Medical Checks for Children

Searching for improvements in a universal model for children’s health care

Judith van den Hoven & Ilse Westerbeek

15th of March 2010
MCC - mission

- Improvement of the healthcare of children in difficult circumstances.
- MCC supplies small-scale and individual help (cure and prevention).
- Not disease specific; generalized approach to the total health care of the child.
- Attempts to improve the life expectancy of underprivileged children.
MCC

- General medical healthcare to children in all age categories, that is from 0-18 years of age.
- However, preventative programs are mainly focused on children under 5 years (because of the poor survival rate under 5 years) and school children.
MCC – areas of help

- Acute assistance (5-10%)
- Disease prevention: early detection and treatment of, for example: worm infections, malnutrition and stunted growth
- Health promotion by giving advice on the value of sport, good nutrition
- Protection of good health by giving advice on nutrition and good hygiene
### MCC missions 2009

<table>
<thead>
<tr>
<th>Country</th>
<th>City</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>Aloshika</td>
<td>910</td>
</tr>
<tr>
<td></td>
<td>BVDO</td>
<td>806</td>
</tr>
<tr>
<td>Kenya</td>
<td></td>
<td>1008</td>
</tr>
<tr>
<td>Spiti Valley</td>
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<td>784</td>
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<tr>
<td>Tanzania</td>
<td></td>
<td>1194</td>
</tr>
<tr>
<td>Pokhara</td>
<td></td>
<td>1000</td>
</tr>
<tr>
<td>Ghurka</td>
<td></td>
<td>1000</td>
</tr>
<tr>
<td>Chitwan</td>
<td></td>
<td>1120</td>
</tr>
<tr>
<td>Kathmandu</td>
<td></td>
<td>992</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>8790</strong></td>
</tr>
</tbody>
</table>
Partnerships in Europe

Barbara Datson

C.H.A.N.C.E for Nepal

Susanne Volkmann

Kinder-Nepals | Bal-Balka-Nepal
Partnerships in Europe

SOPHIA FOUNDATION FOR CHILDREN
Marina Shakola
Petros Iacovides
Matheos Demetriades
Collaboration local partners

Aloshika foundation/BVDO, Bangladesh
Collaboration local partners

Nepal

FD Kilimanjaro, Tanzania
MCC caroussel

Pediatric global health
MCC provides:

High quality care:

- Disease prevention/detection
- Surveillance growth/development
- Screening/case finding
Sustainable programs

- Iron/Multivitamin campaign
- Deworming campaign
- Dental service/care
Health education

- Topics
  - Nutrition
  - Hygiene information
  - Prescribed medicine
  - Dental care

- Available resources
Follow-up/Referral services

- Collaboration local medical center
- Referral Guidelines
- Tool kid basic investigation
- Funding
Heart Disease in Nepali Children

N.B. Banet, T. Bishi, M. Yanagiwara
Laboratory of System Physiology, Department of Pediatrics, The University of Tokai, 7-5-1 Hongo, Bunkyo-Ku, Tokyo 113-8655, Japan.

Nepal is a landlocked country with diverse altitudinal variation (70-8846 m) located in the Himalayan region. The child population (0-14 years) in Nepal is notably large (43.6%); however, research on the causes of morbidity and mortality of pediatric heart disease is scarce [1, 4]. There are neither hospital-based nor community-based data on pediatric heart problems in Nepal [12]. The purpose of this study was to identify the types and magnitude of common heart problems in children in Nepal.

A complete analysis of heart disease from a 1-year record (1996-1997) of admitted children under the age of 14 was conducted. Diagnosis was done by qualified consultant pediatricians (there are currently no pediatric cardiologists in the country) based on clinical examination, electrocardiogram, chest x-ray, and echocardiography (performed by an adult cardiologist).

Of the admitted 3848 children below 14 years, 122 (3.1%) patients had heart disease (70 males and 52 females). Sixty-four (51.6%) were from Kathmandu and the rest were from outside the capital; 43.8% of the fathers and 59% of the mothers were farmers and housewives, respectively. Heart patients from 44 ethnic groups were admitted to the hospital during the study period. Most of the patients who used the hospital services belonged to the Neware and Brahmin communities (28.6% and 22.1%, respectively). The average hospital stay ranged from 1 day to 54 days (mean 10.3 days). We did not limit seasonal variation of the heart disease. Table 1 shows the distribution of heart diseases in Nepal. The most common problem was rheumatic heart disease (RHD) and 50.6% of the patients (n = 48) were between 7 and 14 years of age. A predominantly high morbidity due to congenital heart disease (CHD) was found in female children. Of the 46 cases of CHD, only 8.7% were diagnosed in the neonatal period, and slightly more (11.6%) were diplomated within the first year of life [14]. Of the 122 cardiac patients, 8 (6.6%) died during their stay in the hospital. The hospital case fatality rate for RHD and CHD were 5.7% and 10.4%, respectively.

