Med

GENDER BIAS IN ALLOCATION OF HOUSEHOLD RESOURCES FOR CHILDREN FIVE TO FOURTEEN YEARS OF AGE

GIRMA WOLDE MICHAEL MD.

Submitted in partial fulfilment of the requirements
for the degree of Master of Public Health
Addis Ababa University
June, 1994

ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES

Gender Bias in Household Resource Allocation for Children Five to Fifteen Years of Age

By

Girma W/Michael, MD

Department of Community Health
Faculty of Medicine, Addis Ababa University

Approved by the Examining Board

Dr. Derege Kebede
Chairman, Department Graduate Committee

Dr. Sally Stansfield
Advisor

Dr. Pierre Duplessis
Examiner

Dr. MelakeBerhan Dagnew
Examiner

Dr. Jim Farrow
Examiner

TABLE OF CONTENTS

DEDICATION

Dedicated to my wife, Sister Bisrat Yeheyes,

and my two little children

ACKNOWLEDGEMENTS

I would like to express my gratitude to the staff of Chancho Health Center who assisted me with data collection. I would also like to express my gratitude to my advisors Drs. Sally K. Stansfield and Mesfin Kasaye, and special thanks to Sally K. Stansfield who assisted me in conducting the entire research.

I would also like to express my sincere thanks to the teaching staff of the Department of Community Health who gave me a very good ground to do this research and advised me in conducting the research. My special thanks goes to Canada's International Development Research Center who funded the project through McGill-Ethiopia Community Health Project and to the staff of the Department of Community Health who assisted me during the data entry and writing the whole manuscript.

Last, but not least, I would like to express my gratitude to the children, especially to the girl children who will hopefully benefit from the findings of this research.

ABSTRACT

A cross-sectional, comparative study was conducted in rural Sululta woreda between September 1 and January 30, 1994 to assess gender bias in the allocation of household resources for children 5-14 years of age. Data were obtained through a questionnaire survey and focus group discussions. Caretakers for a total of 1785 children, including 903 boys (50.6%) and 882 girls (49.4%), were interviewed during a survey of every fifth household in 17 randomly selected farmers associations.

Nutritional practices were found to favour boys, with male children more likely to receive highly valued foods including meat (risk ratio [RR]=1.24, 95% confidence intervals [CI]=1.19-1.28), milk (RR=2.74, CI=2.43-3.09), egg (RR=2.75, CI=1.39-5.44), butter (RR=1.45, CI=1.38-1.53), and lentils (RR=1.02, CI=1.00-1.03). No statistical difference by gender was observed for duration of breast feeding or age at introduction of complementary foods.

Boys were given greater access to educational opportunities, with enrolment in school significantly higher among male children (RR=1.27, CI=1.05-1.53). Boys were more likely to be immunized (RR=1.28, CI=1.03-1.58), and more likely to receive the care of a health professional when ill (RR=1.12, CI=1.05-1.19). Girls were more likely to work at household chores for 12 or more hours per day (RR=1.31 , CI=1.16-1.49) and were more often expected to marry at less than 20 years of age (RR=25.65, CI=18.15-36.25).

Other parental expectations for the future of their children, including earning power and inheritance patterns, also favoured male children. A special program to improve the status of the girl child is recommended.

INTRODUCTION

Children under 15 years of age constitute nearly half of the population of the developing world. Although global programs have been launched to address the special needs and vulnerabilities of children under five, those children aged five to fourteen years have been largely neglected. Although gender-disaggregated data on children are inadequate, it is clear that girls are especially underprivileged. Only in the last few years, since the World Summit for Children in 1990, has the "girl child" been placed on global agendas (1,2). The International Convention On the Rights of the Child, which was endorsed by Ethiopia on December 9, 1991, recognizes the dignity and rights of children, "without distinction" by sex (3,4).

Yet, even prior to birth, the female fetus is subjected to discriminatory behaviour. In countries such as India (5) and China (6), technologies which permit antenatal determination of gender have been used to permit selective abortion of female fetuses. In these cultures, female infanticide is also practised, further reflecting the traditional tendency to devalue girls. The virtually universal preference for sons is frequently cited in Asian countries as a barrier to improved control of fertility and population growth (6).

As infancy begins, girls are afforded inferior nutrition and health care compared to their brothers. Earlier weaning of girl children in Nepal and India (7,8), for example, places them at higher risk of undernutrition, diarrhoea, and

mortality. Breastfeeding of girl children for shorter durations may also place girls at higher risk of deficits in cognitive development (9).

Once the child has been introduced to supplementary foods, patterns of intra-household food distribution have also been documented by several investigators to favour boys. A gender bias has been documented in the allocation of food resources within households in Bangladesh, for example, where the typical girl receives 20% fewer calories than her brother (1). "Prestige foods" such as milk, eggs, and butter, are distributed preferentially to boys in many countries (8,10). These biases in allocation of food resources are by no means universal, however. A study in Guatemala (11), for example, documented no significant difference by gender in allocation of either food, as measured by either calories or protein.

