
THE ETHIOPIAN PUBLIC HEALTH
ASSOCIATION

Third Annual Scientific Conference
29 - 31 October, 1992

PROGRAMME
AND
ABSTRACTS

VENUE: National Research Institute of Health, Addis Ababa, Ethiopia

CONTENTS

	Page
EPHA Executive/Editorial Committee Members.....	I
P R E F A C E	II
Programme Summary.....	III
Opening Ceremony.....	IV
Detailed Programme for Scientific Presentations.....	1
Abstracts.....	9

Executive Members of the Ethiopian Public Health Association (EPHA)

P R E F A C E

First of all, on behalf of the Ethiopian Public Health Association (EPHA), I would like to take this opportunity to welcome all our distinguished guests to the National Research Institute of Health to attend this 3rd Annual Scientific Conference of the EPHA. Today's conference was earlier scheduled for August 20, 1992, however, due to unforeseen circumstances the conference was postponed for today. As most of you will recall, during the past year the health community in Ethiopia had unfortunate experiences where we lost some of our distinguished members. I personally feel that this indeed is a loss not only to us as professionals but to our country as a whole. The EPHA was hit harder by this misfortune and this resulted in temporarily hampering our activity.

Despite the above unfortunate circumstances, this year, our association, however, has embarked to organize a very successful scientific conference where a total of 38 abstracts have been selected for presentation. As you can see in the abstract book, this year's presentations are diversified touching many areas of Public Health, Social Medicine, Environmental Hygiene, Microbiology, Parasitology and other areas. I hope all of us will get beneficial experiences from the presentations and discussions.

Apart from the scientific conference, the 2nd continuing education program was conducted yesterday. This program was also organized by the EPHA in collaboration with the Department of Community Health of the Addis Ababa University. In the past, many EPHA members have personally informed me that they have acquired a great deal of knowledge from the continuing education program. On behalf of the association I would like to extend my sincere appreciation to the Department of Community Health of the Addis Ababa University for providing us such useful refreshing courses consecutively.

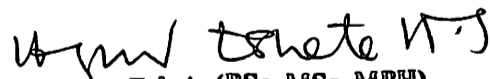
It is to be recalled that as promised last year we were privileged to conduct a one day workshop on health aspects of repatriation in Ethiopia on March 5, 1992. This 1st workshop was sponsored by McGill Ethiopia Health Project. It was attended by EPHA members, a number of concerned authorities and other institutions who were involved in the repatriation program. The entire presentation of the workshop is annexed in the recent publication of the Ethiopian Journal of Health Development. I would also like to take this opportunity to inform you that the Ethiopian Journal of Health Development has now become the official organ of the EPHA. A memorandum of understanding has been signed between the EPHA and A.A.U. and in this agreement it is indicated that the Ethiopian Journal of Health Development will be recognized as a joint publication of the Association and the University.

The EPHA Newsletter 'FELEGE TENA' is also becoming more and more useful to our members as well as other readers. The newsletter covers various topics and particularly indicate the readers sources of various publications who have free mailing addresses and also other international activities such as conferences and trainings. We urge members to contribute to the Newsletter whenever possible and establish correspondence with different agencies overseas to obtain various publications free of charge.

Finally, let me thank you all for coming to this annual conference and I hope you will stay with us till the end. The last session of our conference will be on Saturday Morning, Oct. 31, 1992 by presenting 5 papers. After that our business meeting will continue. We urge all existing and new members to participate.

Thank you so much for your attention.

Sincerely,


Hallegnaw Eshete (BSc, MSc, MPH)
Conference Secretary

PROGRAMME SUMMARY

Continuing Education, Research Methods, Part 2 Department of Community Medicine, AAU 8:30 - 4:00			
Opening Ceremony			
Wednesday Oct. 28, 1992		Registration	
Thursday Oct. 29, 1992	7:30-9:00	Opening Ceremony	
	9:00-9:30	Coffee Break	
	9:30-10:00		
	Session	Topic	Chairperson
Thursday Oct. 29, 1992	Session 1 10:00-12:15	Social Medicine	Dr. Tamirat Retta
	12:15-2:00	Lunch Break	
	Session 2 2:00-4:15	Family Health	Dr. Asfaw Desta
	4:15-4:35	Coffee Break	
	Session 3 4:35-6:00	Socio-demographic environmental survey	Ato Gebre-Emanuel Teka
	Session 4 8:30-10:15	Family Health	Ato Abate Gudunffa
	10:15-10:35	Coffee Break	
	Session 5 10:35-12:15	Microbiology	Dr. Berhanu Abegaz
Friday Oct. 30, 1992	12:30-2:00	Lunch Break	
	Session 6 2:00-3:45	Parasitology	Dr. Tesfaye Shiferaw
	3:45-4:05	Coffee Break	
	Session 7 4:05-5:30	Parasitology	Dr. Melake Berhan Dagne
Saturday Oct. 31,	Session 8 8:30-10:15	Selected Papers	Dr. Hailu Yeneneh
	10:15-10:35	Coffee Break	
	10:35-1:00	Business Meeting	

OPENING CEREMONY

THURSDAY 29 OCTOBER 1992

OPENING CEREMONY

7:30 - 9:00 REGISTRATION

9:00 - 9:30

- Welcoming Address, Conference Secretary

- Opening Address, Minister of Health

- EPHA A/Secretary Address

9:30 - 10:00 COFFEE BREAK

SCIENTIFIC PAPERS

Session 1

THURSDAY 29 OCTOBER 1992

Chairperson: Dr. Tamirat Retta

10:00 Ab 1. Defaulting from Tuberculosis treatment in Addis Ababa centre and factors associated with it.

Meaza Demissie, Derege Kebede

10:15 Ab 2. Historical and social aspects of Leprosy in Ethiopia.

Mesfin Addissie, Dennis Carlson

10:30 Ab 3. Retrospective study of allergic rhinitis at St. Paul Hospital, Addis Ababa.

Kasahun Abate

10:45 Ab 4. Prevalence of hypertension and its determinants in Ethiopian adult population.

Mismay G.Hiwot, Joyce Pickering

11:00 Ab 5. Are reminder stickers effective in reducing immunization dropout rates?

Yemane Berhane, Joyce Pickering

11:15 Ab 6. Factors influencing mothers to default from immunization programme in Kirkos district.

Kassahun Abate

11:30 DISCUSSION

12:15 LUNCH BREAK

Session 2

Chairperson: Dr. Asfaw Desta

- 14:00 Ab 7. Attitudes towards current pregnancy among antenatal clinic attendants.
Mathewos Wakbulcho, Bo Moller
- 14:15 Ab 8. KAP study in Harar town high school students on family planning.
Filimona Bisrat, Joyce Pickering
- 14:30 Ab 9. Factors affecting knowledge, attitude and practice of family planning services in Arsi region.
Damen Haile Mariam
- 14:45 Ab 10 Paper on Integrated Project (IP) from the Department of Family Health, MOH
- 15:00 Ab 11 Family planning utilization pattern in Kola Diba (Gondar) health centre.
Solomon Demamu
- 15:15 Ab 12 Effect of community based distribution on contraceptive prevalence rate.
Abate Gudunffa, Mathewos Wakbulcho
- 15:30 DISCUSSION
- 16:15 COFFEE BREAK

Session 3

Chairperson: Ato Gebre-Emmanuel Teka

- 16:35 Ab 13 Estimates of vital rates and assessment of health problems in Enemore Awraja, Western Shoa Administrative Region.
Girma Jembere, Amare Dejene, Anne Cahalane
- 16:50 Ab 14 Environmental health survey in Addis Ababa and Woliso area, Ethiopia.
Amare Dejene, Tilahun W. Michael, Seyoum Taticheff, Hailegnaw Eshete, Abate Gudunffa, Mathewos Wakbulcho
- 17:05 Ab 15 Lesson learnt from the 1985 cholera epidemic in Addis Ababa.
Hailegnaw Eshete, Tesfaye Bulto, Zergabachew Asfaw
- 17:20 Ab 16 Socio-demographic survey of the integrated project (IP) in Addis Ababa and Woliso area, Ethiopia.
Amare Dejene, Seyoum Taticheff, Hailegnaw Eshete, Tilahun Woldemichael, Abate Gudunffa, Mathewos Wakbulcho
- 17:35 DISCUSSION

Session 4

Chairperson: Ato Abate Gudunffa

8:30 Ab 17 Breast-feeding practices among factory workers and housewives in Akaki town.

