

Medical Checks for Children

Medical Rapport Kenya West 2022



Nadine van Dijk

Zwolle, 2022

MCC Kenya West 2022

Introduction

From July the 2th until July the 8th 2022 a Medical Checks for Children (MCC) team visited locations near Kisumu and Eldoret in western Kenya. Free of cost, the MCC team checked and treated 910 children aged newborn until 13 years of age.

After a explorative mission in 2010, MCC visited Kenia West for the tenth time.

Again, the medical checks were organized in close cooperation with the Sophia Foundation for Children (SFFC) (www.sophia-foundation.com).

Technical equipment and some of the supplies were brought from Europe by the MCC team members. Most of the medication was ordered through SFFC in Kenia. Additional local medication was purchased from the main pharmacy in Nairobi and taken with us to Kenia West.

Our special thanks go to Nopi and Tazos for their direct support during our medical camp and their help in all the necessary preparations during the year. Special thanks go to the translators and teachers.

The aim of the mission is to provide basic healthcare on locations of underprivileged children in difficult circumstances with diagnosis and treatment and acute care on the spot and referral with hospital diagnostics and treatments if necessary for the future health of the children. We monitor the hospitals referrals and the treatment in close cooperation with the Sophia Foundation in the year ahead.



Medical Checks for Children on location:

During the medical checks, the children were checked following the MCC carrousel:

1. Registration of the child
2. Measuring height and weight
3. Blood test for haemoglobin
4. Physical examination
5. Giving medication and education about the correct use of it (pharmacy)
6. Education on hyginics and tooth brushing (a tooth brush was given to each child)

Anthropometric measurements were recorded, and a finger prick sample was taken for determination of the haemoglobin (Hb) concentration. Each child was examined by a Medical Doctor. History of illnesses in the preceding four weeks was recorded. Specifically, caretakers were asked if the child had diarrhoea, an upper respiratory infection, vomiting, eating soil (pica), decreased appetite and weight loss.

MCC Kenya West 2022

They were also asked if their child received treatment for any of these, and if so, from where. The data of the children were analysed through the MCC data base.

The medical checks were performed on six days at different locations in Kenia West near the cities of Kisumi at Lake Victoria and near Eldoret. The team visited Kesengei Nusery & Primeray at Kesengei; Kalamai Bay Nursery, Kimerek Nursery at Kimarek; St Peter's Kapkechui at Chipita , Nakuru childrens and reprimand home and The new life home. We visited the nuns at the new life home for the second time and added Holy Mary as a new location.

At the different locations we checked beside the schoolchildren some young non-schoolgoing children from the villages.

We analysed the data to make a comparison as a group but we did not make a computer analysis on individual basis (table 1)

During the years the ratio between girls and boys is stable.

Table 1: Total children per location

Grouped locations	03-07-22	04-07-22	05-07-22	06-07-22	07-07-22	08-07-22	Total
St Peters	0	0	0	191	0	0	0
Kimerek	188	0	0	0	0	0	0
Kalambei	0	188	0	0	0	0	0
Kesengei	0	0	148	0	0	0	0
New Life	0	0	0	0	0	108	0
Nakuru Remand	0	0	0	0	44	0	0
Total	188	188	148	191	87	108	910

Table 2: Number, age and gender distribution of the 910 checked children at the different locations

Age	Total		St Peters		Kimerek		Kalambei	
	910		Total= 191		Total= 188		Total= 188	
	N	%	n	%	n	%	n	%
<=1 year	57	6%	10	5%	8	4%	4	2%
>1 and <5 years	210	23%	48	25%	42	22%	31	16%
<5 years	244	27%	55	29%	46	24%	33	18%
>=5 and <=10 years	599	66%	129	68%	139	74%	153	81%
>10 years	66	7%	7	4%	2	1%	2	1%
Gender								
Boy	506	56%	95	50%	111	59%	103	55%
Girl	403	44%	95	50%	77	41%	85	45%

Age	Kesengei		New Life		Nakuru Remand		Holy Mary	
	Total= 148		Total= 108		Total= 44		Total= 43	
	n	%	n	%	n	%	n	%
<=1 year	16	11%	8	7%	0	0%	11	26%
>1 and <5 years	39	26%	21	19%	0	0%	29	67%
<5 years	49	33%	26	24%	0	0%	35	81%
>=5 and <=10 years	97	66%	73	68%	0	0%	8	19%
>10 years	2	1%	9	8%	44	100%	0	0%
Gender								
Boy	84	57%	61	56%	42	95%	10	23%
Girl	64	43%	47	44%	2	5%	33	77%

This year we did try to we tried again to locate the old files of all the children which should have been seen earlier according to the school or according to the caretakers. Due to a two year Corona stop children did move away and change schools. Unfortunately we also lost some files in our storage. The percentage children checked last year was not recorded.

1: Growth abnormality and malnutrition:

Overall data of growth abnormalities in the last 3 years.