Inevitably, gender differences in intra-household allocation of food resources are reflected in disparities in nutritional status. In Bangladesh and India, girls are frequently found to have a lower weight for height and height for age when compared to boys (12). In Ethiopia, such nutritional disadvantages place girls at higher risk of many childhood diseases (13,14).

Once ill, girls in many countries are less likely than their brothers to have access to appropriate health care (15-17). Gender-disaggregated data on immunization coverage and clinic attendance, although rare, suggest that boys receive preferential access to both preventive and curative health care in several countries (16). For example, although attack rates for diarrhoea are similar

among male and female children in Bangladesh, hospitalization is 66% more frequent for male children (18).

Despite this reduced access to health care, girl children in many countries are more frequently seen for emergency treatment after episodes of sexual and other physical abuse (19). Case reports from Ethiopia also suggest that child abuse may be more common among girls than boys (20).

Girls are also afforded fewer educational opportunities in many countries. Males, who are more likely to be future breadwinners, receive preference over girls if the family cannot afford to send all the children to school. In Ethiopia, girls 5 to 14 years of age are systematically less likely to be enrolled in school. For example, UNICEF data for 1986 to 1989 show that Ethiopian girls are 30% less likely to be enrolled in primary school (21).

Whether in school or not, girls assume larger responsibilities for household tasks such as collection of water and fuel, care of younger siblings, cooking and cleaning. From age five onward, girls experience progressively greater expectations regarding the amount of time to be dedicated to such work (22). Girls' opportunities for intellectual development through play are limited by these increased household responsibilities. Reflecting the impact of reduced time for play, the games of female children in Nepal are also limited in scope and imagination, as they most often act out their own adult roles (23).

Yet the female child's work is less likely to receive the economic value it deserves. Girls who contribute to family work without pay are more likely to

be classified as "economically inactive" when compared to their brothers (18).

At adolescence, girls face early marriage and increased risk of maternal mortality due to early child-bearing. The high risk of teenage pregnancies is seen in Bangladesh, for example, where the maternal mortality for 13 to 17 year olds is three times that of the 18 to 23 year age group (15). The Singulate Mean Age at First Marriage (SMAM) for rural females in Ethiopia in 1984 was 17.4, compared to 23.4 for males (24,25). Such patterns of early marriage help to make Ethiopia's maternal mortality rate one of the highest in the world (26). The practice of female circumcision, which is widespread in Ethiopia, places young girls at immediate risk of death due to complications of the procedure, as well as increased risk of later death due to difficulty in childbirth (27).

Patrilocal residence patterns probably play a significant role in creating and sustaining discrimination against the girl child. There is an Asian adage that investment in a girl child "is like watering a tree in the neighbour's yard". Not only is the female child unable to bring any income to the household before her marriage, at the time of marriage her family's investment in her is lost when she leaves her village to take up residence with the family of her husband.

In many countries which require a dowry on the marriage of a daughter, the girl child sees herself as a future drain on, rather than contributor to, family resources. Religious traditions further encourage girls to develop a negative self-image. For example, Some religious traditions institutionalize women's inferiority by declaring women "unclean" during menstruation. Because of this

gender bias, They must look forward to a lifetime of periodic ostracization from the church. Others further undermines the self-esteem of girls and women by prescribing inheritance patterns which allocates less, if any, of family resources to daughters. Common sayings in Ethiopia do little to enhance the girl child's sense of self worth, suggesting that "women and donkeys need the stick" (28).

Despite the biological tendency toward greater life expectancy in females (29-31), these differences in females' access to resources are often reflected in increased mortality and shortened life expectancy. Among 45 developing countries for which such data are available, only two have mortality rates for girls which are not higher than those for boys of the same age (16). In Bangladesh, for example, the death rate among girls aged one to four years is reported to be 58% greater than for boys (18). In India in 1970-72, the environmental disadvantage of females was reflected in a life expectancy at birth of 46.2 years compared to 49.1 years for males. In northern Sudan, mortality rates for girls aged five to nine are 47.7 per 1000 compared to 36.3 per 1000 for boys of the same age (32). In Pakistan, the comparable mortality for girls is 54 per 1000, while the mortality rate for boys is only 37 per 1000 (33). Although Ethiopian mortality rates for children one to four years of age show less disparity, death rates for girls still exceed those for boys, at 26.7/1000 for girls compared to 25.5/1000 for boys (24). Mortality rates for girls aged 5 to 14 are lower than for boys, however high rates of maternal mortality give the disadvantage back to the female once she lives beyond 15 years of age.

These higher mortality rates among female children under five, despite the biological predilection to lower mortality for girls, suggest there may be differential allocation of resources for boy and girl children in this country. Some evidence that gender bias may be a significant factor in Ethiopia was provided by Teshome Wagaw (34), whose qualitative studies in 1976 suggested preferential treatment of boy children among the Menz in rural Ethiopia. In addition, a paper presented for the Symposium on the International Year of the Child in Addis Ababa in 1979 (35) provided further anecdotal evidence for child-rearing practices which favoured boys. However, no gender-disaggregated, quantitative data regarding intra-household resource allocation have been collected to date in Ethiopia.