Shimelis Bekele

8:45 Ab 18 The prevalence and duration of breast-feeding practice among mothers of different occupational status in Agaro town.

Asmake Tesfahun

9:00 Ab 19 Factors affecting antenatal care attendance and preferences of place of delivery by pregnant women in Gulele district, Addis Ababa.

Mesganaw Fantahun, George Olwit

9:15 Ab 20 Assessment of maternal and child health in Enemore Awraja, Western Shoa Administrative Region.

Girma Jenbere, Amare Dejene, Anne Cahalane and Aine Markham

9:30 Ab 21 Maternal mortality in rural communities of Illubabor South Western Ethiopia.

Tesfaye Shiferaw

9:45 DISCUSSION

10:15 COFFEE BREAK

Session 5

Chairperson: Dr. Berhanu Abegaz Gashe

10:35 Ab 22 Fate of some food-borne pathogens and spoilage bacteria, bacillus cereus pseudomonas aeruginosa and salmonella sp. in fermenting Tef dough and fermented Kocho.

Ayele Nigatu, Berhanu Abegaz Gashe

10:50 Ab 23 Antifungal metabolites from submerged culture of canoderena lucidum (polupore).

Adane Bitew

11:05 Ab 24 Passive case detection (PCD) study into malaria epidemiology in Ethiopia.

Tesfaye Mengesah, Akira Ishil

11:20 Ab 25 Problems and need assessment in Enemore Awraja, Western Shoa Administrative Region.

Girma Jenbere, Amare Dejene, Anne Cahalane, Aine Markham

11:35 Ab 26 Preliminary study on water clarifying properties of two plants.

Aschalew Hunde, Adinew Adam

11:50 DISCUSSION

Session 6

Chairperson: Dr. Tesfaye Shiferaw

2:00 **Ab 27** Intensity of intestinal parasite infections in a small farming village near Lake Tana, North West Ethiopia.

Melake Berhan Dagne, Wondwossen Hailu, Tesfaye Worku, Elias G/Kidan, Sissay Yifru, Tarko Alene

2:20 **Ab 28** Survey of intestinal parasites in Bure area, Illubabor Region.

Hailu Yeneneh

2:40 **Ab 29** Intestinal Helminthiasis: An IP base-line survey in Addis Ababa and Woliso.

Seyoum Taticheff, Tilahun Woldemichael, Hailegnaw Eshete, Amare Dejene, Mathewos Wakbulcho, Abate Gudunffa, Debessai Haile

3:00 **Ab 30** Unusual prevalence of *Hymenolepis diminuta* in Bebeke Coffee Plantation, South Western Ethiopia.

Amha Kebede, Seyoum Taticheff

3:20 DISCUSSION

3:50 COFFEE BREAK

Session 7

Chairperson: Dr. Melake Berhan Dagne

4:05 **Ab 31** Effect of roundworms upon the nutritional status of children in Shebe town, South Western Ethiopia.

Assefa Aga, Tadesse Molla

4:20 **Ab 32** Intestinal schistosomiasis: Imported or endemic in Mekele.

Tilahun W. Michael, Amha Kebede, Tareke Seyoum

4:35 **Ab 33** Transmission of schistosoma mansoni in three ecological settings in Ethiopia. I epidemiological aspects.

Hailu Birrie, Teklemariam Ayele, Fekadu Abebe, C.T. Lo, Shibru Tedla

4:50 **Ab 34** Determinants of onchocerciasis infection and its impact on health and productivity in Teppi Coffee Plantation field workers.

Wondimu Workineh, Madeleine Fletcher

5:05 DISCUSSION

Session 8

Chairperson: Dr. Hailu Yeneneh

8:30 Ab 35 Routes of HIV infection into rural communities of Ethiopia, Limu district, South Shoa Region.

Shabir Ismael, Joyce Pickering

8:45 Ab 36 Analyses of the 1991 malaria epidemic in Ethiopia.

Tesfaye Mengesha, Wondatir Negatu, Mitiku W/Giorgis, Hailegnaw Eshete, Akira Ishii

9:00 Ab 37 A randomized community trial of three alternatives oral rehydration therapies in Sululta district, Addis Ababa Administrative Region.

Mesfin Kahssay, Charles Larson

9:15 Ab 38 Perceptions and attitudes regarding harmful traditional practices in Ethiopia.

Fisshea Haile Meskal, Amare Dejene, Abate Gudunffa, Seble Makonnen

9:30 Ab 39 Detection of enteroviruses in faeces by polymerise chain reaction.

Almaz Abebe, Bo Johansson, Janis Abens, Orjan Strannegard

9:45 DISCUSSION

10:15 COFFEE BREAK

10:35 BUSINESS MEETING

Ab 1 DEFAULTING FROM TUBERCULOSIS TREATMENT IN ADDIS ABABA TUBERCULOSIS CENTRE AND FACTORS ASSOCIATED WITH IT.

Meaza Demissie, MD & Derege Kebede, MD

Department of Community Health, Faculty of Medicine, Addis Ababa University

A study was done on tuberculosis patients registered at the Addis Ababa TB Centre during the period September 1, 1989 to August 31, 1990 to determine the rate of defaulting from treatment and to identify factors associated with it. An initial chart review of 1206 new tuberculosis patients registered during the period September 1, 1989 to August 31, 1990 was carried out in order to determine the rate of defaulting. The overall defaulter rate, specific rate by sex, age, order and distance were calculated. A sample of defaulters(cases) was then selected by simple random sampling and all the non-defaulters were taken as controls. The cases and controls were traced and interviewed by trained research assistants using a pretested questionnaire. The two groups were compared by social, demographic, and health variables. A high rate of defaulting of 82% was found. The rates of defaulting were higher in males, in the older age groups and in those living nearer. Most of the defaulting occurred in the third and fourth months of treatment. Inadequate knowledge, negative attitude to the TB centre and low educational level were found to be statistically significant risk factors for defaulting ($p < 0.0001$, $p < 0.05$, and $p < 0.001$ respectively). Nearer distance was also found to be a statistically significant risk factor for defaulting ($p < .001$). In the analysis of reasons for defaulting social and personal problems and feeling of improvement were the top two reasons. In conclusion, such a high rate of defaulting suggest inadequacy in the current control program. The major factor contributing to this high rate of defaulting appears to be lack of knowledge of patients about their disease. Based on these findings recommendations were made.

Ab 2 HISTORICAL AND SOCIAL ASPECTS OF LEPROSY IN ETHIOPIA

Mesfin Addisse, MD and Dennis G Carlson, MD

Department of Community Health, Faculty of Medicine, Addis Ababa University,

A qualitative study based on individual interview was carried out in Tekle Haimanot and adjacent Awrajas and at the All African Leprosy Rehabilitation and Training Centre (ALERT). A total of 54 respondents were interviewed out of whom 20 were leprosy patients and the rest were religious leaders, high school students, high school teachers, general health workers at Tekle Haimanot Health Centre, health workers at ALERT and non leprosy patients. In this study the patterns and trends of leprosy stigmata were reviewed. Through the in-depth interviews it was observed that the negative reactions to leprosy were very prevalent, including among the leprosy patients, and had a serious impact on the control of leprosy. Though not conclusive, it was found out that there were very strong, high similarities in the patterns and trends of social responses regarding leprosy over the last 35 years. Leprosy was perceived as a unique, chronic, non-fatal but progressively deforming disease with doubtful curability and especially a disease which could cause a disgrace to the victims and their families. The findings of this study strongly showed the importance of addressing the psychological and social issues of leprosy patients and the general perceptions of the society regarding leprosy before implementing or initiating integration of leprosy control program into the general health service. In-service training to health workers, health education about current knowledge of leprosy to the patients and studies on knowledge, attitude and behaviour of leprosy patients and the public are recommended.

