Introduction

In the second week of November 2008, a team from Medical Checks for Children (MCC) led by Antoinette van Nierop (lawyer), checked and treated 631 children, aged 18 years and below, free of cost. The health camp was organised for seven days starting the 11th of November, at five different locations in the vicinity of Dharan, Nepal. Starting in 2007, MCC visited Dharan for the second time in 2008.

The medical checks were organised in cooperation with the local NGO Society for Helpless Children (SHC), Dharan, Nepal and Stichting Children's Homes Dharan, Amsterdam, the Netherlands (www.kinderhuisnepal.nl)

The MCC team consisted of eleven members from The Netherlands of which two had already participated in earlier MCC checks in Dharan. The medical team was supervised by Mascha Smolders (resident paediatrics). The other doctors were Pieter Bot (resident cardiology), Maaike van der Heide (resident paediatrics), Janneke Prein (resident psychiatry), and Hans Wessel (family doctor). The team was completed by Peter van den Berg (journalist), Els Kalkhoven (paediatric nurse), Mariet Lautenschutz (paediatric nurse), Annemarie Prein (consultant) and Astrid Taminiau (laywer).

Technical equipment and some of the supplies were brought from Europe by MCC team members. Most of the medication was ordered with the support of Prakash Bhatta (www.treks2nepal.com) at Padam Prasad Gautam, a pharmaceutical wholesaler in Kathmandu. Some of the medication was bought at a local pharmacist in Dharan. An overview of all purchased medicine can be found in Appendix A.

The Society for Helpless Children provided transport, food, and local human resources in health assistants, translators, and volunteers in order to facilitate the medical checks.
Specials thanks go to Naresh Shrestha, Office Manager of the Society for Helpless Children for the organisation and coordination of the whole week.

We would like to thank all the children's homes, schools, community people, parents or other caretakers for bringing the children and helping to conduct the program. We are happy we got the opportunity to work with and to learn from all health workers, volunteers, translators, SHC team members and other supporting members who have helped directly or indirectly, despite their own obligations.

Furthermore we would like to thank Dr. B. P. Das, the Hospital Director of BPKIHS, Dharan, for providing the medical follow-up for the children who were referred to medical specialists and dr Adhikari, eye specialist, for offering treatment of children with eye problems free of charge.

But most of all, we thank the children who came to the checks, for their inspiring presence.

Medical Checks for Children on location:

Dharan is the major city in the Sunsari district in eastern Nepal, located at an altitude of 349 m (148 ft) on the foothills of the Himalayas. It is linked by road with the East-West highway of Nepal. The population of Dharan consists of approximately 118,000 people (2007) of which 56 % is male and 45 % is female. Dharan has a tropical monsoon climate with maximum temperature of 35 to 36 Degree Celsius in April, and minimum of 10 to 12 Degree Celsius in January. The maximum rainfall is about 460mm which is usually seen in August. Nepal's one of the largest river, Saptakoshi, runs near Dharan. In 2008 floods because of the heavy monsoon rains laid a heavy burden on the east of Nepal. The road form Kathmandu to Dharan became flooded. Many people became homeless.
In 1993 B.P. Koirala Institute of Health Science, the south-Asia biggest government hospital was founded in Dharan. In 1998 it was upgraded to a university.

The medical checks where performed at the following five locations:

1: The Shree Saraswati Children Shelter (SSCS)
The shelter, located in Dharan 3, was founded in 1990 by Krishna Baddahur Sahi and his wife after they lost both their children. Around 25 orphans and street children from the surrounding region live in the orphanage and are supported by a local Board with Tirtha Raj Rai as President. Next to the 25 children of the shelter we checked 82 children from the neighbourhood.

2: The Shree Dipendra Memorial Primary School (SDMPS)
The school is located in Falkland, a village near Dharan in which people got shelter after the earth quake of 1989. The school is still under construction, since about one year there are water facilities (e.g. water pump). During 2 consecutive days we saw a total of 186 children; 75 children were students of the school.

3: The Rehabilitation Centre (RHC)
The centre is located in an old former hospital building in the Dharan 4 area and is lead by Bhim Rai. The 25 children are living in the centre because of different handicaps; deafness, fractures, mental or physical retardation among others. Next to them 14 children from the neighbourhood were checked.