All locations	2015	2016	2017	2018	2019	2020	2022
underweight	17%	10%	9%	9%	8%	10%	9%
stunting	20 %	11%	8%	6%	5%	13%	11%
wasting	6%	5%	5%	13%	7%	8%	6%

Malnutrition has been related to poor cognitive and school performance. There is strong evidence to suggest that malnutrition places children under the age of 5 at increased risk for mortality. Malnutrition is thought to account for one third of all deaths of children under five years of age (UN Millennium Developmental Goals).

Percentages of growth retardation is correlated with poverty, malnutrition, living conditions, hygiene and the prevalence of chronic diseases.

The major causes of malnutrition are poor feeding practices and or lack of food inadequate childcare. Adequate food intake and education programs addressing nutritious food need to be provided.

Therefore, we assessed growth abnormalities, measuring and weighing all children in a standardized fashion, using the following criteria:

- Underweight = weight for age at or under the third percentile of the reference population (WHO growth curves), only children up to 10 years old. This is an indicator of malnutrition or weight loss because of disease.
- Stunting = height for age at or under the third percentile of the reference population, (WHO growth curves) only children up to 19 years of age. This is an indicator of chronic malnutrition.
- Wasting = weight for height at or under the third percentile of the reference population (WHO growth curves), only children up to 120 cm in height. This is an indicator of acute malnutrition.

Based on available data from Unicef (2017), prevalence of 11% for underweight, < 20% for stunting and < 5% for wasting in the Kisumu region were reported.

Analysis of the nutritional status shows significant differences among the locations visited (see table 4, 5 and six) Within the children assessed, it is unknown how many children have HIV related weight loss (wasting syndrome).

Corona has had a defestating effect on children and girls especially in low income countries. A whole generation has been lost for future education as they had to stay at home for corona, got pregnant or needed to find jobs to support themselves and their family. In Kenya not only corona has been a challenge but the enviroment proved maybe a even more challenging factor as the rains did not come and kenya as well as other regions in Eastern Africa are experiencing the worst drought in centuries.

In some areas, over 90 per cent of water sources have dried up and, as crops fail, and families lose their livestock – which, for many, is their only source of income – more than four million people are grappling with acute hunger. An estimated 134,000 women are currently pregnant or breastfeeding in drought-affected regions of Kenya; many are now malnourished and anaemic, conditions which can be life-threatening.

It is usually women and girls who are sent to fetch water; because of the drought, they have to walk even further, and wait for hours at boreholes.

MCC Kenya West 2022

This puts them at greater risk of violence, at a time when hostilities among communities desperate to secure scarce resources, are mounting.

With hundreds of thousands of Kenyans forced to move in search of survival, vulnerable women and girls have little to no access to critical health facilities or protection and support services – at the very time they need them the most.

There is evidence that gender-based violence, female genital mutilation, and child marriage have risen since the drought, as families marry off their girls to pay for food or cattle.

Even in July 2022 we could already see the need in children for food and water and we expect to be more needed the next years than ever before.

Table 4 Prevalence of Weight/age (Underweight) on or below P3 per GEOGRAPHICAL LOCATION by AGE and GENDER

	Total		St Peters		Kimerek		Kalambei	
	910		Total= 191		Total= 188		Total= 188	
	N	%	n	%	n	%	n	%
Underweight	80	9%	13	7%	17	9%	20	11%
No underweight	764	91%	172	93%	168	91%	168	89%
Unknown	66		6		3		0	
Underweight children per age								
<=1 year	4	7%	2	22%	0	0%	0	0%
>1 and <5 years	30	14%	7	15%	4	10%	7	23%
<5 years	32	13%	8	15%	4	9%	7	21%
>=5 and <=10 years	48	8%	5	4%	13	9%	13	8%
>10 years	0	0%	0	0%	0	0%	0	0%
Underweight children per gender								
Boy	40	9%	6	7%	10	9%	10	10%
Girl	40	10%	7	8%	7	9%	10	12%

	Kesengei		New Life		Nakuru Remand		Holy Mary	
	Total= 148		Total= 108		Total= 44		Total= 43	
	n	%	n	%	n	%	n	%
Underweight	11	8%	11	11%	0	0%	8	19%
No underweight	133	92%	88	89%	0	0%	35	81%
Unknown	4		9	8%	44		0	0%
Underweight children per age								
<=1 year	0	0%	0	0%	0	0%	2	18%
>1 and <5 years	4	10%	1	5%	0	0%	7	24%
<5 years	4	8%	1	4%	0	0%	8	23%
>=5 and <=10 years	7	7%	10	14%	0	0%	0	0%
>10 years	0	0%	0	0%	0	0%	0	0%
Underweight children per gender								
Boy	7	9%	6	11%	0	0%	1	10%
Girl	4	6%	5	11%	0	0%	7	21%

Table 5 Prevalence of Height/age (Stunting) on or below P3 per GEOGRAPHICAL LOCATION by AGE and GENDER