Ab 3 A RETROSPECTIVE STUDY ON ALLERGIC RHINITIS AT ST. PAUL'S HOSPITAL (ADDIS ABABA)

Kassahun Abate, MD, MPH

St. Paul's Hospital, Addis Ababa

A descriptive study was carried out at St. Paul's Hospital in Addis Ababa on Allergic Rhinitis (acute and chronic) in the ENT department for the last five consecutive years (1988-1992). The objectives of the study are to observe; trends of the diseases across the years, the likely affected sex and age groups and the seasonal variation of the disease. The necessary information were gathered from records. The results indicate that Allergic Rhinitis to be observed mostly between July and November and the most affected age group was between 16-35 years. The trend of the disease does not show any change by sex. The necessary recommendations for further study on seasonal variation, age associated factors and organizational set up are discussed.

Ab 4 PREVALENCE OF HYPERTENSION AND ITS DETERMINANTS IN ETHIOPIAN ADULT POPULATION

Mismay G.Hiwot,MD & Joyce Pickering,MD

Department of Community Health, Faculty of Medicine, Addis Ababa University

A community based cross sectional survey was conducted from October 15/1991 to December 31st 1991, to measure the prevalence of hypertension and its determinants in Wonchi Awraja. From 9 urban kebeles and 184 rural kebeles in the Awraja 24 kebeles were selected by multistage sampling from which a total of 2,745 individuals who are 15 years old or above were included in the study. Relevant measurements of blood pressure, pulse rate count, body weight, height, waist girth, and hip girth of the study subjects were taken and a pretested questionnaire was filled to assess some of the other determinants of hypertension. It was found that the prevalence of hypertension in the Awraja is 8.3%. The urban population has a higher prevalence of hypertension 11.8%, than that of the rural population, 7.5%, ($P < 0.05$). Prevalence of hypertension is closely related to age and body build as measured by body mass index [weight in kgs/ (ht in m)²]. Prevalence of hypertension increases with advancing age. Persons with body mass index ≥ 25 kg/m² have a statistically significantly higher prevalence of hypertension. No significant difference in prevalence of hypertension is observed by occupation and by differences in smoking, chat chewing, ethnic group, and salt consumption.

Ab 5 ARE REMINDER STICKERS EFFECTIVE IN REDUCING IMMUNIZATION DROPOUT RATES ?

Yemane Berhane,MD & Joyce Pickering,MD

Department of Community Health, Faculty of Medicine, Addis Ababa University

A field trial to assess the effectiveness of a reminder sticker in reducing immunization dropout rates was conducted in two districts of Addis Ababa between October 14, 1991 and January 31, 1992. A total of 703 children were entered into the study. The study population was divided into intervention and control groups according to a randomly determined schedule. The intervention group received the reminder sticker and the control group did not receive the sticker. All other services were identical. A baseline interview documented the socio-demographic and maternal characteristics potentially related to immunization services utilization and revealed no statistically significant differences between the intervention and the control group. The dropout rates were 7.3% and 13.3% in the intervention group and control group respectively. The Relative Risk of being a dropout in the intervention group was 0.55(0.35,0.87). This difference is clinically and statistically ($p < .01$) significant. Therefore, it is concluded that the reminder sticker is effective in reducing immunization dropout rates. Further, large scale investigations under operational conditions are recommended prior to the routine introduction of stickers into the immunization services.

Ab 6 FACTORS INFLUENCING MOTHERS TO DEFAULT FROM IMMUNIZATION PROGRAM IN KIRKOS DISTRICT

Kassahun Abate, MD, MPH

St. Paul's Hospital, Addis Ababa

A study was carried in Kirkos district (Addis Ababa) in 1991 to identify factors affecting mothers to attend the immunization program to their children. Sixty defaulters' and sixty non-defaulters' were selected by multi-stage random sampling technique. Factors such as religion, ethnicity, education, marital status, occupation, enough leisure time, post-vaccination complication, health education, age, sex of the child, family income, place of delivery, distance of vaccination sites, and appropriateness of immunization schedule were included in the survey. The result indicate that education of mothers ($P=0.00013$), occupation ($P=0.023$), post-vaccine complication ($P=0.0000433$), mothers information on EPI ($P=0.00000$) were found to influence mothers significantly to default. These issues need to be addressed by concerned authorities during immunization programs in order to minimize the number of defaulters in the district.

Ab 7 ATTITUDES TOWARDS CURRENT PREGNANCY AMONG ANTENATAL CLINIC ATTENDANTS

Mathewos Wakbulcho, MD, MPH, & Bo Moller, MD, PhD.

Department of Family Health, Ministry of Health, Addis Ababa

An interview study of the attitude towards the current pregnancy was done among 160 antenatal care (ANC) attendees in Addis Ababa and 140 ANC in a rural area. In urban areas 41% of the pregnancies were unwanted versus 36% in the rural area. The rate of unwanted pregnancies increased with maternal age, parity and the number of children alive, and decreased with increasing level of education in both areas. Among women with unwanted pregnancy, reasons given were; untimely (urban 31%, rural 56%), absolutely did not want any more children (urban 30%, rural nil). The majority of the unwanted pregnancies occurred due to FP ignorance (urban 31%, rural 56%), contraceptive inaccessibility (urban 20%, rural 56%) and missed pills (7 cases in urban). In both areas fear of adverse effects, rumours about religious and cultural disapproval and spouse disagreement were barriers to the use of contraceptives. These findings indicates an unmet need of FP education and provision of effective services at community level.

Ab 8 KAP STUDY IN HARAR TOWN HIGH SCHOOL STUDENTS ON FAMILY PLANNING*Filmona Bisrat, MD & Joyce Pickering, MD**Department of Community Health, Faculty of Medicine, Addis Ababa University*

In Ethiopia, there is no reliable information about sexual behaviours and contraception usage of adolescent students. The incidence of morbidity and mortality of young female students due to induced abortion of unwanted pregnancy is increasing. This is a cross sectional study which was conducted to assess the knowledge, attitude, and practice of high school students in Harar town toward family planning. A total of 1674 students from 11th and 12th grades aged between 15 and 26 years were interviewed by means of self administered anonymous questionnaires. The respondents were 887 (52.9%) males and 787 (47.1%) females. The major finding of the study were that 20% of females and 65% of the males admitted to having had sexual intercourse. The average score of knowledge and attitude items about FP was 8.3 out of 13 and 7.3 points out of 10 respectively. Among those who had sexual intercourse, 60.3% of the females and 67.1% of the males reported that they knew at least one type of contraceptive methods. Of the sexually active females, 59.6% were using one of the contraceptive methods. However, the majority (76.3%) were using the calender method and only 19.4% said they used birth control pills or condoms. One fifth of the male respondents (20.0%) used condoms. A total of 21.8% of females who are sexually experienced have been pregnant, and 55.9% of them have terminated the pregnancy by means of induced abortion. The main source of CM information was mass media (31.3%) followed by school (24.2%). More than half of the respondents (53.3%) have an intention to use contraceptive methods in the future. The majority (93.7%) of the respondents approved the provision of information in school about contraception and STDs. In our findings the knowledge of the students was modest and the practice of contraceptive utilization was low. This information can be used in planning family life education programs.