Therefore, to characterise any gender bias in treatment of girl children in Sululta, a study was designed to compare access to selected foods, educational opportunities, access to health care, patterns of work and play, and parental expectations for children by gender.

METHODS

A cross-sectional, comparative study was conducted using both qualitative and quantitative methods. Prior to initiation of the study, the proposal was reviewed and approved by the Research and Publications Committee of the Faculty of Medicine of Addis Ababa University.

Ethical review by this committee included consideration of the plans for selective disclosure or blinding of both interviewers and study participants with regard to the objectives of the study. To avoid interviewer and respondent bias, study personnel and participants were informed only that the study was an investigation of child health, rather than of gender bias.

Sample Selection

The sample was selected from the rural Sululta woreda in the Oromiya region of Ethiopia, within a distance of 40-70 kilometres from Addis Ababa. Sululta woreda has an estimated total population of 100,000, organized into a total of 75 farmers associations,each with

approximately 200 to 300 households and nearly 30% of this rural population are children between the ages of five to fifteen. The majority (94%) of the population live in rural areas and engage in agriculture and related activities. Central Statistical Authority data indicate that the regional male-to-female ratio for children aged 5 to 14 in this area is 1.03:1 for the rural areas and 1.12:1 in the urban settings (36).

The sample size was calculated to ensure that the study would detect a difference in the rate of school enrolment of 5% between the two groups. A difference of this magnitude was expected based on a recent investigation which documented enrolment rates of 17% and 12% among boys and girls, respectively (37). Using an alpha of 0.05 and power of 80% (for a 2-tailed t-test), a required sample size of 850 children was calculated for each of boys and girls. Since an average of three to four children in the target age group was expected in each household with any child 5 to 14 years of age, 680 households were sampled. Seventeen of the 75 farmers associations were selected randomly by lottery method. From each selected farmers association, every fifth household was systematically 2selected for the survey. If no child in the target age group was present in the selected household, five houses were passed before another household was selected.

Data Collection

Data required to meet each of the study objectives were obtained through use of a survey questionnaire and focus group discussions. Preliminary qualitative research, including focus group and key informant interviews, was used to assist in refining the design of the questionnaire. Eight additional focus groups were conducted after completion of the survey to provide feedback to participating communities and to obtain explanatory data regarding the survey findings.

The survey instrument was translated from English to Oromifa and back-translated to assure accuracy. The English translation of the survey instrument is attached at appendix A. Three female and four male interviewers were selected to have completed grade twelve, have thorough familiarity with the locality, and speak Oromifa as a first language. A two-week training was provided for the interviewers to ensure their full familiarity with the data collection instrument, ability to read and write Oromifa in latin script, and ability to provide advice regarding simple health care problems detected among participating families. The questionnaire was pre-tested and revised based on insights gained during that field test. Data were collected regarding household variable including identification of the household, income, education of parents, number of children and the sex ratio of all children in the family, for the individual children data were obtained regarding identification of the child, age, sex, selected food distribution, health care, pattern of work and play, expectation to the child and future preference of the sex of the child. In addition to obtaining history of any immunization , the presence or absence of a BCG scar was recorded for any children present at the time of the interview.

RESULTS

Data were obtained regarding 1785 children 5 to 14 years of age, of whom 50.6% (903) were boys and 49.4% (882) girls. The mean age of the children sampled was 9.5. The distribution of the participating children by age and sex is presented in Table 1. In 52.2% of cases, the respondent was the mother, while the father was interviewed in 26.3% of cases , and other relatives in 21.5%.

Table 1
Age and Sex Distribution of Children Sampled

Age in Years	Boys (%)	Girls (%)	Total(%)
5	96 (10.6)	80 (9.1)	176 (9.8)
6	98 (10.8)	100 (11.3)	198 (11.0)
7	82 (9.1)	81 (9.2)	163 (9.1)
8	93 (10.3)	87 (9.9)	180 (10.1)
9	77 (8.5)	103 (11.7)	180 (10.1)
10	113 (12.5)	113 (12.8)	226 (12.7)
11	71 (7.9)	60 (6.8)	131 (7.3)
12	89 (9.8)	100 (11.3)	189 (10.6)
13	74 (8.2)	70 (7.9)	144 (8.1)
14	110 (12.2)	88 (10.0)	198 (11.1)
Total	903 (100%)	882 (100%)	1785 (100%)

Preliminary qualitative research suggested that certain foods, including milk, eggs, meat, butter, and lentils, were episodically available and highly

valued in the study area. Parents reported a gender bias in the distribution of these foods when asked whether each child is offered these highly valued foods "when available". The data regarding gender-specific allocation of these foods is presented in table 2.