MCC Kenya West 2022

	Total		St Peters		Kimerek		Kalambei	
	910		Total= 191		Total= 188		Total= 188	
	N	%	n	%	n	%	n	%
Stunting	97	11%	14	8%	20	11%	20	11%
No stunting	792	89%	171	92%	167	89%	168	89%
Unknown	21		6		1		0	
Stunting children per age								
<=1 year	12	21%	1	11%	0	0%	0	0%
>1 and <5 years	44	21%	8	17%	8	19%	6	19%
<5 years	49	20%	8	15%	8	17%	6	18%
>=5 and <=10 years	43	7%	6	5%	12	9%	13	8%
>10 years	5	10%	0	0%	0	0%	1	50%
Stunting children per gender								
Boy	50	10%	7	8%	11	10%	12	12%
Girl	47	12%	7	7%	9	12%	8	9%

	Kesengei		New Life		Nakuru Remand		Holy Mary	
	Total= 148		Total= 108		Total= 44		Total= 43	
	n	%	n	%	n	%	n	%
Stunting	14	10%	8	8%	4	9%	17	40%
No stunting	129	90%	91	92%	40	91%	26	60%
Unknown	5		9		0		0	0%
Stunting children per age								
<=1 year	3	19%	1	13%	0	0%	7	64%
>1 and <5 years	7	18%	1	5%	0	0%	14	48%
<5 years	8	17%	2	8%	0	0%	17	49%
>=5 and <=10 years	6	6%	6	8%	0	0%	0	0%
>10 years	0	0%	0	0%	4	9%	0	0%
Stunting children per gender								
Boy	9	11%	4	7%	4	10%	3	30%
Girl	5	8%	4	9%	0	0%	14	42%

Table 6 Prevalence of Weight/height (Wasting) on or below P3 per GEOGRAPHICAL LOCATION by AGE and GENDER

	Total		St Peters		Kimerek		Kalambei	
	910		Total= 191		Total= 188		Total= 188	
	N	%	n	%	n	%	n	%
Wasting	41	6%	8	6%	9	7%	12	10%
No wasting	592	94%	119	94%	124	93%	111	90%
Unknown	277		64		55		65	
Wasting children per age								
<=1 year	2	4%	1	11%	1	13%	0	0%
>1 and <5 years	11	5%	3	6%	1	2%	2	6%
<5 years	12	5%	4	7%	1	2%	2	6%
>=5 and <=10 years	29	7%	4	6%	8	9%	10	11%
>10 years	0	0%	0	0%	0	0%	0	0%
Wasting children per gender								
Boy	16	5%	4	7%	4	5%	4	6%
Girl	25	8%	4	6%	5	9%	8	15%

MCC Kenya West 2022

	Kesengei		New Life		Nakuru Remand		Holy Mary	
	Total=	148	Total=	108	Total=	44	Total=	43
	n	%	n	%	n	%	n	%
Wasting	4	3%	3	4%	0	0%	5	12%
No wasting	126	97%	74	96%	0	0%	38	88%
Unknown	18		31		44		0	0%
Wasting children per age								
<=1 year	0	0%	0	0%	0	0%	0	0%
>1 and <5 years	1	3%	0	0%	0	0%	4	14%
<5 years	1	2%	0	0%	0	0%	4	11%
>=5 and <=10 years	3	4%	3	6%	0	0%	1	13%
>10 years	0	0%	0	0%	0	0%	0	0%
Wasting children per gender								
Boy	2	3%	1	3%	0	0%	1	10%
Girl	2	3%	2	5%	0	0%	4	12%

Over the years there seems to be a positive trend towards less growth disorders. As always these conclusions must be made with the greatest of care as the population we see differs each year and only half of all children were seen in the previous year.

Of the all the small kids seen in the Holy Mary more than half had severe malnutrition (40% stunting, 30% stunting in the last year). The reality of growing up in these conditions is harsh and we do realize that interventions are problematic due to strict regulations and control. We hope that the SFFC will be able to reach out into the secluded community and provide these vulnerable babies with a bit of extra nutrition to help them grow.

During the medical check-ups of this year, we paid again attention to issues of hygiene and nutritional advice. For babies, we advised exclusive breastfeeding up to six months and then start with the introduction of additional foods.

On the schools that are in the feeding program of the SFFC, each month dry foods are given. Fruit and vegetables are locally purchased and depend on the availability and the season. Also we know that if the schools accept more children as was the case in St.Peters the amount of food is divided between more children. Most of the children get their first meal of the day at school, 11 am porridge and somewhere around noon lunch. The amount of food the children receive at home for dinner could vary widely.

It is evident from these data that the children in the prison and the remand home are the vulnerable ones; often orphans with an unknown future or now still with mama in prison until they are around 2 years old and have to leave prison to go to relatives with an unknown future.



2: Anaemia:

Overall data of anaemia in the last years.

Overall	2015	2016	2017	2018	2019	2020	2022
Anaemia yes	37%	39%	45%	27%	29%	44%	29%
Hb < 5		2%	1%	1%	1%	1%	1%

Anemia is the most prevalent micronutrient disorder in the world. In Kenya, no national policy has been implemented so far to provide iron supplements to pregnant woman or young children.