Ab 9 FACTORS AFFECTING KNOWLEDGE, ATTITUDE AND PRACTICE OF FAMILY PLANNING SERVICES IN ARSI REGION*Damen Haile Mariam, MD, MPH**Arsi Regional Health Department*

In October 1991 a cross-sectional survey was conducted in ten randomly selected kebeles of Arsi region to assess the knowledge, attitude, and practice of the community towards modern family planning. The survey was done as part of a larger study to evaluate the maternal and child health services in the region. In this study 1976 women age between 15-49 years, and 865 husbands were interviewed using a structured questionnaire. The results showed that 57% of the mothers have no knowledge about family planning methods, while 24% have only heard about it. 49.9% of the respondents showed positive attitude towards family planning at the time of the interview about it. The proportion of respondents practising family planning was 2.9%. Among the non users 16.7% were not convinced about the benefit of the service, while 15.3% gave fear of side effects as their reason for not using. Religion was one of the socio-cultural factors seen to have effect on the knowledge and attitude of the community towards family planning (with odds ratio for not having appropriate knowledge of 1.42 with 95% CI 1.12 - 1.80 between moslems and christians). With such finding, the need for further investigation on socio-cultural factors affecting family planning practice was recommended in order to design an appropriate behavioural changing mechanisms suited for specific situations.

**Ab 11 FAMILY PLANNING UTILIZATION PATTERN IN KOLA DIBA (GONDAR)
HEALTH CENTER**

Solomon Demamu, MD, MPH

Gondar College of Medical Sciences, Addis Ababa University

Family planning users of Kola Diba health center who initiated between July 1971 to June 1974 were retrospectively followed for 24 months to study their utilization behavior. A total of 283 women were registered out of which 213 (75.3%) and 69 (24.4%) were from urban and rural areas respectively, in a ratio of 3:1. Two hundred eighty one (99.3%) used oral contraceptives and only two IUD. Number of new acceptors ranged from 0 to 15 per month. One hundred ten (39.1%) have already discontinued at the six month, 177 (62.9%) at the twelfth month, 208 (74.0%) at the eighteenth month, and 237 (84.3%) at the twenty-fourth month in cumulative, from initiation. Only 17.4% discontinued after receiving the first packet of pills. A significant difference ($p < 0.001$) was observed in frequency of interruption of acceptance between 7-12 month use ($\bar{x}.38, SD.55$) and 19-24 month use ($\bar{x}.82, SD.89$). Mean duration of interruption was 2.6, 3.2 and 3.4 months for 7-12, 13-18 and 19-24 month users, respectively. The role of counselling in missed with its implication for service expansion will be discussed, and possible use of the parameters as a measure of efficiency of family planning programmes is suggested.

Ab 12 THE EFFECT OF COMMUNITY BASED DISTRIBUTION ON CONTRACEPTIVE PREVALENCE RATE

Abate Gudunffa, BSC, MPH, & Mathewos Wakbulcho**, MD, MPH*

**Department of Family Health, Ministry of Health*

***Kechene District Medical Officer, Addis Ababa*

Integrated Family Planning, Health Education and Parasite Control Pilot Project (IP) was initiated in August 1989, in five selected urban dwellers associations of zone 5, in Addis Ababa and three farmer associations (rural) around Woliso town, west Shoa, for a three year duration. A study was conducted to assess the effect of Community Based Distribution (CBD) on Contraceptive Prevalence Rate (CPR) in May 1992. The CBD documents were reviewed in comparison to the base line survey results of FP awareness, attitudes towards utilization and practice rate. The review indicates that the CPR has increased from 25% to 42.6% in urban and 0.95% to 16.4% in rural. Factors that contributed to the increase in CPR were: the prevailing high level of FP awareness among couples, the IP activity of deworming of children in mass facilitated a forum for parents discussions concerning FP, easy access to contraceptives at free of charge, regular supervision, strong referral system and outreach service with the extensive IEC and counselling using local languages. These findings encourages the expansion of the pilot project to others similar set up.

Ab 13 ESTIMATES OF VITAL RATES AND ASSESSMENT OF HEALTH PROBLEMS IN ENEMORE AWRAJA, WESTERN SHOA ADMINISTRATIVE REGION

Girma Jenbere, MSc, Amare Dejene**, MSc, Anne Cahalane & Aine Markham*

**Goal (Non-governmental organization from Ireland on Nutrition and Development in Ethiopia)*

***National Research Institute of Health, Addis Ababa*

This study was conducted in wester Shoa administrative region in 17 farmers association, 27 villages and 512 selected households to collect a baseline information before conducting an intervention programme in the area. To estimate the basic fertility and mortality measures information on children born and died in the last 12 months, number of deaths with in week and months were collected. The crude birth rate in the whole study population is found to be 47 per 1000. The crude death rate is also 18 per 1000 with 136/1000 infant mortality rate. To asses the health condition of the study population information was collected by interviewing household members whether they have faced health problems during data collection and before one month. Among the 512 households 187 (38%) reported different health problems in the family during data collection. Similarly 207 households (43.3%) have also replied facing different health problems in the family in the last month. Eye diseases, headache and diarrhoea are the most dominant problems in the area.

Ab 14 ENVIRONMENTAL HEALTH SURVEY IN ADDIS ABABA AND WOLISO AREA, ETHIOPIA

Amare Dejene, MSc, Tilahun W. Michael, MSc, Seyoum Tatischeff, PhD, Hailegnaw Eshete, MPH, Abate Gudunffa, MSc & Mathewos Wakbulcho**, MD, MPH*

**National Research Institute of Health*

***Department of Family Health, Ministry of Health*

The National Research Institute of Health conducted a base-line survey for the integrated family planning, environmental health, health education and parasite control project in July 1989. Concerning the environmental health component, 750 households were surveyed in both urban and rural communities. Information was collected on water supply, excreta disposal and housing condition using questionnaires by sanitarians. In 80% of the households of the urban population, latrine is available. Only about 15% of the households have pit latrine in the rural community. Hundred percent of the households in the urban community use protected water supply system. Space for construction is available in 97.5% of the rural households with out pit latrine. Though most of the people in the rural area use unprotected water supply there are different potential sources like spring, wells and rivers. Hence, it is recommended to assist the people in doing more construction of latrines and water supply system in the rural area and to concentrate on maintenance and keep up the existing in the urban area. Health education will also contribute *for its proper and continuous usage.*

Ab 15 LESSON LEARNT FROM THE 1985 CHOLERA EPIDEMIC IN ADDIS ABABA

Hailegnaw Ehsete, MSc, MPH, Tesfaye Bulto, MD, MPH, Zergabachew Asfaw, MD

National Research Institute of Health

In 1985 there was a massive cholera epidemic in Addis Ababa. During the outbreak most of the patients were admitted at the St. Paul's Hospital. From those admitted 145 randomly selected patients were surveyed for their demographic and socio-economic status. Sixty two percent of the surveyed were females and when classified by religion 85% were christians. The most affected age group was 15-44 (66%). More than 50% of the patients had family size between 5-10 and 80% of the surveyed earn a monthly salary of less than one hundred birr (50.00 US Dollars). About 98% were using pit latrine and on a site visit 84% of the latrines were full and unclean. Besides, 98% of the respondents had access to pipe water, although there were few using river and lake water. The lack of adequate sanitary facilities were highly associated with the low socio-economic status of the respondents and these were the major determining factors for 1985 cholera epidemic in Addis Ababa. Apart from alleviating the socio-economic standard of the population opening of a new commission solely responsible for the environmental hygiene and sanitation at the national level is suggested.

Ab 16 SOCIO-DEMOGRAPHIC SURVEY OF THE INTEGRATED PROJECT (IP) IN ADDIS ABABA AND WOLISO AREA, ETHIOPIA

Amare Dejene, MSc, Seyoum Tatischeff, PhD, Hailegnaw Eshete, MS, MPH, Mathewos Wakbulcho, MD, MPH

National Research Institute of Health

To investigate the demographic and social characteristics of the population in the study areas, a household questionnaire was prepared and administered in five urban dwellers associations of Addis Ababa and three farmers associations around Woliso in 959 selected households. The main aim of the survey was to determine the age, sex, ethnicity, religion, marital status, literacy status, educational level, economic activity status and occupational structure of the population. The population in the rural study areas consists of equal proportions of males (49.2%) to females (50.8%). However, in the urban areas there were more females (53.7%) compared to males (46.3%), which might be due to the higher proportion of female migrants to the city. In the urban sample 8.9% were found to be below the age of five years while in the rural sample the corresponding proportion was 13.4%. Christianity (> 86.5%) was found to be the main religion in both study areas followed by Islam. The level of literacy in the urban areas was found to be 87% literate, while in the rural areas the corresponding figures was 56%. Other demographic distributions and social characteristics findings are also discussed in this paper.