Table 2
Proportion of Children by Gender (and Risk Ratio for Males) Receiving Selected Foods

Food	Boys Receiving (%) N=903	Girls Receiving (%) N=882	Risk Ratio (for boys) (95% Confidence Interval
Eggs	31 (3.4)	11 (1.2)	2.75 (1.39-5.44)
Milk	637 (70.5)	227 (25.7)	2.74 (2.43-3.09)
Butter	832 (92.1)	559 (63.3)	1.45 (1.38-1.53)
Meat	884 (97.8)	698 (79.1)	1.24 (1.19-1.28)
Lentils	898 (99.4)	864 (97.9)	1.02 (1.00-1.03)

Although most children of both sexes (98.0% of boys and 79.8% of girls) take their meals with the other family members, it is more common for girls than boys to be fed after the rest of the family has eaten. Girls are also more likely to eat with the mother, as is documented in table 3. Informants asked to recall weaning practices for their children five to fifteen years of age reported no significant difference between practices for boys and girls. Neither the duration of breastfeeding nor the age at introduction of complementary foods differed by gender.

Table 3
Children's Mealtime by Gender

Time of Meal	Boys (%) N=903	Girls (%) N=882	Risk Ratio (for girls) (95% Confidence Interval
With the Mother	18 (1.9)	148 (16.7)	8.42 (5.21-13.61)
After the Rest of the Family	103 (11.4)	273 (30.9)	2.71 (2.21-3.34)

Enrolment in primary school, on the other hand, significantly favoured males. Among boys, 21.8% were enrolled in school, while 17.2% of girls were reported to be currently attending school (RR=1.27, CI=1.05-1.53). Girls were significantly more likely to be kept out of school in order to work in the home (RR=11.89, CI=8.37-16.89) or to care for siblings (RR=8.90, CI=4.67-16.95), while the boys were most likely to be kept out of school for work in the fields (RR=5.29, CI=4.39-6.36). Table 4 summarizes the frequency of reported reasons for failure to be enrolled at school.

Table 4
Reported Reasons for Absence From School by Gender

Reported Reason for Absence from School	Boys (%) N=903	Girls (%) N=882
Needed for Work at Home	31 (4.4)	381 (52.2)
Needed for Labour in the Fields	529 (74.9)	102 (14.0)
Needed to Care for Siblings	10 (1.4)	92 (12.6)
Financial Difficulties	6 (1.0)	3 (0.1)
Marriage	14 (2.0)	15 (2.0)
Others	116 (16.4)	137 (18.7)
Total	706	730

Gender discrepancy was also evident in the children's reported health status and access to health services. Access to health services, as indicated by BCG scar, was recorded for children who were present at the time of interview. While 51.4% of 319 boys had a BCG scar, only 39.8% of 499 girls had a visible BCG scar (RR=1.29, CI=1.11-1.50). Less than one percent of children in the target age group still had immunization cards documenting their vaccination history. Only 27.2% had any history of even partial vaccination. Among these children, boys were significantly more likely to be immunized, with 29.6% of 903 boys and 24.8% of 882 girls with any reported history of immunization, (RR=1.20, CI=1.03-1.58). Although there was no significant difference by gender in the proportion of children who were reported to have "ever" been ill, a larger proportion of the boys were brought to a health professional at the

time of illness. Among boys, 88.9% of the 370 who were reported to have been ill were taken to a health professional, while only 79.4% of the 402 girls who had been ill received such care with (RR=1.12, CI=1.05-1.19). Boys were more likely, although not significantly, to be brought to a hospital in case of illness (RR=1.41, CI=0.84-2.37), while girls were more likely to be brought to a traditional healer (RR=1.64, CI=1.04-2.59). The data regarding the type of health facility at which parents sought care for their ill children is summarized in table 5. There was no significant difference by gender in the expenditure for treatment and transport at the time of the most recent illness.

Table 5
Site of Treatment of Most Recent Illness by Gender

Site of Treatment	Boys (%) N=329	Girls (%) N=319	RISK RATIO 95 % CI
Hospital	32 (9.7)	22 (6.9)	1.41(0.84-2.37)
Health Center	195 (59.3)	195 (61.1)	0.97(0.86-1.01)
Health Station	56 (17.0)	42 (13.2)	1.29(0.89-1.87)
Private Practitioner	19 (5.8)	17 (5.3)	1.08(0.57-2.05)
Traditional Healer	27 (8.2)	43 (13.5)	0.61(0.39-0.96)
Total	329 (100)	319 (100)	

Among traditional health practices, there was no significant difference by gender in the proportion of children subjected to extraction of milk teeth or uvulectomy. Milk teeth had been extracted in 5.3% of girls and 4.9% of boys, while 52.0% of girls and 50.4% of boys had a uvulectomy. Girls were significantly more likely, however, to have been subjected to genital mutilation (RR=1.07, CI=1.02-1.13). Table 6 presents the age and gender-specific frequency of the reported history of circumcision.