While iron deficiency is frequently the primary factor contributing to anaemia, it is important to recognise that the control of anaemia requires a multi-faceted approach.

In addition to iron deficiency, infectious diseases such as worm infections, other chronic infections, particularly HIV-AIDS and tuberculosis, as well as other nutritional deficiencies, and as side effects of ART medication in HIV positive children.

It is unknown how many children with abdominal problems have iron deficiency anaemia and a coexisting H. pylori infection. From literature it is known that one should suspect an infection with H. pylori when the iron deficiency anaemia is refractory to iron administration.

This year the prevalence was stable compared to previous years. This is certainly biased due to the fact that we see a selected population whom is cared for.

Table 7: Prevalence of anaemia per geographical location by age and gender

	Total		St Peters		Kimerek		Kalambei	
	910		Total= 191		Total= 188		Total= 188	
	N	%	n	%	n	%	n	%
Anaemia	264	29%	84	44%	41	22%	42	22%
No anaemia	638	70%	104	54%	146	78%	143	76%
Unknown	8		3		1		3	
Hb <5,0 mmol	6	1%	5	3%	0	0%	0	0%
Anaemia per age								
<=1 year	20	35%	5	50%	2	25%	2	50%
>1 and <5 years	71	34%	26	54%	6	14%	9	29%
<5 years	80	33%	29	53%	7	15%	10	30%
>=5 and <=10 years	170	28%	53	41%	33	24%	32	21%
>10 years	14	21%	2	29%	1	50%	0	0%
Anaemia per gender								
Boy	147	29%	41	43%	26	23%	27	26%
Girl	117	29%	43	45%	15	19%	15	18%

	Kesengei		New Life		Nakuru Remand		Holy Mary	
	Total= 148		Total= 108		Total= 44		Total= 43	
	n	%	n	%	n	%	n	%
Anaemia	36	24%	37	34%	7	16%	17	40%
No anaemia	111	75%	71	66%	37	84%	26	60%
Unknown	1		0		0		0	
Hb <5,0 mmol	1	1%	0	0%	0	0%	0	0%
Anaemia per age								
<=1 year	5	31%	2	25%	0	0%	4	36%
>1 and <5 years	9	23%	6	29%	0	0%	15	52%
<5 years	11	22%	6	23%	0	0%	17	49%
>=5 and <=10 years	24	25%	28	38%	0	0%	0	0%
>10 years	1	50%	3	33%	7	16%	0	0%
Anaemia per gender								
Boy	23	27%	20	33%	6	14%	4	40%
Girl	13	20%	17	36%	1	50%	13	39%

We treated the children with anaemia (and their mothers if they were breast fed) with supplements for three months. If we suspected a vitamin deficient and/or a infection we gave multivitamins instead of iron supplements.

3: Worm treatment:

Overall data of profylactic antiwormtreatment for all locations in the last 3 years.

All lacations profylaxis	2015	2016	2017	2018	2019	2020	2022
Worm treatment: yes	81%	72%	67%	0%	15%	2%	65%
Worm treatment: no	19%	28 %	37%	100%	85%	98%	35%

MCC Kenya West 2022

A strong relationship exists between a Helminth, an *Ascaris Lumbricoides*, a Hookworm, a *Taenia Trichiura* or *Saginata* (tapeworm) infection and anaemia. In studies *Ascaris* prevalence percentage is 19.3% and hookworm 7.6%. The incidence/prevalence of *Taenia Saginata* (tape worm) is not known.

In the last years a de-worming program was established in Kenya where there is a high prevalence of these infections in (school-aged) children yet. Official data show a coverage of this de-worming program of 80%.

If there was a clinical suspicion of an active worm infection or anemnetic clues of a gardia infection, children were treated either with albendazol for na active worm infection or with a course of metronidazol for a suspected gardia infection. We did not treat children below 2 years with profylactic antiwormtreatment following the international guidelines on the subject.

Dysentheria was suspected in 1 children (<1%) who was treated with a course of cotrimoxazol. This year no children were diagnosed with suspected gardia.

Last year we left antiworm tablets to be distributed at the SFFC schools for the twice annual deworming and we see this in the results. We hope the schools and the SFFC will find a way to ensure the twice annual deworming ensure this programm will last wel into the future. The data from the last years show a increase in deworming. We would hope this could be due to a more assertive role for schools but it could also mean the government was able to provide antiwormtablets for once at the schools. A leading rol from schools, teacher and the SFFC is needed more then ever to ensure that govermental programmes will keep reaching the vulnerable remote areas we visit during our medical camp.

As this is one of the prime goals of the WHO and of our organization we will press for a leadinge role of our local partner in ensuring the goal of o high prevalence of profylactic antiworm treatment is in place in the school we visit year in and year out.

