>4.4</td>
<td>35</td>
<td>13,9</td>
</tr>
</tbody>
</table>
CONCLUSION

- Knowledge about cervical cancer risk factors improved.
- Positive attitude on Pap smear and HPV vaccination increased.
- Medical personals and TV are main information source.
- Knowledge about frequency of screening increased.
- Knowledge about screening service is good.
- Knowledge factor is influenced on decision to be tested.
- Mothers knowledge of risk factors influenced on HPV vaccination.
IT IS EARLY DAYS IN THE MONGOLIAN CERVICAL CANCER SCREENING PROGRAM

FURTHER EVALUATION WILL BE NEEDED ON GOING BASIS TO DETERMINE IF THE RATES OF CERVICAL CANCER ACTUALLY DECREASE WITH THE SCREENING STRATEGY THAT WAS IMPLEMENTED

THE MONGOLIAN MINISTRY OF HEALTH WILL NEED TO CONTINUE AFTER SUPPORT OF MILLENNIUM CHALLENGE PROJECT
THANK YOU FOR ATTENTION