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Study on

**HEALTH AND NUTRITIONAL STATUS OF PRIMARY
SCHOOL CHILDREN IN RELATION TO SCHOOL
PERFORMANCE**

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Submitted by

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ABSTRACT



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Introduction: Under-nutrition and poor health are important underlying factors in low school enrolment, absenteeism, poor class performance and early school dropout. This study is carried out to find out what type of under-nutrition and poor health are affecting our primary school children.

Objectives: To find out the relationship between nutritional status and scholastic performance of primary school children.

Methodology: Descriptive cross sectional study was carried out in one government and one private school in Bhaktapur. Questionnaire, focus group discussion, clinical examination and laboratory examination were conducted to collect the data.

Results: More students and more boys were studying in private school. More old age groups, more girls and more malnourished children (except wasting) were studying in Government School. Prevalence of malnutrition was 6% wasted, 26% underweight, 27% stunted and 7% severe stunted, nearly equally distributed in both sexes. More percentage of children in failed group was stunted (54%), underweight (39%) and severely underweight (2%).

Two third of government and half of the private school students were anaemic.

Protozoal and helminthic infestation was 53%, (government 67% and private school 45%). Parasitic infestation was associated with more of underweight 60%, wasted 38% and least of stunted 19%. Lice were seen in 7%, dandruff 3.2%, earwax 46% and ear discharge 3.4%. Failure rate was more in government than in private school. Stunting (26%), underweight (23%) and anaemia (10%) were higher in failed group.

Conclusion: Poor school performance was seen in students who were chronic malnourished i.e. stunted, underweight and anaemic. No such relationship was seen with acute malnutrition (wasting), earwax, poor visual acuity, and stool parasite with school performance. However the findings were not statistically significant and more study in large population is needed.

Key words:

Malnutrition, Stunting, wasting, underweight.

INTRODUCTION



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Under-nutrition and poor health are important underlying factors in low school enrolment, absenteeism, poor classroom performance and early school dropout. Research by the World Bank suggests that early childhood under-nutrition causes delayed enrolment in primary school. Poor health or intellectual impairment as a result of poor nutrition can also contribute to school dropout or poor attendance and performance. Lack of education in turn hinders social development, reinforces gender discrimination and contributes to continued poor nutrition, health and poverty.

School-based health and nutrition interventions can result in improvements in school performance. These include health and nutrition education programmes as well as school feeding programmes, which address immediate nutritional needs and alleviate hunger, affecting attention span and learning capacity. Health and nutrition education can make significant impact on reaching the twin goals of *Education for All* and *Health For All*.

As a cornerstone to School-based health and nutrition intervention programme we decided to study nutritional status and general health of primary school children in relation to school enrolment, absenteeism and classroom performance.

According to "School level educational statistics of Nepal 1998 (2055)"³ Net enrolment rate in primary school (1-5) is 70.5%, Lower Secondary (6-8 grade) is 30.5% and Secondary (9-10) is 20.2%. In 1997 (2054), promotion in grade one is 42%, Repetition is 38.7% and Dropout rate is 19.2%. According to World Bank early childhood under-nutrition causes delayed enrolment in primary school. Under-nutrition and poor health are

causes of low school enrolment, repetition and dropouts. We want to find out what type of under-nutrition and poor health are affecting our primary school children.

Two primary schools from Bhaktapur district were selected randomly. Ganesh Primary School is a Government school with 209 students in primary section and Everest English School is a Private school with 431 students in primary section. Of the total 640 students in both schools only 593 (84%) participated in the study i.e. 173 (29%) from government and 420 (71%) from private school. Fifteen percent students in Government school and 2% in private school were absent.

OBJECTIVES



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General

1. To find out the relationship between nutritional status (including the status of micronutrient) and scholastic performance of primary school children.

Specific

1. To determine the nutritional status of primary school children by anthropometry, clinical and biochemical methods.
2. To assess the health status of primary school children as indicated by morbidity history.
3. To assess the visual and hearing functions of the Primary school children.
4. To evaluate the scholastic performance of the children under study.
5. To relate the scholastic performance with nutritional status.

METHODOLOGY

Study design:

It is a cross-sectional Survey.

Selection Criteria:

Two schools running primary classes, one private (Everest English School) and one government (Ganesh Primary School) were selected from Bhaktapur. Days were fixed for the examination of the students with the school administration.

All the students of grade 1 to 5, who were present on the day of examination and who had brought their samples of stool were included in the study. Permission from the guardians was elicited and those students whose guardians did not want their children to be included were not examined.

Exclusion Criteria:

Students studying in grades other than mentioned above and those who were absent on the day of study were excluded. Any student who had written unwillingness to participate in the study from their guardian were also excluded

Study Area:

Two primary schools one government and other private school in Bhaktapur were selected for study.

Data Collection:

Consent was taken from the parents or guardians of each student with written letter before including in the study. All the students and guardians were informed beforehand the fixed day of examination and all were requested to bring necessary information on the questionnaire either in written form or guardian would be present on the day of

examination. All were supplied with questionnaires to be filled in home by the guardian. All were given plastic container to bring morning stool sample on the day of examination from home.

Data was collected in pre-tested questionnaire sheets. Two doctors, two health assistants and one auxiliary health worker collected data for students identification, clinical examination including height and weight measurement, ear examination and vision test on Snellen's chart. Laboratory technician with his assistants collected blood samples, stool samples and examined the samples. The school teachers and staff helped during the process.

School attendance and examination results were collected from the administration.

The findings collected in pre-formed recording sheets were tabulated and the relationships were studied later.

Study period:

Data collection from Jetha to Ashwin 2060 (May to September 2003) took 5 months period for the first term examination to be completed in each grade. Data tabulation, statistical analysis and report writing and submission of the report took another 5 months (total 10 months).

Sample Size:

Primary school children studying in class 1-5 from one government (Ganesh Primary School) and another private school (Everest English School) were taken. Total samples were around 640.

Measurements:

- (a) Examination: Each student was examined individually for his or her height, weight, visual acuity, hearing and general clinical examination.
- (b) Examination result and attendance were recorded from school records for each student.
- (c) Laboratory investigations: Samples of blood and stool were collected from each student. Blood was examined for haemoglobin, total and differential count. Stool was examined for helminthes and protozoa parasites.

Statistical analysis:

Data analysis for nutritional status was done using Epi info Programme.

Questionnaires

1.Record of:

- (a) History of immunization (BCG, DPT & Polio I, II, III), vitamin A and antihelminthic taken.
- (b) Morbidity history as hospitalization, visit to hospital or doctor
- (c) Food taken in home, brought to school or supplied in the school (breakfast, tiffin)
- (d) Any chronic disease like asthma, seizure etc.

2.Record of clinical examination:

- (i) Height, weight.
- (ii) General hygiene, Oral hygiene, Hair
- (iii) Check for hearing, ear discharge,
- (iv) Check for refractory error, distance vision
- (v) Check for skin infection, scabies, and eczema

(vi) Check for anaemia, oedema,

3. **Look for** visible micronutrient deficiency (anaemia, visible goiter, night blindness, corneal xerosis, angular stomatitis, nasolabial seborrhoea, bleeding gums, etc)

4. Screen for:

(i). Blood CBC, Haemoglobin,

(ii) Stool parasite.

5. Relate it with school performance:

School performance is measured by

a. Age at school (class) enrolment.

b. Class attendance: Average absent days in total school days in %,

c. Class test performance: passed / failed in how many and what subjects?