Ab 17 BREAST-FEEDING PRACTICES AMONG FACTORY WORKERS AND HOUSEWIVES IN AKAKI TOWN

Shimelis Bekele, BSc

A cross sectional study on practices of breast-feeding has been carried out from July 11 to July 30, 1986 in Akaki Beseke. All mothers who have children 0-24 months in Akaki Textile factory and housewives who have children of the same age group were selected randomly in order to determine the prevalence and duration of breast-feeding among the two groups. The result of the study indicated that prevalence of breast-feeding among factory working mothers was 77.79% and that of housewives 91.71%. The mean duration of breast-feeding were lower among factory workers than among housewives. The prevalence and duration of breast-feeding were significant both for the working mothers than among housewives. The differences will help to understand some of the problems related to breast-feeding practices and may help in designing appropriate programmes by concerned government organization to increase prevalence and duration of breast-feeding.

Ab 18 THE PREVALENCE AND DURATION OF BREAST-FEEDING PRACTICE AMONG MOTHERS OF DIFFERENT OCCUPATIONAL STATUS IN AGARO TOWN*Asnake Tesfahun, MD**Jimma Institute of Health Sciences*

A cross-sectional study on prevalence and duration of breast-feeding practice among mothers of different occupational status living in two kebeles of Agaro town was conducted in August 1990. All mothers who have index-children of age 0-24 months in kebele 06 and 08 were included in the study. The two kebeles were selected from the eight by a lottery method. The result of the study showed that the prevalence of breast-feeding for housewives, office workers, merchants, laborers and mothers grouped as "others" were 76.1%, 72.7%, 71.4%, 87.5% and 46.2%, respectively. The mean duration of breast-feeding among the study population differed significantly, being longest for housewives and shortest for those mothers grouped as "others". The study findings revealed to some extent the problems related to appropriate breast-feeding practice and, if considered by concerned agencies, may help in designing and implementing suitable programmes for promoting breast-feeding.

Ab 19 FACTORS AFFECTING ANTENATAL CARE ATTENDANCE AND PREFERENCES OF PLACE OF DELIVERY BY PREGNANT WOMEN IN GULELE DISTRICT, ADDIS ABABA*Mesganaw Fantahun, MD & George Olwit, MD**Department of Community Health, Faculty of Medicine, Addis Ababa University*

A community based cross sectional study was conducted in Gulele district, Addis Ababa to assess the utilization patterns of antenatal care services and the factors affecting antenatal care attendance and preference of place of delivery. A total of 441 pregnant women in the third trimester from 24 out of the 27 kebeles of the district were included in the study to whom pretested questionnaire were administered. The study showed that about 39% of the third trimester pregnant women had not attended antenatal clinics at all. Only 26% of those attending antenatal care clinics had their first visit during the first trimester. The most important reason for not attending antenatal care clinics was being too busy (49.2%). Out of a total of 15.8 points, the mean knowledge score on MCH for those attending antenatal care. In multivariate analysis the risk of non-attendance was higher for those pregnant women whose income was low, (OR 1.77, 95% CI 1.44, 2.76), whose husband's or partner's attitude was negative or unknown, (OR 2.63, 95% CI 1.9, 3.64), who were first pregnant at the age of 10-18 years (OR 1.85, 95% CI 1.20, 2.81) and lower for the nulliparae (OR 0.52, 95% CI 0.33, 0.82). Three fourths of the respondents preferred to deliver in health institutions and one fourth preferred to deliver at home. The most frequent reason for preference of place of delivery (40.8%) was high quality of service. In multivariate analysis the risk of preference to deliver at home was higher for those who were illiterate (OR 1.5, 95% CI 1.57, 2.00); for those whose husband's or partner's attitude towards antenatal care attendance is negative or unknown, (OR 1.82, 95% CI 1.34, 2.49) and did not attend antenatal care clinics (OR 2.19, 95% CI 1.69, 2.96). It was lower for the nulliparae (OR 0.52, 95% CI 0.3, 0.9). It is recommended to strengthen health education activities on early attendance of ANC, modern contraceptive methods and age at first pregnancy. Supportive and regular supervision of antenatal care clinics should be considered seriously. Support and training of community health workers should continue. Further studies should be carried out on factors associated with antenatal care attendance in diverse setups and well designed studies should address the influence of antenatal care on pregnancy outcome. In addition, proportion of pregnant women from the total population now used for all practical purposes should be reconsidered for Addis Ababa.

**Ab 20 ASSESSMENT OF MATERNAL AND CHILD HEALTH IN ENEMORE AWRAJA,
WESTERN SHOA ADMINISTRATIVE REGION**

Girma Jenbere, MSc, Amare Dejene, MSc, Anne Cahalane, Aine Markham

To assess maternal and child health conditions we collected information by asking women above the age of 14 from selected 512 households. Average number of pregnancy, children born alive, still births and abortion to women are 3.9645, 3.7375, 0.1079 and 0.1298, respectively. Only 44 women out of 669 (6.6%) have attended health facilities during pregnancy. About 97% of the mothers delivered at home. In addition 26.1% of the women have faced different health problems during pregnancy while 31.4% of them have reported different problems during delivery. Giving breast milk to the child is common in the area where the majority of them start additional food around 6 months. Diarrhoea is the most prevalent disease that affect children in the surveyed community. Immunization coverage is very low and only 3.7% of the mothers have knowledge about contraceptive. All the above results suggest to do an investigation in the area by constructing health facilities and giving health education to use the available facilities, encourage and keep up the breast milk, increase their knowledge about family planning and others.

**Ab 21 MATERNAL MORTALITY IN RURAL COMMUNITIES OF ILLUBABOR, SOUTH
WESTERN ETHIOPIA**

Tesfaye Shiferaw, BSc, MPH, PhD

Jimma Institute of Health Sciences

The available public health statistics on maternal mortality demonstrates the widest disparity between developed and developing countries. The differential seems to stem from lack of information and partly due to neglecting the needs of women. There is lack of population-based information on maternal mortality for rural Ethiopia. In this study, a new indirect technique called "the Sisterhood Method" is used to derive population based estimate of maternal mortality through a household interview survey for rural communities in Illubabor region, south western Ethiopia. The findings indicate a lifetime risk of maternal mortality of 0.050 or 1 in 20, approximating a maternal mortality ratio of 560 per 100,000 live births. The communities experience high maternal mortality which is compounded by high fertility as reflected by the total fertility rate of 7.6. In order to generate awareness, support planning and intervention strategies, community-based estimates of maternal mortality will remain a priority where vital registration is non-existent and health service statistics are not reliable.

Ab 22 FATE OF SOME FOOD-BORNE PATHOGENS AND SPOILAGE BACTERIA *BACILLUS CEREUS*, *PSEUDOMONAS AERUGINOSA* AND *SALMONELLA SP.* IN FERMENTING TEF DOUGH (*ERAGROSTIS TEF*) AND FERMENTED KOCHO (*ENSET VERNTRICOSUM*).

Ayele Negatu*,MS, Berhanu Abegaz Gashe**,PhD

*Ethiopian Nutrition Institute

**Department of Biology, Addis Ababa University

Traditional food fermentations are one means of preserving foods. "Tef" (*Eragrostis tef*) and "Enset" (*Ensete ventricosum*) are among the widely consumed traditional fermented foods of Ethiopia. Inhibitory potentials of fermenting tef dough and fermented kocho against the growth and survival of *Pseudomonas aeruginosa*, *Salmonella sp.* and *Bacillus cereus* were evaluated in site. The results showed that the two foods have differing patterns and degrees of inhibitory property against these test bacteria. Accordingly fermenting tef dough began inhibition of growth after 30 h of fermentation (pH 4.7). All of the three genera survived until termination of fermentation (pH 4.0, 72 h). *P. aeruginosa* was the most affected where its population was < 10 CFU/g dry weight of tef flour at 72 h of fermentation (pH 4.0). "Kocho" started inhibition of growth and survival of *Salmonella sp.* and *P. aeruginosa* immediately after introduction of the cells (pH 4.2) while *B. cereus* showed growth until 30 h (pH 4.2 which in time was inhibited from growing but kept its population arrested (about 4.0×10^3 CFU/g dry weight of Kocho, similar to the introduced population size for all test bacteria). Better survival of *B. cereus* in both foods was attributed to capability of endospore formation withstanding the inhibitory and bactericidal property of the fermentation by-products in tef dough and kocho. The population count of all test bacteria at the termination of tef dough fermentation and at 72 h after introduction in kocho seem to have been below the disease causing and/or toxin producing dose (10^5 CFU/g dry weight of food).