Table 6
Proportion of Children Who Have Been Circumcised By Age and Sex

Child Age (years)	Boys (%) N=903	Girls (%) N=882	TOTAL (%)
5	63 (65.6)	61 (76.2)	124 (8.8)
6	62 (63.2)	74 (74.0)	136 (9.7)
7	61 (74.4)	57 (70.4)	118 (8.4)
8	69 (74.2)	71 (81.6)	140 (10.0)
9	63 (81.8)	78 (75.7)	141 (10.1)
10	81 (71.7)	90 (79.6)	171 (12.2)
11	57 (80.2)	53 (88.3)	110 (7.8)
12	73 (82.0)	87 (87.0)	160 (11.4)
13	60 (81.1)	62 (88.6)	122 (8.7)
14	92 (83.6)	82 (93.2)	174 (12.4)
Total	681 (75.4)	715 (81.1)	1396 (78.2)

Patterns of work and play also varied by gender. Table 7 summarizes the proportion of children of each gender who share family chores, engage in income generating activities, and play with children from other families. The proportion of children of each gender who work for 12 hours or more is also presented in table 7. Although boys are more likely to play outside the home and be paid for their work, girls were more likely to work for 12 or more hours per day (RR=1.31, CI=1.16-1.48).

Table 7
Summary of Patterns of Work and Play by Gender

Work or Play Pattern	Boys (%) N=903	Girls (%) N=882	Risk Ratio (for boys (95% Confidence Interval
Works in or around home	895 (99.1)	877 (99.4)	1.00 (0.99-1.01)
Works more than 12 hours per day	297 (32.8)	381 (43.1)	0.76 (0.68-0.86)
Receives income for work	54 (5.9)	15 (1.7)	3.52 (2.0-6.18)
Plays with children from other families	313 (34.6)	180 (20.4)	1.70 (1.45-1.99)

Parental expectations for the future of their children were also significantly different for boys and girls. Parents, for example, were more than 25 times more likely to report that their girls were expected to marry before the age of 20. Tables 8 and 9 summarize the anticipated age at marriage, expected occupation, and parental expectations of support from and inheritance for each child.

Table 8
Summary of Parental Expectation for Their Children's Future by Gender

Parental Expectation	Boys (%) N=903	Girls (%) N=882	Risk Ratio (for boys (95% Confidence Interval
Will work in the fields	620 (96.2)	168 (19.4)	4.95 (4.32-5.68)
Will help to support the family	851 (94.2)	325 (36.8)	2.56 (2.34-2.79)
Will inherit family possessions	875 (96.8)	630 (71.4)	1.36 (1.30-1.42)

Table 9
Summary of Parental Expectation for Their Children's Future by Gender

Parental Expectation	Boys (%) N=903	Girls (%) N=882	Risk Ratio (for girls (95% Confidence Interval
Will work in the home	24 (3.7)	697 (80.5)	29.73 (20.01-44.19)
Will marry before 20 years of age	31 (3.4)	581 (95.5)	25.65 (18.15-36.25)

Parental preference for the gender of any future children also favoured boys. Families were even more likely to prefer a boy child if the family currently had an equal number or excess of girl children. The percent of families reporting a preference for children of each gender is presented in table 10.

Table 10
Gender Preference for the Next Child by Current Composition of the Family

Gender Composition of the Family	Families Preferring a Male Child (%) (N=296 families)	Families Preferring a Female Child (%) (N=182 families)	Risk Ratio (95% confidenc interval)
Currently with More Girl Children Than Boys	159 (53.7)	23 (12.6)	4.25 (2.86-6.32)
Currently with Equal Numbers of Boys and Girls	74 (25.0)	27 (14.8)	1.69 (1.13-2.51)
Currently with More Boy Children Than Girls	63 (21.3)	132 (72.5)	0.29 (0.23-0.37)

Analysis was also done if there is a difference among respondents that is between fathers and mothers. Both showed significient gender differences but mothers showed more marked gender difference.

Logistic regression analysis was performed to control for potential confounding factors. There was no difference in any of the findings whether obtained through crude or adjusted analysis.

Focus group discussions in participating communities were conducted to obtain explanatory data regarding the study's quantitative findings. Differential distribution of food, access to health care, and inheritance patterns were often explained as efforts to assure that investment of family resources will favour boy children because they will remain a part of the family. It was often explained that resources invested in girls, who inevitably marry into other families, are viewed as wasted.

Parental explanations of other child-rearing practices which favoured boys frequently specified fears of sexual promiscuity in girls. For example, failure to enrol girls in school, early marriage, and circumcision practices were all justified based on the desire to prevent promiscuity in girl children. It was explained that protection of girl children from occasions of promiscuity was important to prevent early pregnancy, prostitution and poor marriages for the sake of the girl's well-being, rather than to preserve the honour of the family. Long working hours and less access to opportunities for play among girl children were explained as efforts to assure that girls were well prepared for their roles as wives and mothers, as well as to assure that household chores are completed.