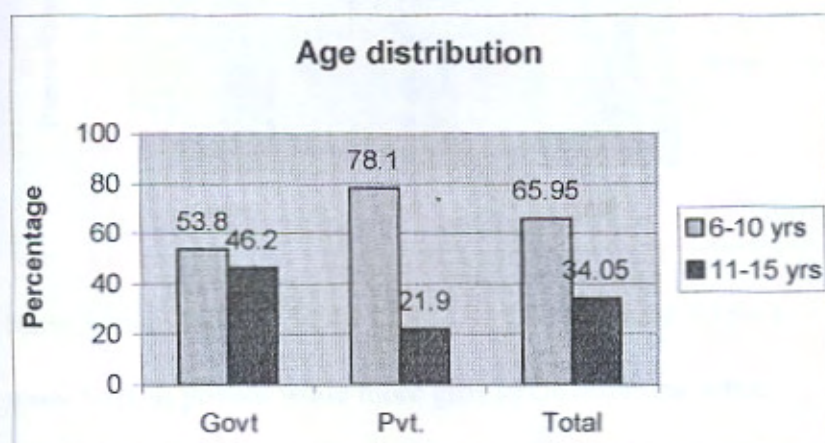
OBSERVATION AND RESULTS

I. Distribution of school children

Table I. a. Age distribution (P=0.0000)

| Schools | 6-10 yrs | | 11-15 yrs | | Grand | |
|---------|----------|-------|-----------|-------|-------|-----|
| | Total | % | Total | % | Total | % |
| Govt. | 93 | 53.8 | 80 | 46.2 | 173 | 32 |
| Pvt. | 328 | 78.1 | 92 | 21.9 | 420 | 68 |
| Total | 421 | 65.95 | 172 | 34.05 | 593 | 100 |

Fig 1. Age distribution

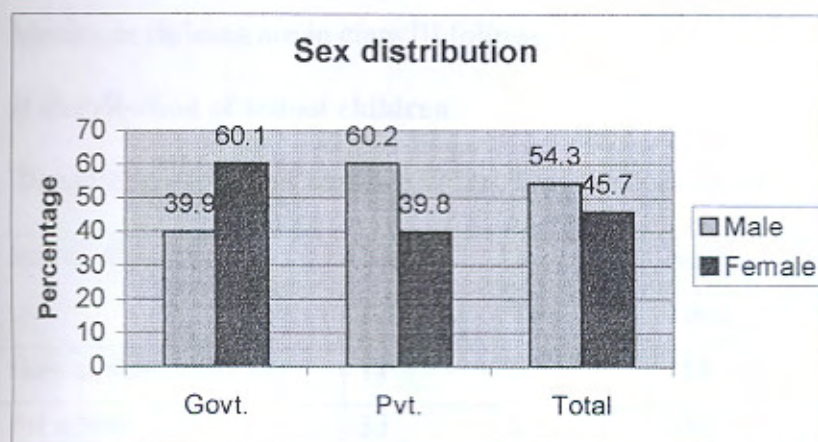


Fifty four percent of Government and 78% of private school students were between 6-10 yrs. In Government school more students (46%) were between 11-15 years than in private (22%).

Tab I. b. Sex distribution (P=0.000006)

| School | Male | | Female | | Total |
|---------|-------|------|--------|------|-------|
| | Total | % | Total | % | |
| Govt | 69 | 39.9 | 104 | 60.1 | 173 |
| Private | 253 | 60.2 | 167 | 39.8 | 420 |
| | 322 | 54.3 | 271 | 45.7 | 593 |

Fig 2. Sex distribution

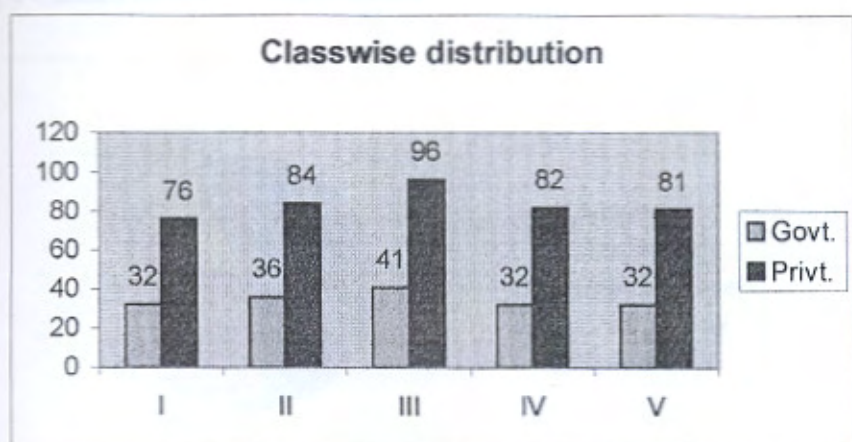


Male female ratio is 54:46 (323:271) (Government 40:60 and private 60:40). There are more boys in private while more girls in Government school.

Table Ic. Class wise distribution (p=0.996)

| Class | Govt | | Pvt | | Total |
|-------|-------|------|-------|------|-------|
| | Total | % | Total | % | |
| 1 | 32 | 18.4 | 76 | 18.1 | 108 |
| 2 | 36 | 20.8 | 84 | 20 | 120 |
| 3 | 41 | 24 | 96 | 22.9 | 137 |
| 4 | 32 | 18.4 | 82 | 19.5 | 114 |
| 5 | 32 | 18.4 | 81 | 19.3 | 113 |
| Total | 173 | 100 | 419 | 100 | 592 |

Fig. 3 Class wise distribution



Maximum children are in class III followed by class II, IV, V and I respectively.

II Distribution of school children

Depending on School absence in last 2 weeks because of illness. ($p=0.569$)

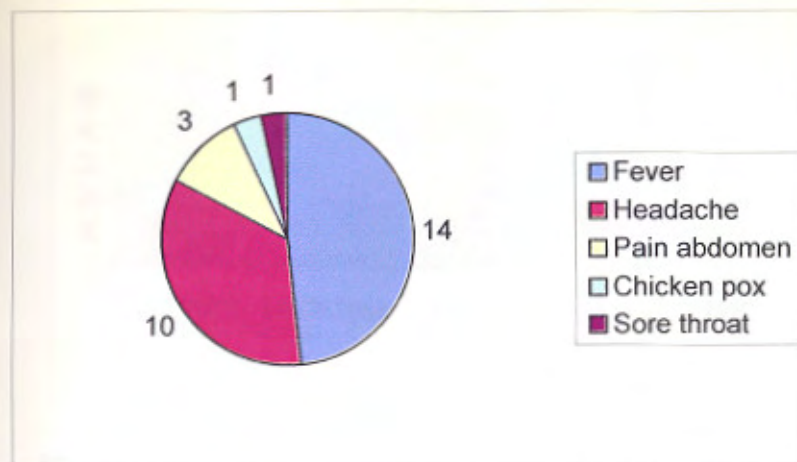
| School absence | Yes | | No | | Total |
|----------------|-------|-----|-------|------|-------|
| | Total | % | Total | % | |
| Govt school | 11 | 6.5 | 158 | 93.5 | 169 |
| Pvt school | 33 | 7.9 | 386 | 92.1 | 419 |
| Total | 44 | 7.5 | 544 | 92.5 | 588 |

Seven percentages of children were absent from school in last 2 weeks because of the ill health (11 government and 33 private).

III. Distribution of Symptoms causing school absence ($p=0.325$)

| Symptoms | Pain abdomen | | Fever | | Sore throat | | Chickenpox | | Headache | | Total |
|-------------|--------------|------|-------|------|-------------|-----|------------|-----|----------|------|-------|
| | Total | % | Total | % | Total | % | Total | % | Total | % | |
| Govt.school | 1 | 16.7 | 1 | 16.7 | 0 | 0 | 0 | 0 | 4 | 66.7 | 6 |
| Pvt. school | 2 | 8.7 | 13 | 56.5 | 1 | 4.3 | 1 | 4.3 | 6 | 26.1 | 23 |
| Total | 3 | 10.3 | 14 | 48.3 | 1 | 3.4 | 1 | 3.4 | 10 | 34.6 | 29 |

Fig 4 Causes of school absenteeism



The causes of absenteeism were fever (14cases), headache (10), pain abdomen (3) and tonsil and chicken pox one each.

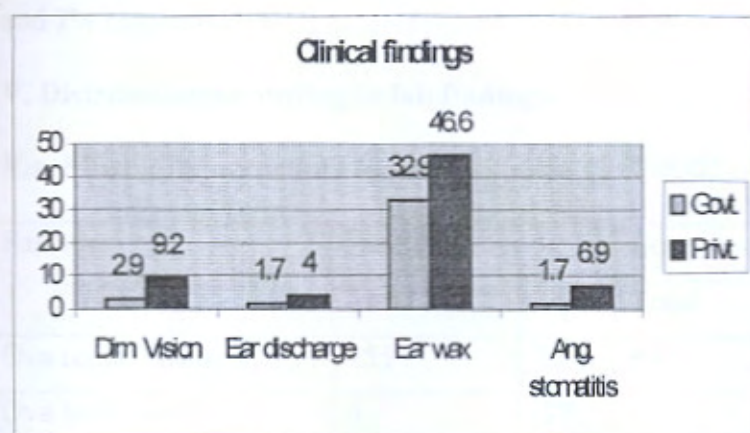
IV. Distribution of children according to clinical findings

IVa. Distribution according to acuity of Vision (P=0.007)

| Acuity of Vision | Normal | | One abnormal | | Two abnormal | | Total |
|------------------|--------|------|--------------|-----|--------------|-----|-------|
| | Total | % | Total | % | Total | % | |
| Govt. school | 168 | 97.1 | 0 | 0 | 5 | 2.9 | 173 |
| Pvt. school | 381 | 90.7 | 22 | 5.2 | 17 | 4 | 420 |
| Total | 549 | 92.6 | 22 | 3.7 | 22 | 3.7 | 593 |

Visual acuity was diminished in 7.4% of the children (3% government and 9% private).

