JUSTUS-LIEBIG-UNIVERSITÄT GIESSEN

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A quarterly publication on Complementary feeding August 2012

IMCF project in action in Cambodia

IMCF project launched in Cambodia on 30 May 2012

A workshop to introduce the IMCF Project (Improving the dietary intake and nutritional status of infants and young children through improved food security and complementary feeding counseling) to the local authorities and NGOs was held in collaboration with MALIS on 30 May 2012 in Siem Reap, Cambodia. The Institute of Nutrition, Mahidol University, Thailand participated as the partner research institution.

Overview of MALIS

The FAO- EU food and nutrition security programme on "Improving Food Security and Market Linkages For Small Holders" (MALIS) covering Otdar Meanchey and Preah Vihear provinces in Cambodia aims to improve food and nutrition security of vulnerable rural families depending on agriculture for their main source of livelihood. The nutrition component of the project aims at improving food utilization through better diets and food processing at household level, especially targeting young mothers and children under the age of two.

Glimpse of food and nutrition scenario in Preah Vihear province, Cambodia.

This province is characterized by highest rates of stunting (56%), infant mortality (95/1000 live births) and under- five mortality (118/1000 live births) rates (CDHS, 2010). These statistics elicit that there is a greater need to improve the nutritional status of the infant and young children.

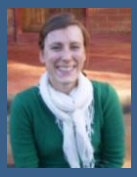
Photo: A group of mothers with children under the age of two in Kulen district, Preah Vihear province, Cambodia during a discussion session.

Highlights from Malawi

The Harvest Season TIPs formative research is nearly completed. The outcomes of the TIPs process including most liked and accepted complementary feeding recipes, which can also be modified to improve family meals, will be available shortly. The roll out of the community-based dissemination of key messages and cooking demonstrations is scheduled to begin in September, 2012. The IMCF research team will be following and documenting this process to determine if the nutrition education messages were properly tailored and disseminated to effect the desired changes in target population and what factors facilitated or hindered positive behavior change among caregivers.

Welcome to Anika Reinbott and Judith Kuchenbecker

Anika Reinbott is the new PhD-Student from the Justus-Liebig University Giessen, Germany who has joined IMCF project to conduct the research in Cambodia. She studied nutrition science and home economics at the University of Bonn where she graduated in 2010 (German Diploma). During her studies she gained community-based research experience in Bangladesh with the Johns Hopkins Bloomberg School of Public Health as well as with a German NGO Andheri Hilfe Bonn e.V.. A socio-economic empowerment program of the latter was content of her diploma thesis in which she evaluated the outcomes of capacity building activities on socio-economic status and nutrition of women in rural Bangladesh. With her previous work she got introduced to the sector of organic agriculture where she focussed mainly on international issues related to the future of food.



Judith Kuchenbecker is a PhD student with the Justus-Liebig University Giessen, Germany. Since over a year, she lives and works in Kasungu, Malawi. Prior to her enrolment in the IMCF research project she worked as research assistant for the food security section of the Centre for International Development and Environmental Research (ZEU) in Giessen. She received a MSc in Nutritional Science and a BSc in Nutrition and Home Economics from the Justus-Liebig-University Giessen, Germany. She gained her first field experience in Ethiopia where she gathered data for her Master thesis. In 2010 she received a scholarship from the German Academic Exchange Service (DAAD) and became a trainee at the Socioeconomic and Statistic Department of the Kenya Agriculture Research Institute (KARI) in Nairobi, Kenya for 4 months.

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M Sc research results in Malawi by Leonie Hober

Dietary diversity of children 6-23 months of age in Kasungu and Mzimba district in Malawi

Child malnutrition is one of the leading public health concerns globally, as it is an underlying cause of more than 50 % of deaths in children under five. The term, however, does not only relate to insufficient energy intakes, but also to vitamin and mineral deficiencies, which are less visible to the untrained eye but dramatically affecting children's health as well as their physical and mental development. Dietary diversity is crucial to the supply of a broad variety of micro- and macronutrients. Yet, the diets of many children in developing countries are monotonous and dominated by staple foods. In Malawi, due to food insecurity and insufficient knowledge on infant and young child feeding (IYCF), diets of many children under two years of age are inadequate. Food variety is commonly limited and the nutritional status of many children in the country is poor with 47 % of children under five being stunted.

In August/September 2011 a cross sectional nutrition survey was conducted in Kasungu and Mzimba District as baseline for the IMCF research project. Standardized questionnaires including 24h recall, anthropometric measurements, motor milestones and plasma blood samples were used to collect data on dietary diversity, motor development and nutritional status among children age 0-23 months (n = 1041). Analysis revealed that the diets of the children were dominated by foods made from grains and rather low in animal source foods (52 % all children).