Parental preference for sons was explained on the basis of the patrilineal nature of Ethiopian society, which designates sons as those who "ensure the continuation of the family". Investments in education for boys were further justified because daughters inevitably move away, leaving only the sons to care for the parents in their old age. Both mothers and fathers of children 5 to 14 expressed an interest in improving girls' access to educational opportunities. These parents, particularly the mothers, also expressed their desire that female circumcision practices be abandoned.

DISCUSSION

The study results demonstrate clear gender bias in the allocation of household resources. Although 6% of the population of the Sululta Woreda is urban, only rural areas were selected in the sample. As a result, the study findings are more truly representative of the rural populations of Sululta, rather than of the Woreda as a whole. Non-response among selected households was very rare, so it is unlikely that any significant bias was introduced due to any systematic differences in those families which were not available for interview.

Sampling of entire households rather than individual children 5 to 15 years of age likely led to some "clustering" of findings of gender bias in child-rearing practices. However, in view of the small average number of target age group children per household (2.6), it is unlikely that there was a significant design effect due to such clustering.

Interviewer and respondent bias were reduced by "blinding" both interviewers and participants with regard to the study objectives. Focus group discussions and debriefings of interviewers confirmed that the purpose of the study was not suspected by either the respondents or the interviewers. A relatively large number of respondents in this study were "other relatives", rather than parents of the target children. However, all respondents lived within the

same household as the target children, so that the responses of the "other relatives" regarding allocation of resources for these children were likely highly reliable.

The lack of birth registration made dates of birth and ages difficult to ascertain. The clustering of children's ages at age 10 and age 14 suggest that there is some inaccuracy in recall of ages. Recall of children's illnesses and of infant and child feeding practices failed to show any difference by gender. The recall of illnesses, and of breastfeeding and weaning practices, because of the long duration of the recall period, is particularly subject to inaccurate reports. Such inaccuracies in reporting may explain the failure to detect any gender bias for these factors. It is also possible, however, that the virtual universality of breastfeeding in Ethiopia has resulted in a lack of gender bias in early feeding practices.

Differences in allocation of food resources were determined through the relatively crude indicator of whether highly valued foods were given "when available". No effort was made to define the quantities or nutritive value of the foods. In addition, seasonal variations in availability and allocation patterns could not be detected through such a cross-sectional study. The study has provided no information on the impact of the practice of providing meals to girl children after the rest of the family has eaten. Although it is likely that girl children frequently

receive only "leftovers", more research is needed to ascertain the impact of this practice on the actual quality and quantity of food given to girls.

Differences detected in the access of girls to education and health care services are similar to those found in other studies (12,18). While this study showed no significant difference in the sites of health care sought for girls as compared to boys, other studies have shown that girls are less likely to be brought to "modern" health facilities (17). In view of the increased likelihood that health care would be sought from a professional for a sick boy, it is surprising that no difference was detected in the mean expenditure for transportation to health facilities and the purchase of drugs. The observed trend toward increased expenditures for "modern" health care for boys might, however, have emerged as significant in a study with a larger sample size.

Although the cultural diversity in Ethiopia makes the generalizabilty of the findings somewhat questionable, it is likely that the overall patterns of discrimination found in this study reflect the child-rearing practices of the country as a whole. If so, the social and health impact of these practices is likely immense. It is recommended that the following steps be taken in implementation of a comprehensive program to promote the fuller participation of Ethiopian girls and women in the development of their country:

1) A systematic effort should be made at the national level to promote increased enrolment of girls in primary and secondary schools as well as universities. Programs should be tailored to meet the specific needs of female students, including through establishment of girls' schools, modification of textbooks to present women in more positive roles, revision of the curriculum and extra-curricular activities to reflect the interests and needs of women, promotion of women's participation in vocational training in traditionally male-dominated occupations, and introduction of flexible hours.

2) A massive public awareness program should be instituted through schools and mass media to raise the perceived value of the girl child, to make girls and women aware of their rights, and to support families in their decision to protect girls from circumcision.

3) Legislation and regulations should be designed and enforced to protect women and girls from exploitation, to recognize the value of women's work, to reduce women's burden through labor-saving technologies (such as through improved access to safe water, alternative fuels, and electrification of homes), to improve access to income-generating activities for women, to provide improved access to child care services, to reduce exploitation of child labor, and to promote full implementation of the International Convention on the Rights of the Child.

4) Strengthened programs for adolescent and maternal health should be designed to provide improved access to family planning, to legalize abortions, and to improve antenatal and obstetric care.

5) Operational research should be undertaken in conjunction with these programs to document the effectiveness of interventions designed to improve the health and social status of women and young girls. Specific community education and social mobilization strategies should be tested to assure that they are appropriate to both urban and rural settings, and to varying sociocultural and religious contexts.

REFERENCES

1. UNICEF Annual Report, 1990:27-31.

2. World Summit for Children: September, 1990. Asia Pacific J of Public Health 1990;4:2-3. 3. International Convention on the Rights of the Child, adopted by the General Assembly on 20 November 1989, United Nations, 1989.