Table 8: Prevalence preventive anti-worm treatment in the last half-year per geographical location by age and gender

	Total		St Peters		Kimerek		Kalambei	
	910		Total= 191		Total= 188		Total= 188	
	N	%	n	%	n	%	n	%
Anti-worm	592	65%	5	3%	156	83%	177	94%
No anti-worm	316	35%	185	97%	32	17%	11	6%
Unknown	2		1		0		0	
Anti-worm per age								
<=1 year	2	4%	0	0%	1	13%	0	0%
>1 and <5 years	83	40%	2	4%	16	38%	27	87%
<5 years	85	35%	2	4%	17	37%	27	82%
>=5 and <=10 years	460	77%	2	2%	136	98%	149	97%
>10 years	46	70%	1	14%	2	100%	1	50%

	Kesengei		New Life		Nakuru Remand		Holy Mary	
	Total= 148		Total= 108		Total= 44		Total= 43	
	n	%	n	%	n	%	n	%
Anti-worm	115	78%	94	87%	32	73%	13	30%
No anti-worm	32	22%	14	13%	12	27%	30	70%
Unknown	0		0		0		1	
Anti-worm per age								
<=1 year	0	0%	0	0%	0	0%	1	9%
>1 and <5 years	19	49%	14	67%	0	0%	5	17%
<5 years	19	39%	14	54%	0	0%	6	17%
>=5 and <=10 years	94	97%	72	99%	0	0%	7	88%
>10 years	2	100%	8	89%	32	73%	0	0%

MCC Kenya West 2022

Health education on the spot was aimed at increasing awareness of worm transmission, the divers problems caused by intestinal helminth and the importance of bi-annual de-worming every six months. At all the visited schools we tried to explain to the teachers and people in charge why this deworming is so important for the children.

4: Pneumonia: (29/910 3% vs, 1% the year before) (see table appendix)

"Pneumonia", "coughing", "fast/difficult breathing", "chest indrawing" and "inability to suck milk" are the key words used by care-takers indicating a (severe) ARI (fever with tachypnoe).

The 29 children with a severe acute respiratory infection (ARI) were treated with appropriate antimicrobials and home treatment advice. We saw only 1 child with asthma/bronchitis. If needed these children were treated with ventolin on the spot and were given instructions about the use of inhalers. In case of babies the mothers were instructed how to use the babyhaler. The SFFC will provide follow up visitis.

5: Cardial problems: (6/910, 1 %) (see table appendix)

Mitral regurgitation or ventricular atrial septal defects being the most common heart problems in the third world. For this condition no treatment is available although a good dental situation is essential for a healthy live.

The MCC carrousel includes a cardial examination. We suspected 3 girl of having a new pathological heart murmur. All the new and old cardiac kids together with their caretakers received extra information about their conditions. The children and their care takers were stressed on teeth brushing procedures. Besides this, they were told to give their child antibiotics when going to a dentist for a teeth extraction. These children were transferred to the Coptic Hospital in Nairobi with a clinical suspicion of severe congenital defect. If necessary we will provide costs for treatment with the Nleuwendijk Foundation. We did a follow up for all the cardiac children from previous years and provided medication and treatment as needed. For the kids that were referred to the hospital this year results are still coming in and we will monitor the follow up closely.

6: Skin diseases: (233/910 25%, 7% before)(see table 1 of the appendix)

This year we saw 156 (156/910 17%, 8% before) children with dermatomycoses including tinea capitis. This is a sharp increase compared with the years before Corona. And still this could be underscored as we only treat tinea capitis with systemic treatment in case of severe disease (> 50% of head affected, or severe syperinfections or growth disorders). We saw 17 children with scabies (2%) also much more than in the last year we checked.

We accept a certain degree of underscoring. As tinea capitis is widespread in the schools due to transmission of the fungus bij razorblade and other factors, we only reported and treated the serious cases.

Antifungal cream (eventually in combination with hydrocortison) was given for fungal infections (dermatomycosis) and hydrocortison crème was given for different forms of skin disorders. We did treat the children with severe or infected forms of tinea capitis with griseofulvin.

The reported incidence of skin related problems is on the rise. Ofcourse skindisorders are multifactorial and it's difficult to give a general conclusion but poor hygiene in the reality of drought and hunger should be considered a factor.



7: Dental: (caries not otherwise specified: 51 /910, 43%; painful caries: 1/910, 1%)

In general a high caries prevalence was found. Our reported incidence for painful caries is low. This is due to underscoring. As the doctors knew we did not have a dentist in this medical camp and referrals were only possible for the severe cases. We still see a need for a dental camp and will try to bring our dentist with us next year.

After the medical camps were concluded the children from all western locations with severe teeth problems were transferred to a dental clinic for treatment.

At the last station of the medical carousel local volunteers gave out toothbrushes and educated the children and their caretakers in teeth brushing.

We as MCC provided education, instruction folders, brush posters and tooth brushes for the schools. The folders and posters were based on the program developed by NIOSH.

MCC Kenya West 2022

Further recommendations

Deworming

This year most children of the SSFC schools did receive the antiworm tablet.. Unfortunately, the outreach from the governmental programm still appears to differ greatly between locations and in time. If we look at the data from the last years it is still to early to tell if there is a stable positive trent due to a durable goverental programm.