Fig 5. Distribution according to Clinical findings.



IV.b. Distribution according to Ear discharge ($P=0.243$) and presence of Wax ($P=0.002$)

| | Ear discharge | | Ear wax | | None | | Total |
|-------------|---------------|-----|---------|------|-------|------|-------|
| | Total | % | Total | % | Total | % | |
| Govt school | 3 | 1.7 | 57 | 32.9 | 113 | 65 | 173 |
| Pvt. school | 17 | 4 | 196 | 46.6 | 207 | 49 | 420 |
| Total | 20 | 3.4 | 253 | 42.6 | 320 | 53.9 | 593 |

Ear discharges were present in 3.4% (2% government and 4% private). While earwax were present in 42.6% (64 government and 49% private). 54% had clear ear canal without discharge and wax. None had gross hearing defect.

IV.c. Distribution according to Angular stomatitis ($P=0.011$)

| Angular stomatitis | Present | | Absent | | Total |
|--------------------|---------|-----|--------|------|-------|
| | Total | % | Total | % | |
| Govt. school | 3 | 1.7 | 170 | 98.3 | 173 |
| Pvt. school | 29 | 6.9 | 391 | 93.1 | 420 |
| Total | 32 | 5.4 | 561 | 94.6 | 593 |

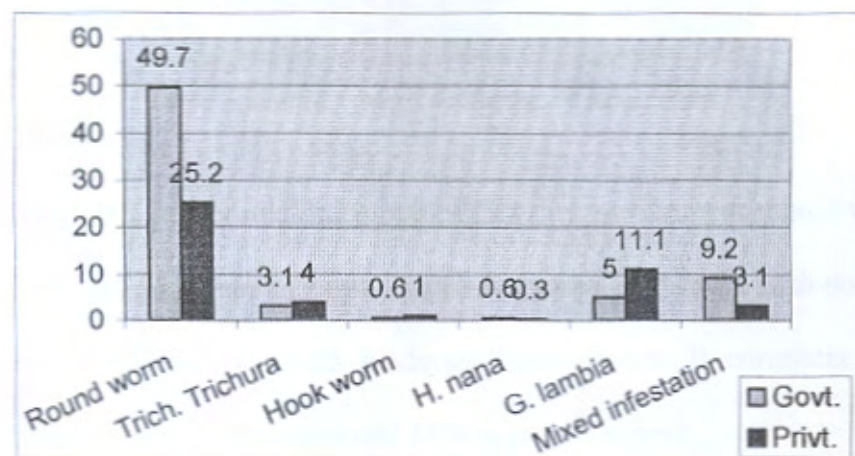
Angular stomatitis was present in 3 of government and 29 of private school students (2% and 7% respectively).

V. Distribution according to lab findings.

V.a. Morbidity according to stool parasite (P=0.0003)

| Parasites | Frequency Total | % | Government school | | Private school | |
|------------------------|--------------------|------|-------------------|------|----------------|------|
| | | | Total | % | Total | % |
| Ova round worm | 155 | 33.7 | 80 | 49.7 | 75 | 25.2 |
| Ova hook worm | 4 | .87 | 1 | .6 | 3 | 1 |
| Ova trichuris trichura | 17 | 3.7 | 5 | 3.1 | 12 | 4 |
| Ova H. nana | 2 | .4 | 1 | .6 | 1 | .3 |
| G. lambia | 41 | 8.9 | 8 | 5 | 33 | 11.1 |
| Mixed | 23 | 11 | 13 | 9.2 | 10 | 3.1 |
| Total | 243/593 | 52.9 | 108 | 67 | 135 | 45 |

Fig 6 Percentage of parasitic infestation



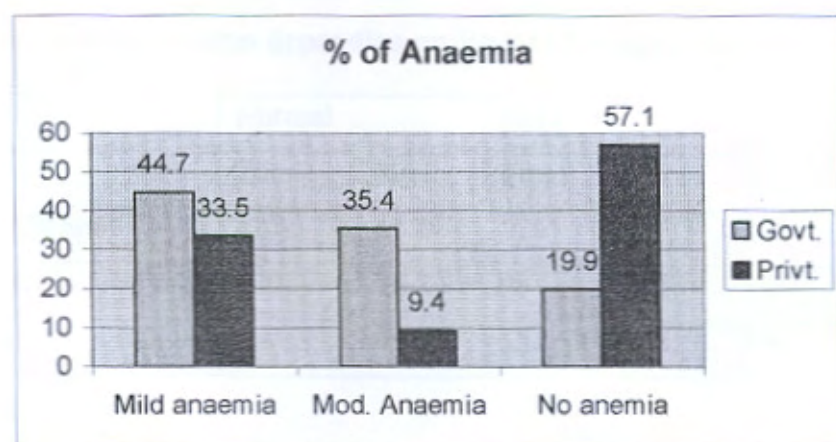
Fifty-three percent of children were infested with protozoal or helminthic parasite, single or double (50+3%) in average. 47% had no infestation. Infestations were more in government school (67%) than in private school (45%). Out of which 34% were infested with roundworm followed by 9% Giardia, 4% trichuris and <1% of hookworm,

Entamoeba histolytica and *Hymenolepis nana*. 3% were with multi parasite infestation as roundworm and *Giardia* or roundworm and trichuris.

V.b. Distribution according to Hemoglobin level (p=0.00000)

| Hb gm % (Anaemia) | Normal | | Mild | | Mod | | Total |
|----------------------|--------|------|-------|------|-------|------|-------|
| | Total | % | Total | % | Total | % | |
| Govt. school | 32 | 19.9 | 72 | 44.7 | 57 | 35.4 | 161 |
| Pvt. school | 182 | 57.1 | 107 | 33.5 | 30 | 9.4 | 319 |
| Total | 214 | 44.6 | 179 | 37.3 | 87 | 18.1 | 480 |

Fig 7 Distribution of anaemia



Only 20% had normal haemoglobin level in government school while 45% had mild and 35% had moderate anaemia. In private school 57% were with normal haemoglobin, 34% with mild and 9% with moderate haemoglobin. It correlates with 67% of parasitic infestation in government and 45% in private school.

All the students had WBC count within normal limit except one who had high count. In all the children Neutrophil and lymphocyte level were within normal limit. Eosinophilia was present in 6 (4%) government and 9 (3%) government school students.

VI. Nutritional Status.

VI a. Depending on Weight for Height (Wasting)($P=0.732$)

| W/H (%) | Normal | | Mild | | Severe | | Total |
|-------------|--------|------|-------|-----|--------|-----|-------|
| | Total | % | Total | % | Total | % | |
| Govt school | 97 | 93.3 | 7 | 6.7 | 0 | | 104 |
| Pvt. school | 334 | 93.3 | 22 | 6.1 | 2 | 0.6 | 358 |
| Total | 431 | 93.3 | 29 | 6.3 | 2 | 0.4 | 462 |

Sixty percent of children were wasted in both government and private school. While 0.4% were severely wasted in private school (male female ratio is 0.7:1).