4. International Convention on the Rights of the Child. Addis Ababa: Children, Youth and Family Welfare Organization, January, 1992.

5. Jeffery R, Jeffrey P, Lyon A. Female infanticide and amniocentesis. Soc Sci Med 1984;19(11):1207-1212.

6. Shanti R. Conly and Sharon L. Camp. Cultural influences on fertility: the case of China. Development and Cooperation 1994;1:16-17.

7. Singh I. Sociocultural factors affecting the girl children in Nepal. Asia-Pacific Journal of Public Health 1990;4(4):251-254.

8. Ghosh S. Girl child in the SAAREC countries. Indian Journal of Pediatrics 1990;57:15-19.

9. Fergusson DM, Beautrais AL, Silva PA. Breast feeding and cognitive development in the first seven years of life. Soc Sci Med 1982;16:1705-1708.

10. Beherman JR. Intra-household allocation of nutrients in rural India: Are boys favoured? Do parents exhibit inequality aversion? Oxford Economic Papers 1988;40:32-54.

11. L'Engle P, Nieves I. Intra-household food distribution among Guatemalan families in a supplementary feeding program: behaviour patterns. Soc Sci Med

1993;36(12):1605-1612.

12. Chen LC, Huq E, D'Souza S. Sex bias in the family allocation of food and health care in rural Bangladesh, Population Develop Rev 1981;7:55-70.

13. Lindtjorn B, Tadesse A, Bjorvatn B. Dietary patterns and state of nutrition among children in drought-prone areas of southern Ethiopia. Annals of Tropical Paediatrics 1993;13:21-32.

14. Lindtjorn B, Tadesse A, Bjorvatn B. Child health in arid areas of Ethiopia: longitudinal study of the morbidity in infectious diseases. Scand J Infect Dis 1992;24:369-377.

15. Walter PK. Evening the score: the neglected girl child of Asia. Asia-Pacific Journal of Public Health 1990;4(2-3):93-97.

16. MacCormack CP. Health and the social power of women. Soc Sci Med 1988;26:677-683.

17. Hossain MM, Glass R. Parental son preference in seeking medical care for children less than five years of age in a rural community in Bangladesh. AJPH 1988;78(10):1349-1350.

18. Islam M. The girl child in Bangladesh. Asia-Pacific J of Public Health 1990;4:265-270.

19. Wong YL. Girl child abuse the Malaysian situation . Asia Pacific Journal of Public Health 1990;4(4):258-264.

20. Moss W, Ephreim D. Child abuse: case presentation and discussion of medical and legal issues in Ethiopia. Ethiopian Medical Journal 1992;30:37-41.

21. Grant JP. The state of the world's children 1992. New York and Oxford: Oxford University Press, 1992.

22. Social and Rural Research Institute. The adolescent girls: a study for World Vision of India. New Delhi, 1993.

23. Anderson R, Mitchell EM. Children's health and play in rural Nepal. Soc Sci Med 1984;19(7):735-740.

24. Kloos H, Zein Ahmed Z. The ecology of health and disease in Ethiopia. Westview Press, Oxford, 1993.

25. Central Statistical Authority. The 1990 fertility and family survey. AA:CSA, 1991.

26. Walley JD, McDonald M. Integration of mother and child health services in Ethiopia. Tropical Doctor 1991;21:32-35.

27. Verzin JA. Sequelae of female circumcision. Tropical Doctor 1975;5(4):163-169.

28. Almaz Eshete, Betelehem Zewdie. The psychology of the girl learner, UNICEF, Addis Ababa, 1989.

29. Levitan U, Cohen J. Gender differences in life expectancy among the Kibbutz members. Soc Sci Med 1985;19(5):545-551.

30. Gove WR. Gender differences in mental and physical illness: the effects of fixed roles and nurturant roles. Soc Sci Med 1984;19(2):77-91.

31. Lopez AD. Sex differentials in mortality. WHO Chronicle 1984;38(5):217-224.

32. World Fertility Survey. Comparative studies for North Sudan. London: WFS, 1983.

33. World Fertility Survey. Comparative studies for Pakistan. London: WFS, 1983.

34. Teshome Wagaw. Attitudes and values concerning children among the Menz in rural Ethiopia. J Psychology 1976;94:257-260.

35. Mekonnen Bishaw and Fekadu Gedamu. Child rearing in Ethiopia. Paper presented for the Symposium on the International Year of the Child; July 1979, Addis Ababa.

36. Girma W/Michael. Health profile of Sululta woreda. Department of Community Health, Addis Ababa University, 1992.

37. Central Statistical Authority. The 1984 population and housing census of Ethiopia: analytical report at the national level. Addis Ababa: CSA, 1991.