Ab 23 ANTIFUNGAL METABOLITES FROM SUBMERGED CULTURE OF *GANDOREMA LUCIDUM* (POLYPORE)

Adane Bitew,MS

National Research Institute of Health

Many different groups of Basidiomycetes (higher fungi) grown in submerged culture and their culture filtrate extracts were screened for antimicrobial activity against a variety of bacteria, yeasts and mycelial fungi. Among Basidiomycetes screened for antimicrobial activity the culture filtrate extract of the polypore, *G. lucidum* produced the most effective antifungal agents. The cultural characteristics, growth in submerged culture of the polypore, and isolation methods of the two antifungal antibiotics are described. Yeast extract malt extract glucose medium was a better medium for the production of the two antifungal principles. These compounds were released to the culture fluid and the maximum amount of the antifungal compounds was obtained after 12 days of submerged growth at 120 revolution per minute (rpm). The two antifungal secondary metabolites (tentatively named antibiotic 201A and 201B) isolated from culture filtrate were spectrum of antifungal activity and affect the growth of several saprophytic as well as pathogenic fungi. The minimum inhibitory concentration (MIC) of 201A against *Candida albicans* was less than 1 mcg/ml. Inhibition diameter zone of 36 mm was produced when 10 mcg/disc of 201A was also a potent inhibitor of spore germination. No spores of *Aspergillus niger* were germinated at a concentration of 10 mcg/ml of antibiotic 201A. Bacteria were affected at higher concentration. Antibiotic 201A was more active than antibiotic 201B against test bacteria, yeasts and mycelial fungi. A comparison of antifungal activity against dermatophytes showed that the efficacy of 201A was comparable to griseofulvin. Treatment of sheep erythrocytes with the two antifungal antibiotics up to 100 mcg/disc did not show any lytic effect on sheep red blood cells. Application of 1 mg/10 cm² of crude extract on a shaved rabbit skin showed no dermatotoxic reaction.

Ab 24 PASSIVE CASE DETECTION (PCD) INTO MALARIA EPIDEMIOLOGY IN ETHIOPIA

Tesfaye Mengesha, MS, Akira Ishii**, PhD*

**National Research Institute of Health*

***National Institute of Health, Tokyo*

Malaria passive case detection (PCD) was done on over 9,600 febrile patients visiting the National Research Institute of Health (NRIH), in the decade between 1983 and 1992. The species ratio study confirmed the dominance of *Plasmodium falciparum* with a rate twice that of *P. vivax*. The prevalence of *P. malariae* and *P. ovale*, on the other hand, was found negligible with a combined rate of 1.3%. Malaria transmission was observed through out the year with bimodal, greater autumn and lesser spring peaks. Correlating these data with the malaria statistics at the Ministry of Health (MOH), and the ecogeography of Ethiopia, malaria was found endemic in 2/3rd of the country, with half of the population at the risk of infection. With 22% estimated incidence, 11.5 million out of the present 52 million population were considered infected. Malaria incidence was found to vary in different ecozones, the highest observed in S.W. Ethiopia savannah lowlands, where most of the year transmission supported over 85% rate. The remaining ecozones showed an incidence rate ranging from 20% in the mountainous temperate grasslands and desert/semi-desert shrub-lands up to 65% in the tropical woodlands.

Ab 25 PROBLEMS AND NEED ASSESSMENT IN ENEMORE AWRAJA, WESTERN SHOA ADMINISTRATIVE REGION

Girma Jenbere, MSc, Amare Dejene, MSc, Anne Cahalane, Aine Markham

The main objective of this study was to investigate the main problems of the population and to get their opinion about their needs. Information was collected on types of crops produced in the area, types of different animals available in the community, animals and plant diseases, critical problems and needs of the population. The major types of crops and vegetables in the community include Enset (49.1%), maize (10.2%), Gomen (3.4%), etc. The two important cash crops reported in the area are coffee and chat. 84.4% of the families have one or more cows. On the other hand the frequency of other animals and cattle is very low. The most critical problems of the village (73.3%) includes food, cloth, health and water supply. Apart from this four points the women have reported problem of mills and men about fertilizers. Their opinion about their needs also match with the above mentioned problem. Interventions and development programmes are recommended along these lines.

Ab 26 PRELIMINARY STUDY ON WATER CLARIFYING PROPERTIES OF TWO PLANTS

Aschalew Hundie*, BSc, Adinew Adam**, BSc, MSc

*Department of Traditional Medicine, Ministry of Health

**Addis Ababa Water & Sewerage Authority

A naked-eye and photometrical observation proved that *Moringa stenopetala* (Moringaceae) seed and *Maerua subcordata* (Capparidaceae) roots as effective as Aluminum Sulphate [$Al_2(SO_4)_3 \cdot 18H_2O$], the conventional flocculant in water treatment. A crude seed and root suspension of these plants removed about 98% of color and turbidity from raw-water samples together with tremendous quantity of indicator bacteria, further confirmed by their action on highly polluted sewage samples. According to this comparative preliminary study, Moringa seeds were observed to be more efficient and simpler to use as compared to Maerua root. It was recommended that detailed physico-chemical and biological studies on the coagulants should be carried out and a design of an appropriate technology to effectively utilize the resources at community level be seriously considered.

Ab 27 INTENSITY OF INTESTINAL PARASITE INFECTIONS IN A SMALL FARMING VILLAGE NEAR LAKE TANA, NORTHWEST ETHIOPIA

Melake Berhan Dagneu, Wondwossen Hailu, Tesfaye Worku, Elias H/Kidan, Sissay Yifru, Tarko Alene

Gondar College of Medical Sciences

Out of 806,192 (almost 24%) were included in the study. The stool dilution egg count technique was employed in measuring the intensity of infection. The over all prevalence was 60%. Higher prevalence was observed among males (53.6%) than females (43.6%) ($P < 0.05$). Multiple parasitic infection was not observed. The mean intensity of infection (egg) for the nematode infection fall with age. The observed peak was in children below 10 years of age. Forty one percent of the total nematode egg count was harboured by children. Cure rate with single dose of levamisole for *Ascaris lumbricoides* was 92.2%. The study has an important implication in understanding the epidemiology of intestinal parasites and in the design of community-based intervention programmes.

Ab 28 SURVEY OF INTESTINAL PARASITES IN BURE AREA, ILLUBABOR REGION

Hailu Yeneneh, MD

Population census and survey of intestinal parasites were conducted in October 1987 in Bure area, Illubabor region. Altogether, there were 1063 households comprising 4119 residents of whom 3555 (86.3%) were indigenous and 564 (13.7%) were newly arrived settlers. Three hundred and one (8.5%) of the indigenous and 77 (13.7%) of the settlers provided stool specimens which were collected, processed and examined by the formol-ether-concentration technique. Positive rates for one or more parasites were 82.7% and 67.5% among the former and latter, respectively. In both population groups combined, *Ascaris lubricoides*, hookworms, *Entamoeba coli* were predominant parasites. Multiple infection was common comprising 48.2% in the indigenous and 53.8% in the settler population groups. Possible preventive and control measures are suggested.