We need to establish a structure were at least in the SFFC schools the coverage of this profylactic antiworm programme is 100%!

We recommened to contact the local healthclinics or hospitals responsible for the governmental deworming programme locally and make sure all children of the SSFC schools are reached by this programme.

E.g., is it possible for the teachers to get the albendazol directly from the health clinics for distribution? Or should the SFFC coordinate the twice annual distribuation of the antiworm pills? We do need the SFFC in together with her schools to make a major contribution to this goal this year.

Nutrition

The incidence of growth disorders seems to be on the rise due to factors discussed earlier when we compare the results to the results of the last years. Like discussed during the medical camp the young newcomers in the nursery and baby classes seem to have a poor nutrutional state when entering the school. During the years they will benefit the most from the feeding programm.

We would encourage SFFC to proceed with the food programmes at the schools and nurseries. The new locations we visited (Holy Mary and New life) have the hightest incidence of malnutrition. As the caretakers there also told us during our visit there is a constant need for funds and foods. Ofcourse we do understand the Sophia Foundation can not start foodprogrammes easily but if these locations are a stable partner also next year and we do want to help them to make a change for their vulnarable children their needs are bigger than a medical camp.

There is a need for further education about nutrition and healthy living for teachers and health workers.

Cardiac problems

Every year we see children with suspected pathological heartproblems. In Kenya there is not any govermental programm for these needy children and the cost of medication and operations fall to their parents.

Heart operations are expensive (KS 100.000) and need extensive follow-up and chronic medication.

Are there local cooperations possible?

Skin disorders

Fungal infections of the head are still common. In general we see a lot of children with dirty skin due to poor hygenic conditions. This poses a risk for getting skin infections. We do know that water is a problem but should stress that children should clean dirty wounds with water to prevent more serious infections.

Is there a rol a town nurse or dedicated teacher can play in hygiene and wound matters?

Are there local believes about skin and wounds we are not aware? In the years before we were able to talk with the local chiefs about custom of shaving the childrens head. Unfortunatley throughout the years the effect of these talks has minimized. Can the schools or the Sophia play a role in this education and maybe even take care in providing clean razorblades?

Teeth

During the years we've seen a lot of children with dental problems. The last dental camp in Western Kenya has been some years ago. We need to make a sustainable plan for the dental care in the areas were the

MCC Kenya West 2022

SFFC works. At the moment we are only able to refer children with painful caries at an adhoc basis. This means only children with pain are being transported to a dental clinic where we pay the full costs. Is there a way to have a more proactive dental plan in the areas where the SFFC works?

There is also a need for further education of teachers and healthcare workers on the importance of this subject and the role it has in the general health of the children.

Health and Hygiene

In general we notice that knowledge about what is good health and hygiene among children, caretakers and sometimes even teachers is little.

To change the first step is education.

In general the SFFC needs to find a way to be more in the lead when it comes to the distribution of prophylactic antiworm treatments the schools of the program and the role she wants to have in general education on basic healthcare problems.

Last words:

Thanks to the amazing support from the Sophia Foundation we were able to give a lot of children their share of medical care and personal attention. We all felt to be part of one big team and all team members expressed the wish to come back again next year.



