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**SOCIAL DETERMINANTS NEWSLETTER****Health Challenges Are Changing in a Globalizing World**

Dr. Shailaja Patil and Dr. Solveig Cunningham

Social, economic, and ideational changes are occurring around the world, including in India. These macro-level changes often include economic growth, urbanization, mechanization of labor and transport, sedentary living, and increased availability of processed and manufactured foods. These social and economic transformations have major implications for health, both positive and negative. On one hand, unprecedented gains in life expectancy have occurred. At the same time, development and globalization may bring about changes in behaviors and lifestyles that are associated with increases in morbidity and dis-

ability from obesity, diabetes and cardiovascular disease, often called non-communicable diseases, or NCDs.

Understanding the relationships between socio-economic environment and health in the context of globalization is critical to addressing the emerging and future health needs of populations in India and elsewhere. This is a focus of the collaboration between Emory University in Atlanta, USA and BLDE and the development of the Bijapur Institute for Society and Health. Our collaboration aims to promote global training and research focused on the social determinants of health, including collaborative teaching, mentorship, and

research, with applicable implications for the communities of Bijapur and India.

As described in the first issue of this newsletter, the collaboration was established through an NIH-funded training program, which blossomed into a research project on adolescent unhealthy weight, initiated in 2012. In this current issue, we describe the next steps of this project, which included a research and training collaboration with visiting students from Emory University in 2013.

**Expanding Work on the Social Determinants of Health**

In 2013, we expanded our research, training, and action on social determinants of health. The core of this work was a follow-up study of ado-

lescents who had participated in the 2012 survey of "Influence of Home environment on adolescent unhealthy weight," which had been sponsored by

a grant from the National Institutes of Health (NIH) in the United States. (*continued on page 2*)

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The follow-up project was supported by Emory University's Global Health institute, Emory University's Global Field Experience program (USA) and BLDE University.

A five member multidisciplinary team of trainees in Public Health, Medicine, and Anthropology at the Master's and Doctoral level from Emory University visited Bijapur for 6 weeks and assisted with this study. They joined a Doctoral student in Nutrition, also from Emory University, who spent almost one year at BLDE collaborating on this project and expanding a novel area of research to understand patterns and changes in diet among young people in our com-

munity. Wave 2 of data collection, entitled "Family and Nutrition Survey," followed up on our representative sample of adolescents and their families. Our participants shared with us information about their health, diet, physical activity, and social environment. We were able to find most families from our previous study and most of them graciously agreed to again offer their valuable cooperation.

In addition, several smaller side projects were conducted with the research team to understand various aspects of what globalization entails for health in our community. These included studies of grandmothers' perspectives on the social and nutritional changes in the family environment, of adolescents'

views about nutrition and their food options, store-keepers' experiences with food and nutrition offerings, and physicians' experiences with unhealthy weight among adolescent patients. Maps of food shops in Bijapur were also created.

Research of the information collected is currently underway. Preliminary findings highlight the rich environment of tradition and change we have in our community and the long-term challenges to health for which we must prepare.

In this issue of the newsletter, we highlight the goals and the breadth of information collected. In the next issue, we will present the preliminary results from many of these projects.

Study of the Family Environment and Adolescent Health

The goal of this keystone project is to measure the problem of underweight and overweight among adolescent girls and boys and to understand the role of the family environment in ensuring healthy weight.

A representative school-based survey of adolescents in grades 8th and 9th Standard in 2012 and of their families was conducted. Over 400 adolescents were sampled from private and public schools in Bijapur.

There have been 2 waves of data collection, the first in 2012, the second in 2013

Analysis of the data is currently under way and results will be shared through journal publications and also with schools and families in our community.

This project was supported in part with funded from the US. Eunice Kennedy Shriver National Institute of Child Health and Human Development for 2012 survey and from Emory GHI and BLDE University research grant for 2013 survey



Dr. Patil, Emory trainees, and field research team, July 2013

Emory Global Health Team 2013

Physicians' Knowledge About and Experience With Unhealthy Weight

The goal of this project is to document physicians' experiences with and perspectives about emerging obesity among adolescent patients, including its causes, and available resources for treatment in Bijapur.