Ab 29 INTESTINAL HELMINTHIASIS: AN IP BASE-LINE SURVEY IN ADDIS ABABA AND WOLISO

Seyoum Taticheff*, PhD, Tilahun Woldemichael*, MSc, Hailegnaw Eshete*, Ms, MPH, Amare Dejene*, MSc, Mathewos Wakbulcho**, MD, MPH, Abate Gudunffa**, MPH, Debesai Haile**, MPH

* National Research Institute of Health

** Department of Family Health, Ministry of Health

Integrated Project (IP) is a strategic approach to Primary Health Care Promoting Family Planning and includes parasite control, maternal and child health service, water and environmental sanitation as well as health education. A series of base-line surveys to secure pre-intervention information were made. This paper describes the findings on intestinal parasites. Nine hundred and ninety people from rural Woliso and 2502 people from Addis Ababa were examined for intestinal helminthiasis. All intestinal worms had a higher preponderance in the urban than in the rural community with *T.trichiura* (43.5%) and *A.lumbricoides* (40.2%) being on the lead. At the rural level *H. worm* was the predominant parasite (77.3%) followed by *A.lumbricoides* (10.1%), *T.trichiura* (5.0%) and *E.vermicularis* (4.5%). The significance of the variations between the urban and the rural findings as well as the attributes to such differences along with the merit of the IP is discussed.

Ab 30 UNUSUAL PREVALENCE OF *HYMENOLEPIS DIMINUTA* IN BEBEKA COFFEE PLANTATION, S.W. ETHIOPIA

Amha Kebede, BSc, Seyoum Tatischeff, PhD

National Research Institute of Health

Intestinal parasitism has been assumed to be widely distributed in Ethiopia as in most developing countries. And yet, there is little information concerning the distribution and prevalence of the helminths and protozoa involved. Accordingly, stool specimen from 1265 individuals from Bebeke Coffee Plantation were collected during a mass treatment campaign of onchocerciasis with Ivermectin. Thirteen parasites or their ova in 91% of them were found by concentration method. Double and multiple infections were common. *Hymenolepis diminuta* in this study was found to be more frequent than that of *Hymenolepis nana*, even though the latter is believed to be the most frequent human cestodiasis. This unusual occurrence of *Hymenolepis diminuta* will be discussed from the epidemiological stand point.

Ab 31 EFFECT OF ROUNDWORMS UP ON NUTRITIONAL STATUS OF CHILDREN IN SHEBE TOWN, S.W. ETHIOPIA

Asefa Aga, BSc, MPH, Tadesse Molla, BSc, MPH

Jimma Institute of Health Sciences

We describe a community-based cross-sectional survey undertaken to determine the effect of roundworms (ascaris) infection on nutritional status of children in Shebe town and its surroundings, south-western Ethiopia. A total of six hundred sixteen children aged 24-72 months were included in the study, out of which 172 children who passed ascaris were compared with the same number of children free from ascaris matched for age, sex, and birth order. The overall prevalence of roundworms was high (88.8%) with ascaris 71%, hookworm 23%, trichuris 19% and others 8%. Ascaris infection showed tendency to increase with age and birth order. The prevalence of malnutrition was also high (37% WFA < 8th centile), with stunting (35% HFA < 90th centile), wasting 4%, and stunting about 1.5%. Comparison of matched groups of children passing and not passing roundworms were not found to differ nutritionally ($p > 0.05$). Length of infection and worm burden seem to be important factors to determine the level of nutritional impairment in children. Hence, a more refined longitudinal study design to establish the hypothesis has been suggested to help planners to decide on the appropriate use of scarce resources on the most cost effective intervention strategy for a community wide control measures.

Ab 32 INTESTINAL SCHISTOSOMIASIS: IMPORTED OR ENDEMIC IN MAKALE?

Tilahun Woldemichael, MSc, Amha Kebede, BSc, Tareke Seyoum

National Research Institute of Health

In March/April, 1992, investigation on intestinal parasitoses was conducted among school children in Makale, Tigray region. From all the eleven schools in town, 2521 (10.2%) students were selected by simple random sampling and their stool examined by direct and concentration methods. Additional information on common source of water for domestic use and recreation and areas of previous residence other than Makale were recorded for each student included in the study. Malacological investigation was also made at all of the water bodies in and around Makale. The results suggest that intestinal schistosomiasis is a problem of public health importance in the area. Of the examined, 133 students excreted ova of *S. mansoni* indicating a point of prevalence ranging from 0 to 15%. Significantly, high infection of schistosomiasis was recorded among those who attended Ilala Elementary and Junior High School compared to those in the other schools ($P < 0.01$). Among the positives, 49% (65/133) confirmed of no history of visiting places outside Makale. From malacological study, live *Biomphalaria pfeifferi*, the intermediate host of *S. mansoni*, was schistosomiasis endemicity in Makale is therefore discussed.

Ab 33 TRANSMISSION OF *SCHISTOSOMA MANSONI* IN THREE ECOLOGICAL SETTINGS IN ETHIOPIA. I. EPIDEMIOLOGICAL ASPECTS

Hailu Birrie*, MSPH, Tekelemariam Ayele**, MD, MPH, Fekadu Abebe*, BSc, C.T. LO, PhD, *** Shibru Tedla*, PhD

*Institute of Pathobiology & Biology Department
**Institute of Pathobiology & Community Health Department, Addis Ababa University
***WHO

The epidemiological indices of *Schistosoma mansoni* infection were studied and compared for three communities in Ethiopia; Jiga (Northwest), Metahara (Southeast) Sugar estate and Lake Zway (central), each representing the three major transmission ecologies in the country; the stream, irrigation scheme and lake, respectively. Totals of 2897 people (913, 1614 and 370 from the stream, irrigation scheme and lake, respectively) were examined for *S. mansoni* ova by Kato's smear method. The highest human prevalence (58.6%) and intensity of infection (geometric mean of 450 EPG) were recorded for the lake ecology, whereas the irrigation scheme and stream showed moderate (218 EPG) and light (172 EPG) intensity of infections, despite fairly high disease prevalence, intensity of infection and relative index of potential contamination (RIPC) showed children in their second decade of life to be most responsible. Nevertheless, the decline of all indices with increasing age was less obvious in the lake area than others. The disparity between prevalence and intensity of infection in the stream ecology, inter-ecological differences in the indices of infection and their implication in disease control tactics are discussed.

Ab 34 DETERMINANTS OF ONCHOCERCIASIS INFECTION AND ITS IMPACT ON HEALTH AND PRODUCTIVITY IN TEPPI COFFEE PLANTATION FIELD WORKERS*Wondimu Workineh, BSc & Madeleine Fletcher, PhD**Department of Community Health, Faculty of Medicine*

A cross-sectional survey of onchocerciasis in male field workers was conducted in Teppi Coffee Plantation Project, Baya Farm, in November-December 1991. The objectives were to assess the magnitude of the problem, to measure the sensitivity of various diagnostic procedures, to assess the effect on onchocerciasis infection of various exposure factors, and to determine the effect of the disease on work productivity. A total of 196 study subjects participated in the study. They were interviewed to assess their exposure status and complaints of rheumatism. Physical examination was conducted and measurements on weight and height, and on visual acuity were taken. Parasitological diagnosis was based on skin biopsies from the calf, hip, and scapula bilaterally. Labor cards were reviewed over the previous twelve months to assess various indicators of work productivity. A case-control analysis was performed. It was found that the prevalence rate of onchocerciasis was very high (82.8%), as compared to other studies conducted in Ethiopia. This was ascribed to the selection of the study population, whose age, gender, and exposure status made it prone to contract the disease. No study subject had any detectable visual impairment and other chronic manifestations were few. This was attributed partially to the "healthy worker effect". Parasitological diagnosis detected 93.8% of the cases while clinical diagnosis only detected 35.8% of the cases. In this study it was not possible to establish the protective effect of being always fully clothed at work and having less river-associated activities. This was attributed to the cumulative effect of exposure to many different sources due to the long sojourn of study subjects in endemic areas. Workers with onchocerciasis were significantly more likely to be absent from work due to illness and other reasons, and earned significantly less wages than workers without onchocerciasis, thus demonstrating that non-blinding onchocerciasis has a negative impact on work productivity.