VI. b. Nutrition status depending on Weight for age (Under weight) ($P=0.002$)

| W/A | Normal | | Mild | | Severe | | Total |
|-------------|--------|------|-------|------|--------|-----|-------|
| | Total | % | Total | % | Total | % | |
| Govt School | 110 | 63.6 | 61 | 35.3 | 2 | 1.2 | 173 |
| Pvt School | 320 | 76.7 | 90 | 21.6 | 7 | 1.7 | 417 |
| Total | 430 | 72.9 | 151 | 25.6 | 9 | 1.5 | 590 |

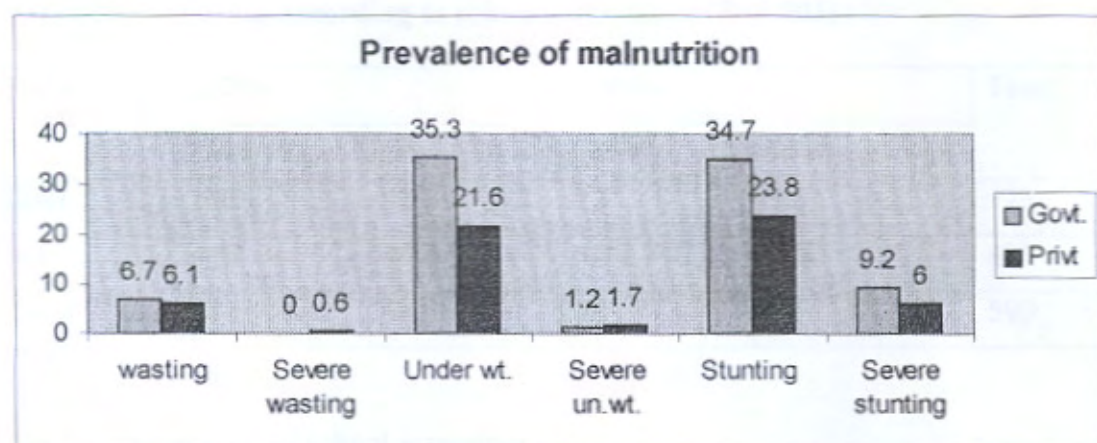
Twenty six percent of children were underweight (35% government and 22% private) (male to female ratio of 27:24) and 1.5% was severely underweight (M: F: 1:1) in both schools ($P=0.002$).

VI. c. Nutrition status depending on Height for Age (Stunting) (P=0.004)

| H/A | Normal | | Mild | | Severe | | Total |
|-------------|--------|------|-------|------|--------|-----|-------|
| | Total | % | Total | % | Total | % | |
| Govt School | 97 | 56.1 | 60 | 34.7 | 16 | 9.2 | 173 |
| Pvt School | 292 | 70.2 | 99 | 23.8 | 25 | 6 | 416 |
| Total | 389 | 66 | 159 | 27 | 4.1 | 7 | 589 |

Twenty seven percent of children were stunted (government: private= 35:25) (M: F: 26:30) and 7% were severely stunted (government: private =9:6) (M: F: 1:1) (P=0. 004).

Fig 8 Prevalence of malnutrition in different schools

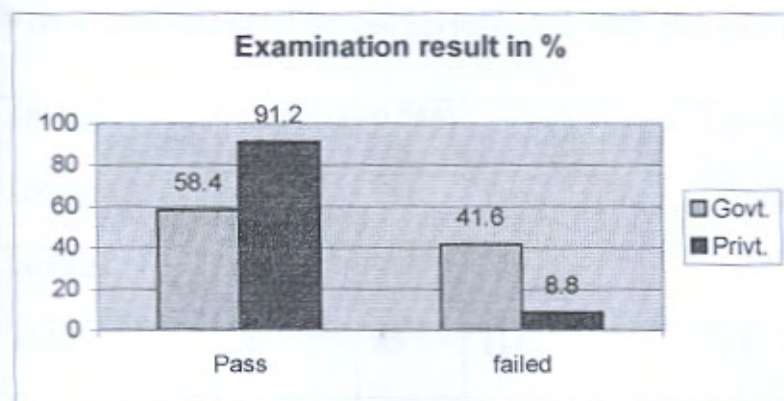


VII. Distribution according to School performance.

VII.a. Distribution according to Examination result (Pass or Fail) (p=0.0000)

| School | Passed | | Failed | | Total |
|--------|--------|------|--------|------|-------|
| | Total | % | Total | % | |
| Govt. | 101 | 58.4 | 72 | 41.6 | 173 |
| Pvt | 383 | 91.2 | 37 | 8.8 | 420 |
| Total | 484 | 81.6 | 109 | 18.4 | 593 |

Fig 9 Examination result

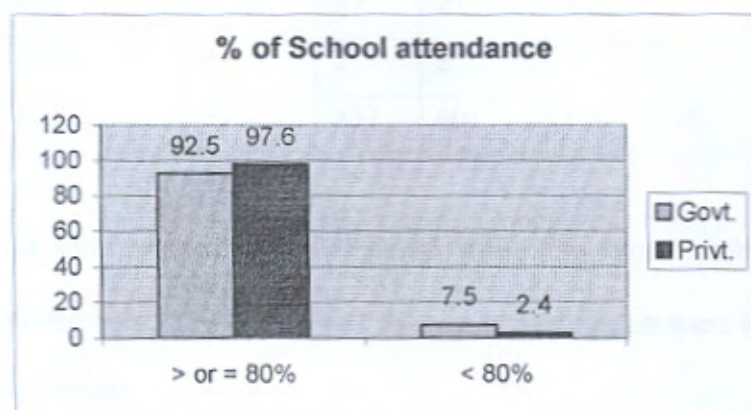


Failure rate was 18% (42% government and 9% private). Stunting and underweight was more in failed group.

VII. b. Distribution according to school attendance (P=0.003)

| School | ≥80% | | < 80% | | Total |
|--------|-------|------|-------|-----|-------|
| | Total | % | Total | % | |
| Govt | 160 | 92.5 | 13 | 7.5 | 173 |
| Pvt | 410 | 97.6 | 10 | 2.4 | 420 |
| Total | 570 | 96.1 | 23 | 3.9 | 593 |

Fig 10. Percentage of school attendance



Only 4% had less than 80% school attendance (6% government and 2% private).

VIII Correlation of School performance with Nutritional Status

VIII a. Correlation of School performance with Height for age (Stunting)

| Ht/Age (Stunting) | Passed (p=0.246) | | | | Failed (p=0.698) | | | |
|----------------------|------------------|-----|-------|-----|------------------|-----|-------|-----|
| | Govt. | Pvt | Total | % | Govt. | Pvt | Total | % |
| Normal | 65 | 274 | 339 | 70 | 32 | 18 | 50 | 47 |
| Mild | 26 | 85 | 111 | 23 | 34 | 14 | 48 | 45 |
| Severe | 10 | 23 | 33 | 7 | 6 | 2 | 8 | 8 |
| Total | 101 | 382 | 483 | 100 | 72 | 34 | 106 | 100 |

Seven percent of children were severely stunted in the passed groups whereas 8% in failed group. While among the passed groups 23% of children were stunted and 45% among failed group respectively. Failure rate was almost double in the stunted children.

VIII b. Weight for height (wasting)

| Wt/Ht (Wasting) | Passed (p=. 832) | | | | Failed (p=. 503) | | | |
|--------------------|------------------|------|-------|------|------------------|------|-------|-----|
| | Govt. | Pvt. | Total | % | Govt. | Pvt. | Total | % |
| Normal | 64 | 308 | 372 | 92.7 | 33 | 26 | 59 | 97 |
| Mild | 5 | 22 | 27 | 6.7 | 2 | 0 | 2 | 3 |
| Severe | 0 | 2 | 2 | .5 | 0 | 0 | 0 | 0 |
| Total | 69 | 332 | 401 | 100 | 35 | 26 | 61 | 100 |

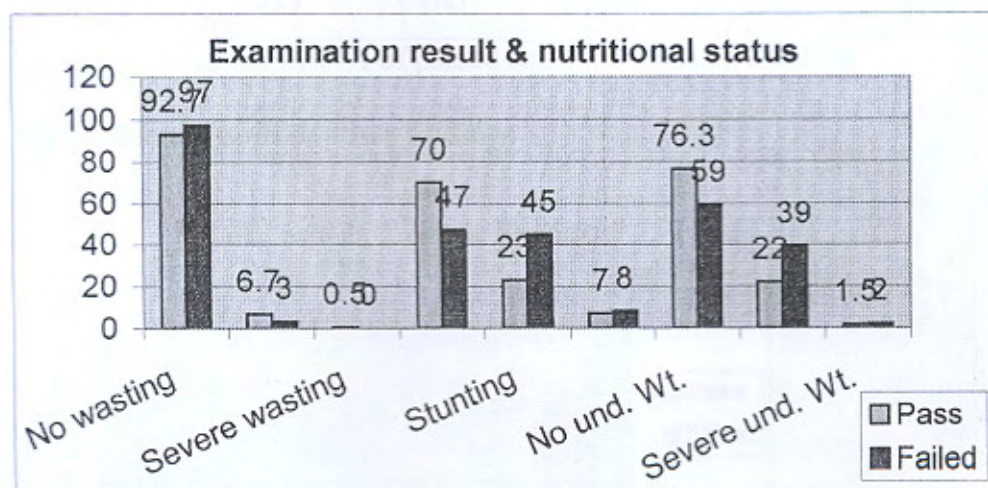
3% were wasted in failed group while 7% were wasted in passed group while total wasted were 6%. Pass-fail ratio in wasted group were 68:32 while in severe wasted it was 50:50.