4: The New Children's Home of the Helpless Children Welfare Mission (HCWM).
The shelter, located in Duhabi 7, provides home for 24 children who are home-schooled; all could be checked. The shelter finds medical care during the year at the Duhabi hospital, Lunkaran Das Ganga Devi Chaudhary Charity Hospital. At this location a total of 194 children were seen in the carrousel

5: The Samyak Shiksha Pre School
In the four first areas, MCC has already performed check-ups of 2007; the visit to the Samyak Shiksha School (Dharan 17) was the first. On the last day we could, with the help of all volunteers and the teachers of the school, check a total of 106 children.

Stichting Children's Homes Dharan is the main donor organisation of the Shree Dipendra Memorial Primary School, New Children's Home and the Shree Saraswati Children Shelter.

Table 1: Place of stay of checked children per geographical area and location of medical camp.*

Dharan SCH		Dharan Dipendra school		Dharan rehab		Duhabi HCWM		SPSS	
Total	**107**	**Total**	**186**	**Total**	**39**	**Total**	**194**	**Total**	**105**
SCH	25	Dipendra School	74	Rehab	25	HCWM	24	SPSS	105
Suburbs	82	Falklands	112	Suburbs	14	Duhabi	163		
						Ithari	1		
						Pakali	2		
						Inuryuwa	2		
						Dharan	2		

The check consists of a carrousel of stations. On each location the children were admitted at the first station were they received a form on which name, age, sexe and a preliminary medical history were noted. A unique MCC-number was allocated to each child to make future follow-up possible. After their weight and height had been taken, pulse and oxygenation of the blood were measured at the third station. Next haemoglobin levels were checked; using a single drop of blood. The CDC criteria for anaemia[1] were used for assessing haemoglobin levels. A complete physical examination was done by one of the doctors who subscribed treatment when needed. Furthermore health education on dental care, hand washing and toilet hygiene was given to the children and their caretakers. Finally, the child was sent to the last station where the clinical forms were kept after medication was dispensed by a MCC-member with help of a local translator. There was extra attention for explanation of the use of medication because of high percentage of analphabetism of the caretakers at some locations
The names and addresses of the children who were referred to the hospital were noted to make good follow-up sure.

Diagnosis and categories of ailments:

During the week, MCC checked 631 children. Due to the high risk of mortality and morbidity under five years of age, the focus of MCC is checking young children. Off all checked children, 82 % of the children had the age of twelve years or younger and 29 % of the children were below five years of age (table 2).

Table 2: Age and gender distribution of checked children, total and per area. Figures represent absolute numbers with percentage of children in the area between brackets.

Age category	Total% (n=)	SCH	Dipendra school	Falklands	Rehab Center	HCMW	Duhabi	SPSS	Dharan
< 1 year	6% (36)	4% (1)	-	10.7% (12)	4% (1)	-	4.8% (8)	5.7% (6)	8.2% (8)
1 – 5 years	24% (151)	-	11% (8)	28.6% (32)	8% (2)	4% (1)	27% (46)	24% (25)	38% (37)
5 – 12 years	52% (330)	36% (9)	80% (59)	35.7%(40)	56% (14)	54% (13)	58% (97)	61% (64)	35 (34)
≥ 12 years	18% (114)	60% (15)	9.5% (7)	25% (28)	32% (8)	42% (10)	10% (17)	9.5%(10)	19% (19)

[1] *CDC criteria for anaemia in children and childbearing age women.* MMWR, 1989, 38:400-404.

Boy	51% (323)	60% (15)	38% (28)	63 (56)	52% (13)	63% (15)	51% (86)	50% (52)	52% (51)
Girl	49% (308)	40% (10)	62% (46)	49 (44)	48% (12)	38% (9)	49% (82)	51% (53)	48% (47)
Total	**631**	**25**	**74**	**112**	**25**	**24**	**168**	**105**	**98**

Most of the medical cases which received our attention were anaemia, vitamin deficiencies, malnutrition, growth abnormalities , pneumonia and worm infections. Most ailments could be treated on the spot. However, 33 children were referred to a paediatrician for further investigation and/or treatment. Main problems were severe anaemia, epilepsy, suspicion thyroid dysfunction, pathological cardiac murmur, urine abnormalities and severe growth abnormality. Because of eye problems 11 children were referred to the eye specialist. Some children with hearing problems and eardrum abnormalities were advised to go to the ENT specialist as well.