The indicator *minimum dietary diversity* was achieved by 60.9 % of children, while 74.2 % had the *minimum meal frequency* and 48.5 % (n=404) met criteria for *minimum acceptable diet*.

Generally, the dietary diversity was lower among younger children. No association between dietary diversity and measures of nutritional status (HAZ and WAZ) was found. The dietary diversity of children whose mothers had never attended school was significantly lower than that of children whose mothers had obtained some kind of education ($p < 0.05$).

The socioeconomic status of the family, was positively related to the dietary diversity of the child. Children of mothers who had not received child feeding messages in the past month and those who had worried about food shortage in the same period as well as children who had suffered from diarrhoea within the preceding two weeks were more likely to have lower dietary diversity scores ($p < 0.05$ and < 0.01 for the last two respectively).

Prevalence of all three IYCF indicators mentioned above was unexpectedly high pointing at better feeding practices in the project region compared to the national average.

Still, half of the children did not meet criteria for minimum acceptable diet, which stresses the need for improvement of IYCF practices in the project region. The rather low consumption of animal source foods is a concern, as these foods are good sources of many vitamins and minerals which can often not be obtained in sufficient amounts from diets that are mainly plant-based. The missing link between dietary diversity and HAZ as well as WAZ is indicative of other factors with greater influence on the nutritional status of the children in the study population. The relationship between the socio economic status of the family and child dietary diversity points out the need for simple, inexpensive ways of improving dietary diversity, which can be followed by all families, irrespective of their economic means.

For more information on the MSc results please contact Irmgard Jordan (Irmgard.Jordan@ernaehrung.uni-giessen.de)

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IMCF Nutrition Baseline Malawi Abstract

Poor nutritional status in early infancy is associated with growth faltering, increased risk for morbidity, delayed motor and mental development and mortality.

In August and September 2011, a cross- sectional nutritional baseline survey was conducted in Kasungu and Mzimba District of Malawi to assess the nutritional status of children below two years. In total 1041 randomly selected households with children below two years were interviewed based on a semi structured questionnaire. Anthropometric measurements were taken from parents and the child. Haemoglobin levels were assessed for mothers and children. Plasma blood samples were taken from the children only to assess CRP and AGP levels as well as iron and vitamin A status.

Most parents (mothers: 84%; fathers 92%) had a normal BMI. Prevalence of stunting among children was 39.2%. Most children (78.3%) were ill within the two weeks prior the survey. Children suffered mainly from ARI (14.9%) fever and ARI (22.9%), or fever, ARI and diarrhea (24%). The blood plasma analysis revealed various signs of inflammation in about 50% of the children. Access to safe drinking water and sanitation facilities was limited. Levels of hygiene practices and knowledge about possible causes of diarrhoea were poor.

The diets of the children were dominated by foods made from grains and generally low in animal source foods. The WHO indicator “minimum acceptable diet” (MAD) includes all children ≥ 6 months who received at least the minimum dietary diversity (MDD) of 4 different food groups and the minimum age appropriate meal frequency (MMF)apart from breast milk during the previous day. According to this definition, less than half the children (48.5%, n=404)) received a minimum acceptable diet the previous day. The lowest prevalence of MAD is found in the youngest age group due to low prevalence of MDD. The dietary diversity increases with age, resulting in higher prevalence of MAD in children 12-17 months of age. However, the oldest age group has lower MAD rates in comparison because MMF is decreasing in this group.

Only about 55% (n=421) of the respondents with a child above 6 months of age prepared food especially for the child the previous day before the survey. Main reasons for not preparing special foods were “lack of time” (27%) and “no food available” (63.9%). The knowledge about iron and (pro-) vitamin A rich food sources were poor; 35% of the respondents did not know any food source for iron and 47 % did not know any food source for vitamin A.

Feeding behaviour during periods of illness reflect lack of knowledge as well. Most common feeding practice is offering less food and fluids than usual in periods of illness. Only if the child is suffering from diarrhoea, most mothers/caretakers offer the same amount or more of fluids.

Stunting levels of the surveyed children are comparable with the national data (39% and 47% respectively). Stunting increases with age and most likely reflects the poor feeding practice of low dietary diversity at younger age and inadequate meal frequency at older age like observed in this study.

For more information on the IMCF project please contact Gina Kennedy (gina.kennedy@fao.org)