VIII. c. Correlation of School performance with weight for age. (Under weight)

| Wt/Age (Underwt).. | Passed (p= 0.092) | | | | Failed (p= 0.324) | | | |
|-----------------------|-------------------|------|-------|------|-------------------|------|-------|-----|
| | Govt. | Pvt. | Total | % | Govt. | Pvt. | Total | % |
| Normal | 72 | 297 | 369 | 76.3 | 38 | 23 | 61 | 59 |
| Mild | 29 | 78 | 107 | 22 | 32 | 12 | 44 | 39 |
| Severe | 0 | 7 | 7 | 1.5 | 2 | 0 | 2 | 2 |
| Total | 101 | 382 | 483 | 100 | 72 | 35 | 107 | 100 |

Students in failed group were 2% severely underweight and 39% underweight while in passed group it were 1.5% severely underweight and 22% underweight. Pass-fail ratio in underweight was 22:39 and severe underweight were 1.5:2.

Fig. 11 Examination result & nutritional status



IX. Correlation of School performance with Morbidity

IX. a. Correlation of School Result with Ear discharge (p= 0.390)

| Ear discharge | Passed | | Failed | | Total | % |
|---------------|--------|------|--------|------|-------|-----|
| | Total | % | Total | % | | |
| Present | 15 | 3.1 | 5 | 4.6 | 20 | 3.4 |
| Absent | 469 | 96.9 | 104 | 95.4 | 573 | |
| Total | 484 | 100 | 109 | 100 | 593 | 100 |

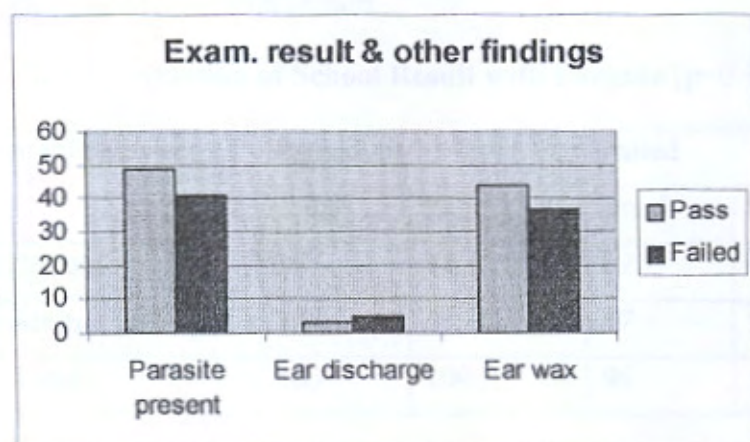
Ear discharges were present in 3% of passed and 5% of failed children.

IX. b. Correlation of School Result with Ear Wax (p= 0.163)

| Ear wax | Passed | | Failed | | Total | % |
|---------|--------|-----|--------|------|-------|------|
| | Total | % | Total | % | | |
| Present | 213 | 44 | 40 | 36.7 | 253 | 42.7 |
| Absent | 271 | 56 | 69 | 63.3 | 340 | 57.3 |
| Total | 484 | 100 | 109 | 100 | 593 | 100 |

Earwax was present in 44% of passed and 37% of failed children.

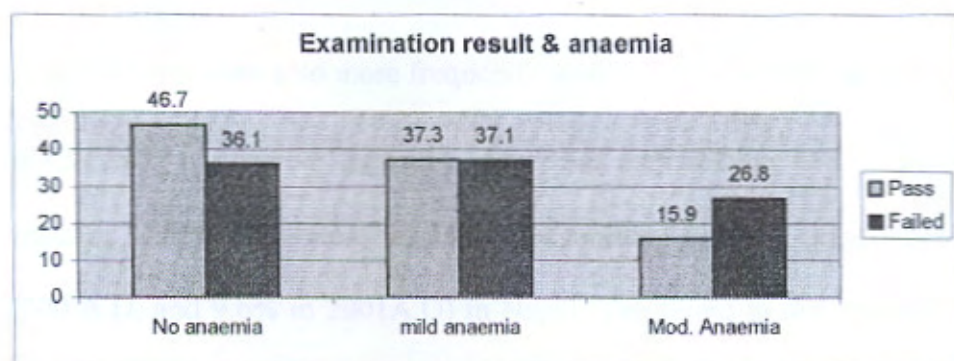
Fig 12. Exam result & other findings



IX. d. Correlation of School result with Anaemia ($p= 0.03$)

| Anaemia | Passed | | Failed | | Total | % |
|----------|--------|------|--------|------|-------|------|
| | Total | % | Total | % | | |
| Absent | 179 | 46.7 | 35 | 36.1 | 214 | 44.6 |
| Mild | 143 | 37.3 | 36 | 37.1 | 179 | 37.3 |
| Moderate | 61 | 15.9 | 26 | 26.8 | 87 | 18.1 |
| Total | 383 | 100 | 97 | 100 | 480 | 100 |

Fig. 13. Examination result & anaemia



Mild anaemia was present in 37% each of passed and failed group while moderate anaemia was present in 16% of passed and 27% of failed students that is anaemia was more associated with failure.

IX. E Correlation of School Result with Parasite ($p=0.156$)

| Stool parasite | Passed | | Failed | | Total | % |
|----------------|--------|------|--------|------|-------|------|
| | Total | % | Total | % | | |
| Present | 177 | 48.4 | 39 | 40.6 | 216 | 47.1 |
| Absent | 186 | 51.2 | 57 | 59.4 | 243 | 52.9 |
| Total | 363 | 100 | 96 | 100 | 459 | 10 |

Parasites were equally distributed in both passed (48%) and failed (41%) group.

DISCUSSION

STUNTING (H/A), a chronic indicator of malnutrition, was present in 27% (government 35% and private 29%) and severe stunting in 7% (government 9% and private 6%) in present study which is less than the national figure of Nepal (50% in 2001 and 54% in 2000) but it is nearly similar to that of developing countries (33%)¹⁵.

Stunting was more prevalent in 9 years old than 6 years old children in other study¹⁵. In our study stunting as well as severe stunting it was more prevalent in grade III (equivalent to 9 years).

Stool parasites were also more frequently seen in (19%) of stunted children.

WASTING, a sensitive indicator of current malnutrition was observed in 6% of the children, which was almost similar to our national figure in preschool children (6.7% in 2000 A.D. and 9.6% in 2001A.D) in Nepal. The figure in our report is less than that of developing countries 9.4. Nearly half of the wasting was in grade I. It seems wasting of preschool children were continued in school children.

Stool parasites were seen in 36% of wasted and 2% of severely wasted students. Stool parasite had positive impact in acute malnutrition.

Prevalence of **UNDERWEIGHT**, an indicator of acute malnutrition (in 6 months to seven years of age) was 26%, which was less than national data of Nepal in preschool children (47.1% in 2000 and 48.3% in 2001), other developing countries (32.5). There was no obesity seen in our study. Underweight was more prevalent in grade I and III. Severe underweight was more in grade I (56%). Stool parasites were present in 41% of underweight and 19% of severe underweight children.

MICRONUTRIENT DEFICIENCY

Anaemia

Anaemia in developing countries is 3 to 4 times higher than in developed countries¹⁵. In Nepal²¹ prevalence of anaemia in preschool children was 78% (36-47 months of age). Prevalence of anaemia in present study was 55% (mild 37% and moderate 18%), which was similar to the reports of the developing countries, but less than that of national figure of Nepal, but more than that Gorkha, Palpa, and Kathmandu¹⁰. There was more anaemia in government school. Prevalence of anaemia in failure group was 10% higher. Children without anaemia significantly did better in the examination than those with moderate anaemia, which shows that moderate anemia, affect the school performance.

Vitamin A deficiency

Night blindness was complained by only 0.3% students but was noted in higher percentage (7.5%) in similar study¹⁰. But there was no sign of **vitamin A deficiency**.