Table 3; prevalence of *main diagnoses 0f 631 children Dharan 2008*

diagnosis/illness	**Number of children**	**Percentage**
Anaemia	260	42%
Severe anaemia (Hb≤5 mmol/l)	4	0.6%
Worms (probably)	423	67%
Underweight: weight/age ≤ P3 (≤ 10 years)	180	38%
Wasting: weight/height ≤ P3 (≤ 1m20)	20	5.1%
Stunting: height/age ≤ P3 (≤ 19 years)	285	46%
Pneumonia	20	3.2%
TBC (probably)	1	0.2%
Pathological heart murmur	9	1.4%
Gastrointestinal problems	16	2.5%
Mental retardation	12	1.9%
Other neurological problems	12	1.9%
Skin problems	125	19.8%
ENT problems	76	12%
Urinary abnormalities	58	9.2%
Endocrine	4	0.6%
Eye problems	15	2.4%

Anaemia

Anaemia is the most prevalent micronutrient disorder. While iron deficiency is frequently the primary factor contributing to anaemia, it is important to recognise that the development of anaemia is multifactorial. Infectious diseases such as helminth infections, other chronic infections (particularly HIV-AIDS, tuberculosis, malaria) as well as other nutritional deficiencies are especially important. Anaemia control is therefore best approached through integrative interventions, addressing the various factors that play a significant role in producing anaemia in a given community. In Nepal no national policy has been implemented to provide iron supplements to pregnant women or young children, who are most susceptible to the effect of anaemia.
In Dharan, 45% out of 613 checked children were anaemic; the 19 children aged younger than 0.5 year were not taken into consideration in the data because normal values for haemoglobin levels are not available in that particular age group. In case of breastfeeding and low haemoglobin in this group the mothers were treated with iron supplements.
Compared to 2007 the prevalence of anaemia was lower. Possible reasons for improvement are progress of socio-economic local situations and the positive effects of MCC interventions (education and iron or vitamin treatment). The prevalence of anaemia in Samyak Shiksha Pre School, where we were for the first time, was comparable to the other locations.
We treated the children with anaemia (and in case of breastfeeding, mothers as well) with iron supplements for three months. However, if haemoglobin value was only slightly below the normal range for age (less than 0.5 mmol/l) a treatment with a three month course of

multivitamins was started. The exact treatment protocol and contents of supplements, as well as the total amount of dispensed supplements can be found in Appendices A and B.
The four children with a Haemoglobin levels less then 5.0 mmol/l were referred to the hospital for further diagnostic procedures.

Table 4: Anaemia prevalence among 608 children from who successful blood samples were obtained, total and per age category and area. Figures represent percentage of children in age categories with absolute numbers category between brackets.

Age category	Total % (n=)	SCH	Dipendra school	Falklands	Rehab Center	HCMW	Duhabi	SPSS	Dharan
0.5 - 1 year	65% (11)	-	-	80% (4)	100% (1)	-	50% (3)	50% (2)	100% (1)
1 – 5 years	44% (67)	-	25% (2)	53% (17)	0% (0)	100% (1)	48% (22)	32% (8)	46% (17)
5 – 12 years	51% (167)	56% (5)	59% (35)	65% (26)	43% (6)	46% (6)	51% (49)	38% (24)	47% (16)
≥ 12 years	35% (40)	33% (5)	43% (3)	39% (11)	25% (2)	20% (2)	41% (7)	60% (6)	21% (4)
Hb ≤ 5.0 mmol/l	0.6% (4)	0% (0)	0% (0)	0.9% (1)	4% (1)	0% (0)	0% (0)	1.9% (2)	0% (0)
Total 2008	**45% (285)**	**42% (10)**	**54% (40)**	**52% (58)**	**36% (9)**	**38% (9)**	**49% (81)**	**40% (40)**	**42% (38)**
Total 2007	**57%**	**58%**	**59%**	**53%**	**67%**	**62%**	**63%**	**-**	**55%**