MCC Kenya West 2022

Appendix A Disease prevalence among all children per geographical location

	Total		St Peters		Kimerek		Kalambei	
	910		Total= 191		Total= 188		Total= 188	
	N	%	n	%	n	%	n	%
Underweight	80	9%	13	7%	17	9%	20	11%
Stunting	97	11%	14	7%	20	11%	20	11%
Wasting	41	5%	8	4%	9	5%	12	6%
Anaemia	264	29%	84	44%	41	22%	42	22%
HIV pos.	1	0%	0	0%	0	0%	1	1%
AIDS	1	0%	0	0%	0	0%	1	1%
Malaria	2	0%	0	0%	0	0%	0	0%
vitamin deficit (clin.)	8	1%	0	0%	0	0%	2	1%
Bilharzia	2	0%	0	0%	1	1%	1	1%
syndrome n.o.s.	3	0%	2	1%	0	0%	0	0%
pneumonia (clinical)	29	3%	2	1%	7	4%	8	4%
BHR/asthma	1	0%	0	0%	0	0%	0	0%
diarrhoea without dehydr	7	1%	2	1%	2	1%	0	0%
constipation	6	1%	1	1%	0	0%	1	1%
active worm infection	12	1%	5	3%	0	0%	3	2%
otitis media acuta	4	0%	2	1%	1	1%	1	1%
otitis media, effusion	1	0%	0	0%	1	1%	0	0%
otitis externa	2	0%	0	0%	1	1%	0	0%
candida stomatitis	1	0%	0	0%	1	1%	0	0%
other	3	0%	1	1%	0	0%	0	0%
cariës n.o.s.	300	33%	67	35%	53	28%	60	32%
pain n.o.s	14	2%	0	0%	3	2%	7	4%
fluorosis	13	1%	0	0%	0	0%	5	3%
caries with pain	26	3%	6	3%	4	2%	6	3%
other	9	1%	0	0%	1	1%	4	2%
wounds n.o.s.	9	1%	0	0%	1	1%	4	2%
eczema n.o.s.	3	0%	0	0%	1	1%	1	1%
dermatomycosis	20	2%	2	1%	7	4%	5	3%
Impetigo/furunculosis	6	1%	1	1%	3	2%	1	1%
lice	1	0%	1	1%	0	0%	0	0%
scabies	17	2%	8	4%	0	0%	0	0%
Tinea capitis	136	15%	28	15%	12	6%	30	16%
wounds infected,	17	2%	12	6%	1	1%	2	1%
other (psoriasis etc)	24	3%	6	3%	3	2%	3	2%
psychomotoric retard.	5	1%	2	1%	0	0%	1	1%
spina bifida	1	0%	1	1%	0	0%	0	0%
physiological murmur	14	2%	6	3%	5	3%	0	0%
Path. Murmur (susp)	12	1%	3	2%	1	1%	3	2%
refractory problem	2	0%	0	0%	0	0%	0	0%
strabismus	3	0%	0	0%	2	1%	0	0%
amblyopia	1	0%	0	0%	0	0%	1	1%
urinary infection	4	0%	1	1%	3	2%	0	0%
artralgia n.o.s.	1	0%	0	0%	0	0%	0	0%
old fracture	2	0%	0	0%	0	0%	0	0%
hernia(umbilical etc)	8	1%	2	1%	2	1%	0	0%

MCC Kenya West 2022

	Kesengei		New Life		Nakuru Remand		Holy Mary	
	Total= 148		Total= 108		Total= 44		Total= 43	
	n	%	n	%	n	%	n	%
Underweight	11	7%	11	10%	0	0%	8	19%
Stunting	14	9%	8	7%	4	9%	17	40%
Wasting	4	3%	3	3%	0	0%	5	12%
Anaemia	36	24%	37	34%	7	16%	17	40%
HIV pos.	0	0%	0	0%	0	0%	0	0%
AIDS	0	0%	0	0%	0	0%	0	0%
Malaria	2	1%	0	0%	0	0%	0	0%
vitamin deficit (clin.)	1	1%	3	3%	1	2%	1	2%
Bilharzia	0	0%	0	0%	0	0%	0	0%
syndrome n.o.s.	1	1%	0	0%	0	0%	0	0%
pneumonia (clinical)	6	4%	5	5%	1	2%	0	0%
BHR/asthma	0	0%	0	0%	0	0%	1	2%
diarrhoea without dehydr	2	1%	1	1%	0	0%	0	0%
constipation	1	1%	2	2%	1	2%	0	0%
active worm infection	2	1%	1	1%	1	2%	0	0%
otitis media acuta	0	0%	0	0%	0	0%	0	0%
otitis media, effusion	0	0%	0	0%	0	0%	0	0%
otitis externa	0	0%	1	1%	0	0%	0	0%
candida stomatitis	0	0%	0	0%	0	0%	0	0%
other	0	0%	2	2%	0	0%	0	0%
cariës n.o.s.	51	34%	40	37%	20	45%	9	21%
pain n.o.s	0	0%	2	2%	2	5%	0	0%
fluorosis	1	1%	5	5%	2	5%	0	0%
caries with pain	1	1%	4	4%	4	9%	1	2%
other	3	2%	1	1%	0	0%	0	0%
wounds n.o.s.	3	2%	1	1%	0	0%	0	0%
eczema n.o.s.	1	1%	0	0%	0	0%	0	0%
dermatomycosis	1	1%	4	4%	1	2%	0	0%
Impetigo/furunculosis	1	1%	0	0%	0	0%	0	0%
lice	0	0%	0	0%	0	0%	0	0%
scabies	7	5%	2	2%	0	0%	0	0%
Tinea capitis	39	26%	13	12%	3	7%	11	26%
wounds infected,	2	1%	0	0%	0	0%	0	0%
other (psoriasis etc)	7	5%	3	3%	1	2%	1	2%
psychomotoric retard.	1	1%	0	0%	0	0%	1	2%
spina bifida	0	0%	0	0%	0	0%	0	0%
physiological murmur	3	2%	0	0%	0	0%	0	0%
Path. Murmur (susp)	3	2%	0	0%	0	0%	2	5%
refractory problem	0	0%	0	0%	2	5%	0	0%
strabismus	1	1%	0	0%	0	0%	0	0%
amblyopia	0	0%	0	0%	0	0%	0	0%
urinary infection	0	0%	0	0%	0	0%	0	0%
artralgia n.o.s.	0	0%	0	0%	1	2%	0	0%
old fracture	0	0%	0	0%	2	5%	0	0%
hernia(umbilical etc)	4	3%	0	0%	0	0%	0	0%