Night blindness in present study was, less than (1.2% night blindness and 1.9% of Bitots spot) of national report²¹. Micronutrient initiative (MI) Nepal reported >1% of all school-aged children had Night blindness with the prevalence increasing with age¹⁸. MI had reported. 0.24% of night blindness and 0.33% of bitot's spot in pre-school children¹⁸.

Reduced Visual acuity was seen in 7.4% in this study while others reported 8.2% near sightedness, 0.4% far sighted, color blindness 0.45 and eye disease in 6.04%¹⁰.

Squint was noted in 0.8% children, which was seen in 1.6% of similar study¹⁰.

There was no visible **Goiter** seen in our study as similar to 0% among school-aged children reported by Micronutrient initiative Nepal¹⁸.

Angular stomatitis (**Riboflavin deficiency**)²⁶ was more in private school than in government school.

There was no sign of **Vitamin C deficiency** seen in the study.

STOOL PARASITE

In present study 53% of students suffered from parasitic infestation (67% in government and 45% in private school), which was similar with 57.4% in Nuwakot, 55.4% in Bhojpur¹¹ ($p=0.05$). Most of the parasites were roundworm (34%), followed by Giardia (9%), trichuris (4%), (1%) each of *H. nana* and *E. histolytica* and <5% had mixed infestation.

Stool parasites were seen in 41% of underweight and 19% of severe underweight children followed 36% wasted and 2% severe wasted children and least in stunted children (19%).

Stool parasite affects acute malnutrition.

GENERAL HEALTH AND PERSONAL HYGIENE

69% students were clean, while 30% looked neglected (**poor hygiene**), but other study shows 21% poor hygiene and 29% dirty nail¹⁰.

Skin disease (scabies, injury and eczema) was seen in 3.6% in present study while it was very high 28% in other study¹⁰. **Lice** were seen in 42 (7%) and dandruff in 25 (4.2%) children. Khand K.D. reported 17.4% of tonsillitis, 15% influenza, 10.6% pharangitis,

24% diarrhoea dysentery, 24% caries teeth 18% conjunctivitis 18% scabies and 8% defective vision in his 5 years experience in a boarding school¹⁹.

BCG scar was present in 83.3% (494) of students in this study, which is similar to other study (81.2%)¹⁰.

Ear discharge was seen in 3.4%, which is less than Devkota's report of 10%. Earwax was present in 46%. Children with ear discharge had poor school performance than those with earwax and those with poor visual acuity.

EXAMINATION RESULT AND SCHOOL PERFORMANCE

Failure rate was more in government school than private school. Stunting was 26% and underweight 23% higher in failed group. Anaemia was 10% higher in failed group. Failure rate was higher in children with ear discharge.

School performance: Biochemical hypothyroidism secondary to iodine deficiency was found to be associated with poor school achievement and cognition in one of the studies⁸. Better-nourished children performed significantly better in school with one standard deviation (1SD) increase in height associated with ½ SD increase in test scores¹¹. Similarly, head circumference and the Body Mass Index were important predictors of performances on cognitive tests¹¹. Better-nourished children were also significantly less likely to repeat in 1st grade. One standard deviation decrease in height delayed a child enrolment by more than a month. Nutritional status did not show any correlation with absenteeism from school, failures to do home work or attending pre-school¹¹.

The haemoglobin and serum protein increased significantly after albendazole treatment with p value <0.05¹⁰.

In our study children with chronic malnutrition (stunted) had poor school performance than those with acute malnutrition (wasted). i.e. Children with chronic malnutrition, anaemia, ear discharge demonstrated poor school performance while there was no such relationship with acute malnutrition, earwax, poor visual acuity and stool parasite. However the difference between the two groups was not significant.

There was no correlation of the nutrition with school attendance in our study.

There were more girls and older children in **Government School**

More students had delayed school enrolment in government school than in private school.

We see gender bias in our study because more girls (60%) were studying in free government school while more boys (60%) studying in private expensive (paying Rupees 600 per year) school.

. Incidence of anaemia and worm infestation was high in government school. There was no difference in nutritional status by wasting in both schools but underweight (wt/age) and stunting (ht/age) were more in government school though it was not statistically significant. Failure rate was high in government school. Different school may have different expectation and scholastic achievements.

CONCLUSION

1. More students are studying in private school than government. More old age groups are studying in government school than in private.
2. More boys are studying in private expensive school
3. In personal hygiene lice were seen in 7% (13% government and 4% private) and dandruff 3.2% (0.6% government and 4.35 private school).
4. Prevalence of malnutrition were 6% wasted, 26% underweight, 27% stunted and 7% severe stunted nearly equally distributed in both sexes. Wasted and underweight children are distributed more in grade I and III; while stunted in grade III. More percent of the children in failed group were underweight 39% and stunted 54% than total population.
5. Earwax is a very common problem in government than private school. Ear discharge is seen in 3.4% children. Ear discharge had negative correlation with examination result.
6. Angular stomatitis is more common in private school.
7. Protozoal and helminthic infestation is a common problem in both schools. Roundworm is most prevalent followed by Giardia, Trichuris trichura, hookworm, Entamoeba histolytica and Hymenolepis nana. Stool parasite correlate with malnutrition.
8. Two third children are anaemic in government school while half in private school.
9. Failure rate is more in government school than private. Anaemia is 10% higher in failed group. Stunting is 26% and underweight 23% higher in failed group though it is statistically not significant.

LIMITATIONS OF THE STUDY

Questionnaire could not be used for information collection in government school because most parents were non-respondent and most of the parents could not participate during health checkup to give information. We have to depend solely in student's information. Some of the students could not give their date of birth, they do not know about the immunization and did not remember about antihelminthic and vitamin A taken.

While in private school most of the parents responded in written the questionnaires supplied, most personally participated in health check up.

Only first term examination results are included because the study period coincided with the first term examination of these schools. It would have been better if we could study during the end of the session and final examination result could be included.

Students who did not participated in the study or who were absent during the study were excluded. But in government school most of them were the ones who had left (dropped out) the school. We need to study those students too.

School enrolment year and class repetition could not be studied.

Out of 640 students enrolled only 593 (84%) were included. 16% were excluded. Only 88% had valid weight for height report, while 99% had weight for age and height for age report. Stool samples were collected only in 77% students and blood samples in 81% students.

RECOMENDATIONS

1. Sample should be of equal size in both government and private schools.
2. Further studies are necessary in large population for study of significance of malnutrition in school performance.
3. Study should be conducted at the end of the session to include all the results of the examination during that session.
4. More precise methodology is needed to show the relationship between malnutrition and school performance.

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ANNEX

ANNEX 1. MEASURING MALNUTRITION²⁶

- **Height for age (H/A)** is an indicator of chronic malnutrition. A child exposed to inadequate nutrition for a long period of time will have a reduced growth and therefore a lower height compared to other children of the same age (**stunting**)
- **Weight for age (W/A)**, in children from six months to seven years of age is an index of acute malnutrition, and widely used to assess protein energy malnutrition and over nutrition, especially in infancy when the measurement of length is difficult²
- **Weight for age (W/A)**, is an indicator of both long-term malnutrition (deficit in height/ "stunting") and current malnutrition (deficit in weight/"wasting")²⁶
- **Weight for height (W/H)**, is an indicator of acute malnutrition that tells us if a child is too thin for a given height (**wasting**).
- **Classification of Malnutrition (WHO)**

| Classification | NCHS Z score |
|----------------|--------------|
| Normal | Upto -2 |
| Mild | < -2 |
| Severe | <-3 |

Anthropometric measurements

- Height measurement

It is done on height measuring board. The child's shoes are removed. The child is placed on the measuring board, standing upright in the middle of the board. The

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Anthropometric measurements

- Height measurement

It is done on height measuring board. The child's shoes are removed. The child is placed on the measuring board, standing upright in the middle of the board. The

child's ankles and knees should be firmly pressed against the board by the assistant while the measurer positions the head and cursor.

The child's head, shoulders, buttocks, knees and heels should be touching the board. The measurer reads the measure to the nearest 0.1-centimeter. The assistant writes down the measurement and repeats it to the measurers to make sure it has been correctly heard and recorded.

➤ **Weight measurement**

It is done on bathroom scale that is readjusted to zero before use, each day and in between examination. The child's shoes are removed and clothes are removed to minimum. Child is made to stand on the scale. The scale should be read vertically at eye level. The measurer announces the value read from the scale, the assistant repeats it for verification and records it on the questionnaire.

Every day the scale should be checked against a known weight. It should match the weight.