APPENDIX

Date of Interview:_____ Study #:_____

HOUSEHOLD INFORMATION

Household address:_____ Name of household head:_____
Informant: mother [ ] father [ ] other:_____
How many animals of each type are owned by the household?
cows:_____ goats:_____
horses:_____
oxen:_____ sheep:_____
donkeys:_____
Chickens:_____ others(specify)_____
Type of roof of the house: thatched [ ] corrugated iron [ ]
Does the household own a radio? yes [ ] no [ ]
Does the house hold own a wire bed? yes [ ] no [ ]
Can the father read a news paper? yes [ ] no [ ]
Last grade the father completed:_____
Can the mother read a news paper? yes [ ] no [ ]
Last grade the mother completed:_____
How many children live in this house hold?_____
What is the sex ratio of children in the family _____

List all children from eldest to youngest:

NAME	AGE IN YEARS	SEX
(1)		M [ ] F [ ]
(2)		M [ ] F [ ]
(3)		M [ ] F [ ]
(4)		M [ ] F [ ]
(5)		M [ ] F [ ]
(6)		M [ ] F [ ]
(7)		M [ ] F [ ]
(8)		M [ ] F [ ]
(9)		M [ ] F [ ]
(10)		M [ ] F [ ]

INFORMATION FOR INDIVIDUAL CHILDREN

(Complete one questionnaire for <u>each</u> child 5 to 14 years)

Household address:_____ Study #:_____
Name of household head:_____ Child's #:_____
Child's Name:_____ Child's Age:_____ Sex: male [ ]
Child's Date of Birth (MM/YY):_____ female [ ]

Is the child present in the house? yes [ ] no [ ]
If so, does the child have a BCG scar? yes [ ] no [ ] not applicable[ ]
Was the child's immunization card seen? yes [ ] no [ ]

Is the child: [ ] fully immunized (by card) [ ] partially (by card)
[ ] fully immunized (by history) [ ] partially (history)
[ ] not immunized [ ] don't know

When you have milk, does this child drink it? **yes [ ] no [ ]**
When you have eggs, does this child eat them? yes [ ] no [ ]
When you have lentils, does this child eat them? **yes [ ] no [ ]**
When you have meat, does this child eat it? yes [ ] no [ ]
When you have butter, is it added to this child's food? yes [ ] no [ ]

At what age was this child weaned from breast?
[ ] never breast fed [ ] < 6 months [ ] 6-11 months
[ ] 12-17 months [ ] 18-24 months [ ] >24 months
[ ] don't know

At what age did the child begin to receive other food?
[ ] 0-2 months [ ] 3-5 months [ ] 6-8 months
[ ] 9-11 months [ ] don't know

Does this child eat with:
[ ] children only [ ] the father [ ] father with other children [ ] the mother [ ] mother with other children
[ ] entire household [ ] alone

If the child does not eat with the entire house hold , does (s)he eat:
[ ] before the rest of the house hold eats
[ ] after the rest of the house hold eats
[ ] not applicable

Has this child ever been to school? yes [ ] no [ ]
Is the child now in school? yes [ ] no [ ]
Last grade the child completed:_____
If not now in school, is it primarily because of:

[ ] need for work at home [ ] failure at school
[ ] need for labour in the field [ ] marriage
[ ] need to look after siblings [ ] child's illness
[ ] financial difficulties [ ] not applicable
[ ] other:_____

Has this child ever been sick? yes [ ] no [ ]
Was the child taken to health professional the last time he/she was ill?
yes [ ] no [ ] not applicable [ ]
To what type of health worker or facility he/she was taken?

[ ] hospital [ ] private practitioner [ ] health center
[ ] traditional healer [ ] health station [ ]
other:_____
What was the cost of the treatment (including transport)? _____ [ ] not applicable

Has this child his/her uvula cut? yes [ ] no [ ]
Has this child circumcised? yes [ ] no [ ]
Has this child any teeth extracted? yes [ ] no [ ]

Does this child now work inside the home or in the garden? yes [ ] no [ ]

If yes, how many hours per day? _____

Does this child now work outside home to earn money? yes [ ] no [ ]
Does this child play with children from other families? yes [ ] no [ ]

At what age do you expect this child to marry?

[ ] <10 years [ ] 10-14 years [ ] 15-19 years [ ] >20 years
[ ] don't know

What work do you expect this child will do as an adult?

[ ] farming [ ] shepherd [ ] labor/service [ ] merchant/trade

[ ] housewife [ ] don't know [ ] other:_____

Is this child expected help to support you when you are old?

[ ] yes [ ] no

Will this child inherit some of the family land and/or animals?

[ ] yes [ ] no

If you were to have another child, would you prefer to have a boy or a girl?

[ ] boy [ ] girl [ ] don't know/no answer

DECLARATION

I, the undersigned, declare that this thesis is my work and that all sources of material used for this thesis have been duly acknowledged.

Name GIRMA W. MICHAEL

Signature _____

Place ADDIS ABABA

Date of submission July 20 1994

This thesis has been submitted for examination with my approval as university advisor.

Dr. Sally K. Stansfield _____
(Advisor)