Growth abnormalities

Malnutrition is thought to account for one third of all deaths of children under five years of age (UN Millennium Developmental Goals). At present, Nepal has the highest levels of malnutrition in South-East Asia. A study conducted in 2006 by the Ministry of Health and Population shows that 49 percent of children under the age of five are stunted, reflecting chronic malnutrition. According to UNCCA the two major causes of malnutrition are poor feeding practices and inadequate childcare. Adequate food intake and education programs addressing nutrious food need to be provided nationwide. Therefore, we assessed growth abnormalities, measuring and weighing all children in a standardized fashion, using the following criteria:

- Underweight = weight for age ≤ the third percentile of the reference population (WHO growth curves), only children up to 10 years old. Indicator of malnutrition or weight loss because of disease.
- Wasting = weight for height ≤ the third percentile of the reference population(WHO growth curves), only children up to 120 cm in height. Indicator of acute malnutrition.
- Stunting = height for age ≤ the third percentile of the reference population, (WHO growth curves) only children up to 19 years of age. Indicator of chronic malnutrition. Estimation of age is sometimes troublesome without official documents stating date of birth and children or even parents not knowing children's age, making the stunting data less reliable.

Table 3: Growth abnormalities according to the above criteria, total and per area. Figures represent absolute numbers with percentage of children between brackets.

Age category	Total % (n=)	SSCS	Dipendra school	Falklands	Rehab Center	HCMW	Duhabi	SPSS	Dharan
Underweight N= 478	38%(180)	50% (4)	53% (34)	42% (32)	53% (8)	38% (5)	26% (36)	40% (35)	34% (26)

Wasting N=391	5.1% (20)	75% (3)	10% (6)	5% (3)	0% (0)	10% (1)	5% (5)	1% (1)	1% (1)
Stunting N= 623	46% (285)	53% (13)	65% (48)	48% (53)	52% (12)	29% (7)	23% (39)	62% (65)	50% (48%)

Remarkable the prevalence of growth abnormalities, mainly stunting, was lower in HCWM and en it's surrounding area Duhabi. After our visit last year, the diet of the children in the home was improved; this could be a possible contributing factor. Furthermore, during the check it was quite obvious that the many children were from better socio-economic status than the children.

The other main parameters of malnutrition were checked as well: skin, hair, nails, mouth, subcutaneous tissue, muscle bulk and abdomen abnormalities. If children showed signs of vitamin deficiency (stunting, heterogeneous depigmentations, brittle hair and nails) they were treated with a vitamin supplement for three months. Furthermore all children's guardians, health workers and school teachers were given hygiene and nutritional advice, with emphasis on hand-washing and vegetable intake.

Worm infections

Helminth infections, like Ascariasis lumbrcoides, hookworm (*Ankylostoma duodenale*) and whipworm (*Trichuris trichiura*), cause major health problems worldwide. Malnutrition, anaemia and an impaired cognitive development are known consequences. Although all members of a population can be infected by worms, those who are at most risk and would benefit most from preventive interventions are the pre-school (2-5 years), school age children, adolescent girls and women of childbearing age. De-worming programs, in which pre-school children get anti worm treatment (albendazol or mebendazol) every six months showed a decrease in worm load of 43% and a decrease in prevalence of anaemia of 76% (WHO Nepal). In the last years a de-worming program is established in Nepal where there is a high prevalence of helminth infections.

In Dharan all children who had not received anti-worm treatment in the past six months were diagnosed as having probably worms. They received a single dose of albendazol 400 mg (200 mg if <2 years of age) and were left medication for repeating the treatment after six months. Health education at the orphanages and schools was aimed at increasing awareness of worm transmission, the disabilities caused by intestinal helminth and the importance of the de-worming program every half year. Simple ways of improving personal hygiene and sanitation through hand washing, nail trimming, wearing of shoes and use of a latrine and clear water supplies were encouraged.

Pneumonia and tuberculosis

Pneumonia and tuberculosis are still on the list of leading causes of child mortality. In Nepal "Pneumonia", "sannipat", "fast/difficult breathing", "chest indrawing" and "inability to suck milk" are the key words used by care-takers indicating a (severe) ARI.
The principles of the Integrated Management of Childhood Illness (IMCI) for recognition and treatment of pneumonia were transferred to the local health workers.
A total of 20 children (3.2%) were diagnosed with pneumonia. Only 1 case of tuberculosis was clinically suspected and referred to the hospital. The BPKIHS hospital in Dharan runs a TBC program; treatment is free of cost.