- **Sign of Vitamin A deficiency:** Night blindness, Bitot's spot, corneal xerosis and / or ulcer, Xerophthalmia.
- **Sign of Vitamin C deficiency (Ascorbic acid):** Scurvy, painful & swollen joints, bleeding gums.
- **Sign of Vitamin B₁₂ (Riboflavin) deficiency:** Angular stomatitis

ANNEX 2. CLINICAL EXAMINATION

E Test or Snellen's Chart²³ for Visual Acuity Measurement

- Stand him at 6 meters from well-lit chart.
- Cover left eye with piece of paper
- Start from top. Ask whether the 3 legs go up, down, right or left.
- Or ask to read the alphabets from top down to bottom.
- The sequence of test getting progressively worse is 6/6,6/9,6/18,6/60,3/60, Count finger 3 (CF-3), CF-1, and hand movement (HM).
- a) Good vision 6/6
- b) Poor vision 6/9 -6/60
- c) Blind CF-5 - PL (perception of light)
- d) NPL (No perception of light blind to light)

The Cover Test²³ for Squint

Ask him to look straight ahead at some target in the distance. Cover his left eye with a piece of paper. If his right eye moves, in or out, to fix on the distance target, it was previously squinting. If it does not move, it was looking straight at the target. Now repeat the same thing for another eye.

Ear examination

Ear is examined for wax, or any discharge with auroscope.

Gross hearing test is done whether the child can hear ordinary conversation during examination.

ANNEX 3. LABORATORY EXAMINATION

1. Hemoglobin estimation by Cyanmethaemoglobin method.

Principle

Cyanmethaemoglobin is a colorimetric procedure for determining hemoglobin concentration. An aliquot of well-mixed whole blood is taken and reacted to a solution of potassium cyanide and potassium ferricyanide (called Drabkin's solution). The chemical reaction yields a product of stable color of the cyanmethaemoglobin. The intensity of the color is proportional to the hemoglobin concentration.

2. WBC Count

Make 1:20 dilution of blood using WBC dilution fluid (Turk's solution) 20 μ l of blood and 380 μ l of diluting fluid. Mix well for 2 minutes. Fill the clean dry counting chamber with its cover bed for 2 minutes. Count properly. Stand it under 10mm Objective lens.

Calculation:

$$= N \times 20 \times 10^4 = N \times 50$$

$$= \text{No of WBC /cu mm.}$$

3. Stool Examination

Macroscopic

- Blood and Mucus

Microscopic: Stool smear is made with normal saline drops without concentration and seen for

- Ova, cysts
- Pus cells
- RBC

ANNEX 4. REFERENCES FOR HEMATOLOGICAL VALUES²²

| Age | Hb (gm/dl) Mean(Range) | WBC (10^6 /dl) Mean (Range) | Neutrophil% (40-75) | Lympho% (20-50) | Eosino % (1-6) | Mono %(2-10) |
|-------------|---------------------------|-----------------------------------|------------------------|--------------------|-------------------|-----------------|
| 6mo-6yr | 12(10.4-14) | 10 (6-15) | 45 (40-75) | 48 | 2 | 5 |
| 6-12 yr | 13 (11-16) | 8 (8.5-13.5) | 45 (40-80) | 38 | 2 | 5 |
| >12yrFemale | 14 (12-16) | 7.5 (5-10) | 55 (35-70) | 35 | 3 | 7 |
| >12 yr Male | 16 (14-18) | 7.5 (5-10) | 55 (35-70) | 35 | 3 | 7 |

- Basophil <1% normal.

ANNEX 5.WHO GRADING OF ANAEMIA

| Grade | Haemoglobin range |
|----------|-------------------|
| Mild | 10^* gm/dl |
| Moderate | 7-10gm/dl |
| Severe | <7 gm/dl |

*Cut off point for ages

*Cut-off points for blood Hb. Concentration to define anaemia by age group²⁷

| Age | Haemoglobin gm/dl |
|-------------|-------------------|
| 6-59 months | 11 |
| 5-11 yrs | 11.5 |
| >12 yrs | 12 |

ANNEX 6. INTRODUCTION OF THE SCHOOLS

| Description | Everest English School | Ganesh Primary School |
|-------------------|--|-------------------------------|
| School | Private | Government |
| Established | 1983 | 1983-84 |
| Grade | Nursery- VII | Nursery- X |
| Fees /month (I-V) | 522 / month (6264 / yr) | Nil |
| Total students | 1020 | 340 |
| Grade I-V | 431 | 209 |
| Teachers | 60 | 13 |
| Building | 5 | 1 |
| Land (ropanies) | 10 ropanies | 2 (on hire) |
| Toilet + Urinal | 12 + 4 | 3 + 2 |
| Drinking water | Uroguard X 12 | Tap water X 3 |
| Canteen | 0 | 0 |
| Hostel | For 25 students | 0 |
| Games | Volley ball, TT, Basket ball, others | Foot ball, running |
| Extra activities | Quiz, Essay, literature, Debate, Poem competition etc. | Quiz, literature, Debate etc. |

ANNEX 7. Basic Educational Data of Primary School in CDR * at a glance 1998

(2055)

| | Schools | | | Students | | |
|----------------|------------|---------|-------|------------|---------|---------|
| | Government | Private | Total | Government | Private | Total |
| Central Region | 7030 | 1439 | 8469 | 1138818 | 138632 | 1277450 |
| Valley | 1429 | 775 | 2204 | 239547 | 92372 | 331919 |
| Kathmandu | 942 | 607 | 1549 | 154794 | 95161 | 249955 |
| Bhaktapur | 158 | 23 | 181 | 25593 | 4900 | 30493 |
| Patan | 329 | 145 | 474 | 59160 | 22311 | 81471 |

*Central Development Region

ANNEX 8. PROFORMA ON HEALTH, NUTRITION AND SCHOOL PERFORMANCE

| PARTICULARS OF STUDENTS | |
|--------------------------------|--|
| School/Class/Section /Roll no. | |
| Serial no: | |
| Name | |
| Date of birth (Year/month) | |
| Sex | |
| Ethnic group | |
| Address (Tole)/ Phone No. | |
| Guardian (Father/Mother) | |

| HISTORY OF | |
|--|------------------------------------|
| Breakfast | Taken / not taken |
| Tiffin | Brought / school supply/none/other |
| Immunization | Complete/ not complete/ don't know |
| Vitamin A* | Taken/ not taken/ don't know |
| Antihelminthic* | Taken / not taken/ don't know |
| Hospital/ Doctor visit / Hospitalization** | Yes / No / Cause |
| Taking Treatment / Medicine if any | |
| Any disease | |
| Absent in class because of ill health ** If yes write the cause | Yes / no |

* In last 6 months ** In last 2 weeks

| SCHOOL PERFORMANCE | |
|--------------------------------|--|
| School enrolment year: _____ | Repeated Class: Yes / No |
| Class attendance | Absent days: _____, Working days: _____ Attendance during working days (%): _____ |
| Performance on Class tests | Pass / Failed / No. of subjects failed: _____ Excellent/ Fair/ Satisfactory |
| Any comment from class teacher | |

| PHYSICAL EXAMINATION | |
|---|---|
| Height | |
| Weight | |
| Weight/Height: Weight/Age: Ht./Age: | |
| BCG Scar | Present / Absent |
| Vision | Complain: _____ Night blindness: Yes / No Squint: Present/ Absent Visual acuity: Unaided Rt.: _____ Lt: _____ Glass: Rt.: _____ Lt.: _____ |
| Ear | H/o Discharge /Deafness/Itching/Other O/E: Discharge: Present/ Absent Wax: Present/ Absent Deafness: Gross test if present in history Speech: Normal/ Nasal tone/ Other |
| Dental health | Clean & healthy/ Dirty/ Bleeding gums/ Caries |
| Hair | Lice / Dandruff / None / other _____ |
| Appearance / Cleanliness | Clean / Neglected / Tired |
| Skin | Scabies / Infection / Injuries / Eczema / _____ |
| Ang. Stomatitis / Nasol. Seborrhea | Yes / No |
| Pallor | Yes / No |
| Goiter | Yes / No |
| Chest/CVS | |
| Any other abnormalities / Disease | |
| SCREENING TEST | |
| Haemoglobin: | |
| PBC | Total Lymphocyte (%): |
| Stool parasite | Ascaris / Trichuris / Enterobius / None/ _____ |

Please encircle or fill

ANNEX 8 QUESTIONNAIRE FOR PARENTS

Dear parents / Guardians

We are having general health check up of our students studying in primary classes in our school with blood and stool test. Students don't have to pay for it It will benefit the students. So will you kindly help us by providing following information of your child? It will be greatly appreciated if you can present on the day of examination in the school.