Table 1. Pediatric heart diseases of admitted patients of a children’s hospital in Nepal from April 1996 to March 1997.

<table>
<thead>
<tr>
<th>Pediatric heart disease</th>
<th>Birth to 4</th>
<th>5-10</th>
<th>11-14</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rheumatic fever</td>
<td>31</td>
<td>9</td>
<td>2</td>
<td>42 (9.8)</td>
</tr>
<tr>
<td>Rheumatic heart disease</td>
<td>18</td>
<td>22</td>
<td>39</td>
<td>59 (14.1)</td>
</tr>
<tr>
<td>Ventricular septal defect</td>
<td>15</td>
<td>4</td>
<td>1</td>
<td>18 (4.8)</td>
</tr>
<tr>
<td>Other diagnostic CHD</td>
<td>11</td>
<td>6</td>
<td>1</td>
<td>18 (4.8)</td>
</tr>
<tr>
<td>CHD with no specific</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>10 (2.6)</td>
</tr>
<tr>
<td>Hypertension</td>
<td>6</td>
<td>0</td>
<td>2</td>
<td>8 (2.1)</td>
</tr>
<tr>
<td>Bacterial endocarditis</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2 (0.5)</td>
</tr>
<tr>
<td>Heart disease with</td>
<td>13</td>
<td>5</td>
<td>0</td>
<td>18 (1.3)</td>
</tr>
<tr>
<td>Systemic diseases</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Osler's</td>
<td>37</td>
<td>48</td>
<td>32</td>
<td>117 (9.3)</td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
<td>48</td>
<td>32</td>
<td>117 (9.3)</td>
</tr>
</tbody>
</table>

CHD: congenital heart disease

Effective hospital management and prophylactic measures would result in decreased RHD. General pediatricians should also be trained to deal with pediatric heart problems. Epidemiological study of heart disease, including echocardiograms, should be done for a large population and for those living in the mountainous and high-altitude areas to improve curative and preventive measures.

References

Correspondence to: N.B. Banet.
Anaemia

- More than 200 million children under 5 years of age in developing countries are not fulfilling their developmental potential because of poverty, poor health and nutrition and deficient care.


- Four risk factors have been identified, for which intervention is urgent: stunting, inadequate cognitive stimulation, iodine deficiency and iron deficiency anaemia.


- The estimated prevalence of anaemia in children under 4 years in developing countries is 46-66%

  Stoltzfus WHO 2005
Anaemia

- Iron deficiency anaemia may result in poorer mental, social-emotional, or neuropsychologic function. (Walker et al. Lancet 2007)

- One of the UN Millennium Goals is to ensure that all children complete primary schooling.

- There is an increase of 0.5-1.3 SD in IQ when a child is iron sufficient compared with a child with iron deficiency.
Associations of severe anaemia in Malawian children

Figure 2. Structural Equation Model for Severe Anemia, Iron Deficiency, and Malaria.

Calis et al. NEJM 2008
Treatment?

WHO has no definitely recommendations
Iron? Mulitvit? Combination?

Iron deficiency protects against infection by creating an unfavorable environment for bacterial growth.

Chlosta et al. Infec Immun 2006
Results

- Nov 2006 Anaemia 498/761 (65%) → 89/185 (48%)
- HB increased with 1.5 after treatment with Iron and Multivit

Treatment with Iron or Multivitamines??

→ No difference effect treatment with Iron or Multivitamines.
  → Compliance????
Treatment with Iron or Multivitamines???

Social/ cultural aspects???
Discussion in MCC

- What should MCC do in order to be able to leave after 5 years?
- What does MCC want to achieve in 5 years?
Discussion

- What conditions should a local project have, to work with MCC and to deliver sustainable care?

- Is there some kind of ‘guidline’ to work together in a short time with the local health workers?
Discussion

- How do children/local health workers/mothers etc experience the work of MCC?
Discussion

- What to choose:
  - Checking as many kids as possible
  - More focus on ‘sustainability’

- How to combine these in a short period of time?
Points for discussion

- How to evaluate this program from a child centered approach?
  - Knowledge of the community
  - Children as creative agents
Points for discussion

- Children/ local health workers
  - How to use medication?
  - Understanding of healthy food?
  - What is the effect of health education?
  - Own values and meaning about health
  - General impression about MCC
  - More?? ...
Further information:

www.medicalchecksforchildren.nl
You make a difference

Thank You