MCC Kenya West 2022

Appendix C: Treatment among all children per geographical location

	Total		St Peters		Kimerek		Kalambei	
	910		Total= 191		Total= 188		Total= 188	
	N	%	n	%	n	%	n	%
ferro	163	18%	63	33%	29	15%	32	17%
mother iron	2	0%	1	1%	1	1%	0	0%
multivitamins	177	19%	27	14%	33	18%	43	23%
anti-worm	233	26%	165	86%	15	8%	6	3%
acute worm	17	2%	9	5%	0	0%	5	3%
anti-scabies	1	0%	1	1%	0	0%	0	0%
amoxicillin	29	3%	6	3%	7	4%	8	4%
augmentin	2	0%	0	0%	1	1%	0	0%
2e lijns antibiotica	2	0%	0	0%	0	0%	2	1%
Malaria treatment	2	0%	0	0%	0	0%	0	0%
metranidazol	2	0%	0	0%	1	1%	0	0%
co-trimoxazol	5	1%	1	1%	4	2%	0	0%
ceftriaxon	1	0%	0	0%	1	1%	0	0%
paracetamol	2	0%	1	1%	1	1%	0	0%
ORS	7	1%	3	2%	3	2%	0	0%
eardrops	1	0%	0	0%	1	1%	0	0%
nystatine	1	0%	0	0%	1	1%	0	0%
hydrocortisone cream	3	0%	0	0%	1	1%	1	1%
dactarin cream	59	6%	11	6%	22	12%	8	4%
dactacort cream	13	1%	3	2%	0	0%	5	3%
fusidin cream	23	3%	11	6%	4	2%	3	2%
neutral cream	11	1%	4	2%	0	0%	1	1%
iodine	1	0%	1	1%	0	0%	0	0%
griseofulvin	1	0%	0	0%	0	0%	0	0%

	Kesengei		New Life		Nakuru Remand		Holy Mary	
	Total= 148		Total= 108		Total= 44		Total= 43	
	n	%	n	%	n	%	n	%
ferro	25	17%	4	4%	6	14%	4	9%
mother iron	0	0%	0	0%	0	0%	0	0%
multivitamins	22	15%	23	21%	5	11%	24	56%
anti-worm	13	9%	5	5%	10	23%	19	44%
acute worm	2	1%	0	0%	1	2%	0	0%
anti-scabies	0	0%	0	0%	0	0%	0	0%
amoxicillin	7	5%	0	0%	1	2%	0	0%
augmentin	1	1%	0	0%	0	0%	0	0%
2e lijns antibiotica	0	0%	0	0%	0	0%	0	0%
Malaria treatment	2	1%	0	0%	0	0%	0	0%
metranidazol	0	0%	0	0%	0	0%	1	2%
co-trimoxazol	0	0%	0	0%	0	0%	0	0%
ceftriaxon	0	0%	0	0%	0	0%	0	0%
paracetamol	0	0%	0	0%	0	0%	0	0%
ORS	1	1%	0	0%	0	0%	0	0%
eardrops	0	0%	0	0%	0	0%	0	0%
nystatine	0	0%	0	0%	0	0%	0	0%
hydrocortisone cream	1	1%	0	0%	0	0%	0	0%
dactarin cream	6	4%	2	2%	2	5%	8	19%
dactacort cream	4	3%	0	0%	1	2%	0	0%
fusidin cream	5	3%	0	0%	0	0%	0	0%
neutral cream	1	1%	1	1%	1	2%	3	7%
iodine	0	0%	0	0%	0	0%	0	0%
griseofulvin	1	1%	0	0%	0	0%	0	0%

MCC Kenya West 2022

Appendix D Follow up

	Total		St Peters		Kimerek		Kalambei	
	910		Total= 191		Total= 188		Total= 188	
	N	%	n	%	n	%	n	%
Dentist	35	4%	5	3%	7	4%	13	7%
Specialist in hospital	10	1%	2	1%	2	1%	3	2%
Revisit	20	2%	13	7%	1	1%	1	1%
Social program	16	2%	8	4%	0	0%	3	2%
Diagnostics	14	2%	6	3%	3	2%	1	1%
Bloodtest after 3 months	9	1%	8	4%	0	0%	0	0%
International organisation	2	0%	0	0%	1	1%	0	0%
Other...	3	0%	1	1%	2	1%	0	0%

	Kesengei		New Life		Nakuru Remand		Holy Mary	
	Total= 148		Total= 108		Total= 44		Total= 43	
	n	%	n	%	n	%	n	%
Dentist	1	1%	4	4%	5	11%	0	0%
Specialist in hospital	1	1%	1	1%	0	0%	1	2%
Revisit	4	3%	0	0%	1	2%	0	0%
Social program	1	1%	4	4%	0	0%	0	0%
Diagnostics	3	2%	1	1%	0	0%	0	0%
Bloodtest after 3 months	1	1%	0	0%	0	0%	0	0%
International organisation	0	0%	0	0%	1	2%	0	0%
Other...	0	0%	0	0%	0	0%	0	0%