Ab 35 ROUTES OF HIV INFECTION INTO RURAL COMMUNITIES OF ETHIOPIA: LIMU DISTRICT, SOUTH SHOA REGION*Shabbir Ismail, MD, and Joyce Pickering, MD**Department of Community Health, Faculty of Medicine*

A multistage, qualitative and descriptive study was carried out in Limu District, central Ethiopia. Routes of spread of HIV infection from urban to rural populations were first identified and then verified. Sexual and non-sexual risk practices of rural farmers were also studied. Qualitatively, through a focus group discussion with urban prostitutes and interviews with community elders, religious leaders, and health professionals potential routes were identified. These were verified by interviewing 20 of soldiers, merchants, and students. Four drivers and 2 former peasant association chairmen were also interviewed. High risk sexual practices were verified in these subgroups. In 45 to 50% of the subgroup subjects extramarital sexual intercourse in the past 3 months was reported. In 25 to 37% sex with urban sex workers was reported. Condom use was found to be very low, varying from 10 to 30%. Knowledge about AIDS and condoms was not satisfactory. Risk perceptions for AIDS were low and changes in risk behaviour were not impressive. Urban sex workers also verified these routes by confirming sexual contact with these rural subgroups of population. A total of 502 rural farmers were interviewed for high risk behaviours for HIV infection. Extramarital (multipartner) sexual relations in the past 3 months was reported in 13.5% of the farmers. Sex with urban sex workers as the last extramarital sex in the past 3 months was reported in 6.7% of the males. Condom use was very low. Past history for STD's was assessed. Gonorrhoea was the most commonly reported illness at 10.2%. Non-sexual risk practices were also studied. In the study population, 23.9% of the males had received an injection in the past 3 months. Of these, 27% were received in the villages. A history of tattooing, blood letting, ear piercing, and scarification were reported in 2 to 6%. A total of 58.6% of the rural farmers have heard about AIDS. Out of these 94.5% knew at least one correct mode of transmission of AIDS. Twenty eight percent of the population believe that they can get AIDS and 30% have changed behaviour. In this study there was no association between knowledge and high risk sexual or non-sexual practices. This study revealed that certain sub-groups of rural population particularly the former military, merchants and students have the potential to spread HIV infection into rural communities and a high proportion of rural farmers exhibit high risk practices, hence immediate intervention is recommended.

Ab 36 ANALYSIS OF THE 1991 MALARIA EPIDEMIC IN ETHIOPIA

*Tesfaye Mengesha**, MSc, *Wondatir Nigatu**, BSc, *Mitiku W. Giorgis**, MSc, *Hailegnaw Eshete**, MS, MPH, *Akira Ishii***, PhD

*National Research Institute of Health
**National Institute of Health, Tokyo

In relation to the malaria epidemic that broke out in the north central uplands in the autumn of 1991, blood film examinations were carried out on nearly 6,000 febrile patients in Zway area. The slide positivity rate for malaria varied from 42 to 46% of all febrile cases. With a conservative 40% incidence rate, over 2 million inhabitants of the fringe malarious uplands were estimated to be affected. As a reflection of the severity of the outbreak, shift in species ratio showed a 100% rise in *Plasmodium falciparum* dominance rate reaching 5 *P. falciparum* to 1 *P. vivax* during the peak months of October and November. Though antimalarial drug failure was not observed earlier in the region, 7 day in vivo tests showed nearly 13% prevalence rate in RII/RIII level chloroquine resistant *P. falciparum* (CRPF), but only a 2% rate in Fansidar resistance, suggesting the high anti-malarial efficacy of the 2nd line drug. The role of population migration from the high malaria transmission lowlands in southern Ethiopia to the low malaria reservoir population and initiating the 1991 epidemic.

Ab 37 A Randomized Community Trial of Three Alternative Oral Rehydration Therapies in Sululta District, Addis Ababa Administrative Region

Mesfin Kassaye, MD & Charles Larson, MD

Department of Community Health, Faculty of Medicine, Addis Ababa University

This is a randomized community trial which was carried out to compare the relative effectiveness of three modes of ORT in under-5 children with acute diarrhea; to identify the factors associated with compliance and to assess mother's perception of ORTS. The three ORTS were GORS (n=98), prepacked CBORS (n=90), and home made CBORT (n=103). These alternative ORT therapies were compared in terms of mean weight gain and frequency and duration of diarrhea. The CBORT group was equal to or better than the GORS or CBORS in terms of mean weight gain at 24, 48, 72, and 96 hrs following the onset of treatment. The mean frequency and duration of diarrhea were significantly higher in the GORS group. Increased feeding frequency was associated significantly with higher mean weight gain. Mothers' compliance and child acceptability were higher in CBORT when compared to GORS children and similar to the CBORS children. Mothers' perceptions of ORT as "food and medicine" was found to be an important factor associated positively with caretakers' ORT compliance and child weight gain. This study suggests that beliefs of causation might influence mothers' compliance. It is concluded that home-made CBORT is as effective as GORS or CBORS and more acceptable in the treatment of ACD. The implementation of well monitored, community based CBORT programs in Ethiopia are recommended.

Ab 38 PERCEPTION AND ATTITUDES REGARDING HARMFUL TRADITIONAL PRACTICES IN ETHIOPIA

Fisseha Haile Meskal, MPH, PhD, Amare Dejene, MSc, Abate Gudunffa, MPH, Seble Makonnen, MA

National Research Institute of Health

In an attempt to provide some guideline toward reducing the most prevalent skin cutting practices in Ethiopia, a survey was conducted on determination of the perception and attitude of the major sector of the population. Of the 469 people interviewed the majority believe in the rituals involving circumcision, tonsillectomy, uvulectomy and tattooing. Their attitude toward retention, modification or eradication of these practices appear to depend heavily on their ethnic origin and religious affiliation. Thus by far more Oromos than the Amaras, and more of the Muslims than the Christians prefer to retain the practices. The study clearly identifies Islamic Oromos as the most important target audience for changes in attitude towards harmful traditional practice particularly mutilation of the female genitalia. The Oromos language and followers of Islam are therefore, recommended for sensitization on the matter.

Ab 39 DETECTION OF ENTEROVIRUSES IN FAECES BY POLYMERASE CHAIN REACTION

Almaz Abebe, BSc, MSc, Bo Johansson, PhD, Jams Abens, PhD, Orjan Strannegard, PhD

National Research Institute of Health

A polymerase chain reaction (PCR) technique for the detection of human enteroviruses in stool specimens was developed. The test was based on the synthesis of cDNA, followed by PCR and slot blot hybridization. The primers used were selected from a highly conserved sequence in the 5 non-coding region of the enteroviral genome. By this method 27 different enterovirus serotypes (15 ECHO, 6 coxsackie A, 4 coxsackie B, poliovirus type 2 and enterovirus 71) from 89 patients could be detected. Using positive virus culture as reference, the sensitivity of PCR was 69% after 30 cycles of amplification, 91% using 30+10 cycles and 100% following 2 rounds of amplification with ensuing hybridization. None of 23 stool samples from healthy individual etiology were positive by the PCR. By contrast, 13/26 culture-negative, randomly chosen stool samples from patients with suspected enteroviral disease were positive by the test. These findings demonstrate a high sensitivity and an apparently high specificity of PCR for detection of enteroviruses in stool samples. Therefore, the methodology may be useful in the laboratory diagnosis of enterovirus infections.

To All Health Professionals Interested

Do you know that the HLM Production Centre is at your service to support your educational efforts.

We provide the following services:

- *Designing of educational materials in health*
- *Desk-Top Publishing*
- *Field-testing on the publication*
- *Printing & reproduction*
- *Distribution*

Visit us at the Ex-Ras Emru Compound located in Higher 1, Kebele 01

OR

Contact us at the following address for any further inquiries

*The HLM Production Service
Ministry of Health
P.O.Box 1234
Tel. 11 - 59 - 03
11 - 59 - 05
Addis Ababa, Ethiopia*