Kindly

- (i) Send back following questionnaire sheet after completion and
- (ii) Send a sample of morning stool in the vial provided for clinical examination.
- (iii) Date of health check up: _____

Questionnaire

Name: _____ Grade: _____ Roll no: _____ Date: _____

Date of birth: _____ (Age completed) _____ Sex: _____

Contact address: _____ Phone no: _____

Guardian's Name: _____

History: (Please encircle)

Breakfast: taken in home/not taken/ carried to school

Tiffin: Sent to school/ school supply/ none/ other

Vitamin A taken in 6 months/ not taken

Antihelminthic taken in 2 weeks / not taken

Hospitalization/ Doctor visit (2 weeks) : Yes / No

Absent in school⁹ in 2 weeks because of ill health: Yes. No

Night blindness: Yes / No

Ear discharge: Yes / No

Deafness: Yes / No

School enrolment year: _____

Any disease: Asthma/ Seizure, heart disease/ other.

Immunization: (please tick)

| Vaccine | Taken | Not taken | Don't know |
|---------------|-------|-----------|------------|
| BCG | | | |
| DPT Polio I | | | |
| DPT Polio II | | | |
| DPT Polio III | | | |
| Measles | | | |

ii) Stool sample sent: Yes/ No

Thanking for your help.

Dr. Uma Devi Chhetri
Paeditrician
Kanti Children's Hospital
Maharajgunj

Bhakta Rajbhandari
Principal
Everest English School
Bhaktapur

आदरणीय अभिभावकज्यू,

हामी हाम्रो स्कूलको प्राइमरी कक्षामा पढ्ने विद्यार्थीहरू स्वास्थ्य जाँच, दिसा, रगत जाँच निःशुल्क गर्दैछौं। यसले विद्यार्थीहरूको पढाइ र स्वास्थ्यमा मद्दत पुऱ्याउने छ। कृपया तपाईंहरूले तलका जिज्ञासाहरूको उत्तर भरी पठाएर मद्दत गर्नुहुनेछ भनेर विश्वास लिएका छौं। बच्चासाईं दिई पठाएको भाँडोमा विहानको दिसा अलि राखेर जाँचको निमित्त स्कूलमा पठाई दिनुहोला। जाँचको दिन तपाईंहरू आफैँ उपस्थित हुन सक्नु भए भने राम्रो हुने छ।

जिज्ञासाहरू

बच्चाको नाम : कक्षा: रोल नं. मिति

जन्मेको मिति: वा उमेर (पुरा भइसकेको वर्ष)

स्कूल भर्ना भएको मिति (साल) :

सम्पर्क ठेगाना: टेलिफोन नं.

(गोली लगाउनुहोला)

- विहानको खाना वा खाजा: खाएको / नखाएको / स्कूलमा लगेको
- दिउँसोको खाना: स्कूलमा लगेको / नलगेको / किनेर खाने / अरु.....
- भिटाभित 'ए' (६ महिना भित्र) : लिएको / नलिएको
- जुकाको औषधि (२ हप्ता भित्र) : खाएको / नखाएको
- २ हप्ताभित्र अस्पताल वा डाक्टर कहाँ लगेको / नलगेको
- २ हप्ताभित्र बिरामी भएर स्कूल नगएको : छ / छैन
- अरु केही रोग : छ/छैन/स्वा-स्वा आउने/छोप्ने/मुटुको/अरु
- राति आँखा नदेख्ने : छ / छैन
- कान बग्ने वा पाक्ने : छ / छैन
- कान नसुन्ने : छ / छैन

| खोप | लिएको | नलिएको | थाहा छैन |
|------------------------|-------|--------|----------|
| वि.सि.जी. | | | |
| डि.पि.टि.पोलियो(पहिलो) | | | |
| " " "(दोश्रो) | | | |
| " " "(तेश्रो) | | | |
| दादुरा | | | |

दिसा पठाएको: छ / छैन

स्वास्थ्य परीक्षण मिति :

अभिभावकको नाम: सही:

सहयोगको लागि धन्यवाद।

डा. उमादेवी क्षेत्री

बाल विशेषज्ञ

(कान्ति बाल अस्पताल), महाराजगञ्ज

भक्तुराज भण्डारी

प्रिन्सीपल

एभरेष्ट इङ्ग्लिस स्कूल, भक्तपुर

आदरणीय अभिभावकज्यू,

हामी हाम्रो स्कूलको प्राइमरी कक्षामा पढ्ने विद्यार्थीहरू स्वास्थ्य जाँच, दिसा, रगत जाँच निःशुल्क गर्दैछौं। यसले विद्यार्थीहरूको पढाइ र स्वास्थ्यमा मद्दत पुऱ्याउने छ। कृपया तपाईंहरूले तलका जिज्ञासाहरूको उत्तर भरी पठाएर मद्दत गर्नुहुनेछ भनेर विश्वास लिएका छौं। बच्चालाई दिई पठाएको भाँडोमा विहानको दिसा अलि राखेर जाँचको निमित्त स्कूलमा पठाई दिनुहोला। जाँचको दिन तपाईंहरू आफैँ उपस्थित हुन सक्नु भए भने राम्रो हुने छ।

जिज्ञासाहरू

बच्चाको नाम : कक्षा..... रोल नं..... मिति.....

जन्मेको मिति:..... वा उमेर (पुरा भइसकेको वर्ष).....

स्कूल भर्ना भएको मिति (साल) :

सम्पर्क ठेगाना:..... टेलिफोन नं.....

(गोली लगाउनुहोला)

- विहानको खाना वा खाजा: खाएको / नखाएको / स्कूलमा लगेको
- दिउँसोको खाजा: स्कूलमा लगेको / नलगेको / किनेर खाने / अरु.....
- भिटाभित 'ए' (६ महिना भित्र) : लिएको / नलिएको
- जुकाको औषधि (२ हप्ता भित्र) : खाएको / नखाएको
- २ हप्ताभित्र अस्पताल वा डाक्टर कहाँ लगेको / नलगेको
- २ हप्ताभित्र विरामी भएर स्कूल नगएको : छ / छैन
- अरु केही रोग : छ/छैन/स्वा-स्वा आउने/छोप्ने/मुटुको/अरु
- राति आँखा नदेख्ने : छ / छैन
- कान बग्ने वा पाक्ने : छ / छैन
- कान नसुन्ने : छ / छैन

| खोप | लिएको | नलिएको | बाह्य छैन |
|------------------------|-------|--------|-----------|
| वि.सि.जी. | | | |
| डि.पि.टि.पोलियो(पहिलो) | | | |
| " " "(दोश्रो) | | | |
| " " "(तेस्रो) | | | |
| दादुरा | | | |

रगत जचाउन सहमति छ / छैन

दिसा पठाएको: छ / छैन

स्वास्थ्य परीक्षण मिति :

अभिभावकको नाम:..... सही.....

सहयोगको लागि धन्यवाद।

डा. उमादेवी क्षेत्री

बाल विशेषज्ञ

(कान्ति बाल अस्पताल), महाराजगञ्ज

हरि कृष्ण भैल

प्रधानाध्यापक

गणेश प्राथमिक विद्यालयक, भरतपुर

आदरणीय अभिभावकज्यू ,

हामी हाम्रो स्कूलको प्राइमरी कक्षामा पढ्ने विद्यार्थीहरूका स्वास्थ्य जाँच, दिसा, रगत जाँच निःशुल्क गर्दैछौं । यसले विद्यार्थीहरूको पढाइ र स्वास्थ्यमा मद्दत पुऱ्याउने छ । बच्चालाई दिई पठाएको भाँडोमा विहानको दिसा अलि राखेर जाँचको निमित्त स्कूलमा पठाई दिनुहोला । जाँचको दिन तपाईंहरू आफैँ उपस्थित हुन सक्नु भए भन्ने राम्रो हुने छ ।

स्वास्थ्य परीक्षण मिति :.....

सहयोगको लागि धन्यवाद

डा. उमादेवी क्षेत्री

बाल विशेषज्ञ

(कान्ति बाल अस्पताल), महाराजगञ्ज

हरि कृष्ण भैल

प्रधानाध्यापक

गणेश प्राथमिक विद्यालयक, भक्तपुर