Pathologic cardiac murmurs

The MCC carrousel includes a cardiac examination. We suspected nine children (1.4%) of a cor vitium and referred them to the hospital for further investigation.
In Nepal the prevalence among school age children in Kathmandu of rheumatic heart disease is 1.2/1000 and 1.3/1000 for congenital heart disease. Mitral regurgitation and atrial septal defects being the most common heart problems (Indian Heart J 2003;55:615-618).

Gastrointestinal complaints

During our health checks we saw a number of children with chronic diarrhea/Giardia lamblia or bloody diarrhea/dysenteria. There were no signs of dehydration or critical ill children among them. The children were treated with cotrimoxazol or metronidazol respectively. If no recovery they were advised to go the hospital.
Like last year we encountered a percentage of (older) schoolchildren with complaints of stomach or gastric pain, in the absence of weight loss, bloating or fever. These pains could be stress induced; pressure on adolescents to succeed academically is well known in Nepal, along side with problems at home. Data on milk products sensitivity, gastritis or peptic ulcers are currently lacking as well as the prevalence of Helicobacter pylori bacteria. MCC will expand their medication list with omeprazol treatment in 2009, with triple therapy for H. Pylori.

Ear-Nose-Throat (ENT)

The prevalence of acute ear infections was comparable with the prevalence in the Netherlands. Chronic or recurrent ear infections are a common condition encountered by the ENT surgeons in Nepal. Effective initiatives for better hygiene and nutrition will play a part in diminishing chronic ear infections and their complications. Treatment of middle ear infections with antibiotics has a big impact in preventing deafness as well. Itching, pain and discharge was often seen, caused by otitis externa and treated with antibiotic eardrops.

Skin problems

Among skin diseases the following are the most common in children in Nepal: impetigo, tinea capitis, scabies, viral skin disorders (mainly moluscum contagiosum), pedicolosis capitis, dermatitis and reactions due to insect bites. Impetigo, scabies and tinea capitis are more common in overcrowded households, orphanages and refugee camps. The role of traumatic sores as a predisposing factor for pyoderma was also common. Especially legs and les commonly ears (because of septic ear piercing in girls) were common of posttraumatic pyoderma. In case of impetigo/pyoderma (7.2&) children were treated with Fusidic crème and/or macrolides. Antifungal cream (eventually in combination with hydrocortison) was given for fungal infections (3.5%) and hydrocortison crème was given for different forms of dermatitis (.

Scabies is an infective skin disease caused by *Sarcoptes scabie*s. It is transmitted in situations of poor hygiene and prolonged physical contact (15 min) with an infected person or with contaminated bed sheets or clothing. Itching and sometimes secondary infection of scratch lesions are the main symptoms. Chronic severe scabies infection may lead to dark (hyperpigmented) spots on the skin. On average, scabies was seen among 1.6 % of all children in Dharan (Table 3). Children were treated with ivermectin or in case of young age with benzylbenzoate suspension.
MCC reports a high prevalence of de-pigmentation of the skin; possible causes are post inflammatory hypo-pigmentation, pityriasis versicolor and/or alba or lack of vitamins or Zinc.

Eye problems

Especially in the group of children above five years of age a rather common complaint was dry and/or painful eyes. Xerophtalmia can be attributed to Vitamin A deficiency. Vitamin A deficiency effects growth, the differentiation of epithelial tissues and immune competence. The most dramatic impact, however is on the eye and includes night blindness, xerosis of the conjunctiva and cornea and ultimately corneal ulceration and necrosis of the cornea. Vitamin A deficiency occurs when body stores are exhausted and supply fails to meet the body's requirements, either because there is a dietary insufficiency, requirements are increased, or intestinal absorption, transport and metabolism are impaired as a result of conditions such as diarrhoea. The most important step in preventing Vitamin A deficiency is insuring that children's diets include adequate amounts of carotene containing cereals, tubers, vegetables and fruits. Dharan runs a governmental program for vitamin A suppletion.

In case of complaints of headache and/or diminished sight visus check-up was performed with the Landolt C chart. If there were signs of visual impairment the children were referred to the eye specialist. Eye infections were treated with antibiotic eye drops.

Urinary abnormalities
We performed urine screening test in the children with dysuria complaints and/or fever and in the children with stunting to exclude a kidney disease. With the urine screening test it is important to realise that some protein will appear in the urine if the level of protein in blood becomes high (eg infections) even when the kidney is functioning properly. Antibiotics, severe emotional stress and strenuous exercise can interfere with the test.
The dip-stick test showed slight proteinuria in 18 out children (2.9%).
We found 13 children with signs of urinary tract infection (cystitis; no fever), especially notable in the rehabilitation centre. They were treated with antibiotics for seven days and fluid advice. Resistance to the much used antibiotic amoxicillin is alarming and should be taken in consideration in the choice of antibiotics.
In four children there was a microscopic hematuria eci (two dipstick test were performed); they were referred to the hospital for further evaluation. One child showed signs of glomerulonefritis en was referred as well.

Neurological disorders
In 6 children epilepsy was suspected; they were referred for further neurological examination. One girl had a short epileptic insult during the examination; she was referred as well.
Other neurological diagnoses were mental retardation, spastic arm, walking problems/hypotonia.

Dental
This Medical Check for Children mission to Nepal did not include a dentist. The number of cases mentioned probably even underestimate the prevalence of dental disease in the children we checked with severe toothaches and caries. A the locations MCC team members gave education to the children, caretakers and children on brushing the teeth, toothpaste use and use of sugar.

Education of health workers, caretakers and other local helpers

One of the important tasks of MCC is to encourage the continuation of education of the caretakers and older children. We especially focused on anaemia and malnutrition, on balanced diet, infection and transmission, parasites and failure to thrive. Our information mainly consisted of knowledge and practical advice about nutritious food and vitamin supplements, as well as hygienic and health promotion issues.

Future medical needs

On all the locations visited, there is a strong need for comprehensive and systematic health promotion and preventive measures. Special emphasis needs to be put on personal hygiene, dental care, good eating habits and nutritious food (more vegetables and (dried) fruits). It is important to stress the importance of regular (half yearly) de-worming off all children up to fourteen years of age.
Apart from public health issues primary care for all the children in their vicinity needs to be provided by local Nepali health workers and doctors. This year we made emphasis to make collaboration with the hospital for good follow-up of the referred children free of cost. Our attention on this subject will continue to coming years.
Furthermore there is a need to find a method for keeping relevant information with the child (like the need of antibiotics before dental extraction in children with a cardial septal defect).
The Rehabilitation Centre in Dharan needs financial support for a new building and essentials like beds and covers for the disabled children who are living there.

Last words

volgt

Amsterdam, 5th of february 2009

Antoinette van Nierop and Mascha Smolders

Appendix A: Overview of purchased medication		Inventory at start of mission					Inventory at end of mission				
Medication	Units per package	Total units / bottles	Import from NL	Kathmandu	Dharan		Total units left over	Total used	Left in Dharan	Left in Kathmandu	Back to NL
Haemak caps (1)	Box a 200 caps	6000	-	6000	-		1960	4040	-	1960	-
Haematinic caps (2)	Box a 100 caps	8500	-	8500	-		3410	5090	-	3410	-
Hematin iron syrup (3)	Bottle a150 ml	480	-	480	-		209	271	-	209	-
Omnivit caps (4)	Box a 200 caps	17000	-	15000	2000		0	17000	-	-	-
Multivitamindrops Vplex (5)	Bottle a 15 ml ml	665	-	200	465		1	664	-	1	-
Albendazole	tablet a 400 mg	1350	-	1350	-		301	1049	-	301	-
Amoxycillin oral suspension (6)	bottle a 60 ml	60	-	60	-		9	51	-	9	-
Amoxycillin dispers	dispers a 250 mg	80	-	80	-		8	72	-	8	-
Amoxycillin capsules	tablet a 500 mg	160	-	160	-		1	159	-	1	-
Amoxycillin/clavulan acid suspension (7)	Flacon a 30 ml	4	-	4	-		0	4	-	-	-
Cotrimoxazole suspension (8)	Bottle a 100 ml	3	-	3	-		0	3	-	-	-
Cotrimoxazol tabl	Tabl a 120 mg	20	-	20	-		20	0	-	20	-
Cotrimoxazol tabl	Tabl a 480 mg	80	-	56	24		25	55	-	25	-
Clarithromycin syrup (9)	bottle a 60 ml	30	30	-	-		8	22	-	8	-
Ivermectin	tablet a 6 mg	32	32	-	-		28	4	-	28	-
metronidazol tabl	Tabl a 200 mg	250	-	250	-		116	134	-	116	-
benzylbenzoaat (Scabirub)	Flacon a 100 ml	10	-	10	-		6	4	-	6	-
chloramphenicol eye drops	bottle a 5 ml	10	-	10	-		6	4	-	6	-
chloramphenicol eardrops	Bottle a 5 ml	30	-	30	-		4	26	-	4	-
Fucidin cream 1%	tube a 5 g	70	-	70	-		8	62	-	8	-
Miconazole cream	tube a 15 g	23	15	-	8		4	19	-	4	-
Miconazole-hydrocortisone cream 1%	tube a 15 g	15	15	-	-		7	8	-	7	-
Hydrocortisone cream 1%	tube a 15 g	25	25	-	-		16	9	-	16	-
Parafinne vaselin cream	Tube a 15 g	30	30	-	-		4	26	4	-	-
Aciclovir cream 5%	tube a 5 g	10	10	-	-		10	0	-	10	-

Betadine Jodium	Flacon a 100 ml	10	-	10	-		8	2	8		
Paracetamol	Tabl a 500 mg	30	-	-	30		5	25	5		
Paracetamolsuspension	Bottle a ml	10	-	-	10		5	5	5		

(1) Haemak caps a 300 mg ferrofumarate = mg elemental iron, folic acid 0.75 mg, Vit C 75 mg, Vit B12 7.5 mcg
(2) Haematin caps a 35o mg ferrofumarate
(3) Haematin 5 ml = 60 mg elemental iron
(4) Omnivit caps: Vit B1 5 mg , Vit B2 5 mg, Vit B6 5 mg, Vit C 75 mg , Vit B12 5 mcg, Folic acid , Vit A 5000 IU, Vit E 15.0 , Niacinamide 45 mg.
(5) Vplex per ml: thiamine 1.6 mg, pyridoxine 1.37 mg, D-panthenol 5 mg, Vit C 50 mg, Vit A 5000 IU, Vit D3 640 IU, Nicotamide 10 mg.
(6) Amoxicillin suspension 125 mg/5ml
(7) Amoxicillin-clavulan acid 6.6 g/30 ml
(8) Cotrimoxazol 48 mg/ml.
(9) Clarithromycin 50 mg/ml

Appendix B: Treatment protocol for anaemia

Anaemia standard treatment

3 mg elemental iron / kg bodyweight during 100 days
Due to the small supply and high cost of iron syrup, children were given tablets if allowed for by bodyweight and if they could swallow them.

Iron syrup (bottle = 60 ml; 5 ml = 60 mg elemental iron)

- < 5 kg ironsuppletion mother
- > 5 - 10kg 1 x 2,5 ml per day for 3 months (2 bottles)
- > 10 - 20 kg 1 x 5 ml per day for 3 months (3 bottles)

Haemak tablet 300 mg (99 mg elemental iron per tablet)

- > 20 – 33 kg : 1 tablet per day for 3 months (90 tablets)
- > 33 kg: 2 tablets per day for 3 months (180 tablets)

Haematin tablet 350 mg (115,5 mg elemental iron per tablet)

- > 25 – 40 kg : 1 tablet / day for 3 months (90 tablets)
- > 40 kg: 2 tablets / day for 3 months (180 tablets)

Anaemia and signs of vitamin deficiency

Standard multivitamin syrup or multivitamin pills if children could swallow them. Except for some children with more severe anaemia and overt signs of vitamin deficiency vitamin supplementation was not combined with iron supplementation. In some cases a baby would receive vitamin drops and the mother would be given an iron supplement.

Anaemia with haemoglobin levels ≤ 5.0 mmol/l

Referral to hospital and treatment with ironsuppletion.