Jamie Ports, an Emory Physician's Assistant (PA) trainee, was the student leader on this project, which was carried out in 2013.

The project involved the development of a questionnaire for physicians, with guidance and feedback from leading pediatricians in Bijapur, and data collection among a sample of pediatricians, general practitioners, and gynecologists.

Preliminary results indicate that pediatricians see both cases of underweight and increasingly also of overweight among their adolescent patients. Most prescribe diet and activity as part of treatment for overweight and obesity. Most physicians also expressed the need for more training to treat overweight and obese adolescents and to integrate the needs of these patients into their clinical work.

Environmental factors like changing lifestyle, especially inactivity, westernization, and high income were listed among the main reasons for emerging obesity.

This project was supported in part with funding from the Emory Global Health Institute.

Grandmothers' Perspectives: Understanding the Changing Environment & Health

The goal of this project is to garner the experience of older adults in our community to help us understand how changes in the family environment over the past decades may affect health.

Sue Gloor, an Emory Master of Public Health (MPH) trainee, was the student leader on this project, which was carried out in 2013.

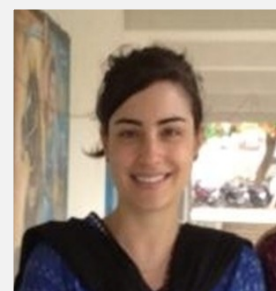
The project involved the development of a questionnaire for grandmothers living with adolescent grandchildren in Bijapur, and data collection among a sample of grandmothers.

Preliminary results indicate that grandmothers observe adolescents eating meals at home as much as they did a generation earlier, but that adolescents also snack outside the home more and food is being eaten outside the home or brought from outside more often than in the past. Housework is now being done more with the assistance of machines, such as washing machines and electrical mills, freeing up more time for mothers to work outside the home, have leisure, and study.

This project was supported in part with funding from the Emory Global Health Institute.



Jamie Ports
Emory PA Trainee



Sue Gloor,
Emory MPH Student

Snapshots of Adolescents' Own Views of Their Eating and Activities

The goal of this project is to learn about adolescents' food and physical activity through their own photography and journals.

Sara Thorpe, an Emory Master of Public Health (MPH) trainee, was the student leader on this project, which was carried out in 2013.

The project involved the development of a photovoice project for adolescents in 8th Standard, who took photographs about their daily lives over 3 days and described those photographs.

Preliminary results indicate that adolescents engage in both sports and active play and in sedentary pursuits such as television and video games. A significant portion of adolescents' activities are related to school or homework. Adolescents also described enjoying both healthful foods and less healthy snacks.

This project was supported in part with funding from the Emory Global Health Institute.



Sara Thorpe telling students about photography, June 2013

Adolescents' Attitudes Towards the Changing Food

The goal of this project is to understand the sociocultural values attributed by adolescents to foods eaten outside and inside the home.

Amanda Maxfield, an Emory PhD student in Anthropology, was the student leader on this project, which was carried out in 2013.

The project involved the development of a cultural consensus analysis of free lists and ranked data.

Preliminary results indicate that adolescents attribute different cultural meanings to foods eaten outside the home and foods from home. Foods eaten outside the home are viewed as less traditional, less common, and more prestigious. These foods generally are also higher in refined carbohydrates, sugars, and oils.

This project was supported in part with funding from the Emory Global Health Institute.



Amanda Maxfield and Dr. Patil preparing for study, June 2013

Spatial Distribution of Food Access and Body Weight

The goal of this project is to understand the spatial distribution of food access and of adolescents' body weight across Bijapur city.

Alex Tran, an Emory Master of Public Health (MPH) trainee, was the student leader on this project, which was carried out in 2013.

The project involved the collection of mapping data of Bijapur, including all food sources, using GPS units and Smart phones, as well as the development and fielding of a questionnaire about consumer purchasing patterns for a sample of shopkeepers who sell food around the city.

Preliminary results indicate that there are 2,055 food sources in the city. Shopkeepers reported that adults most frequently purchase rice, vegetables, and lentils while children most frequently purchase chocolate, biscuits/cookies, and chips.

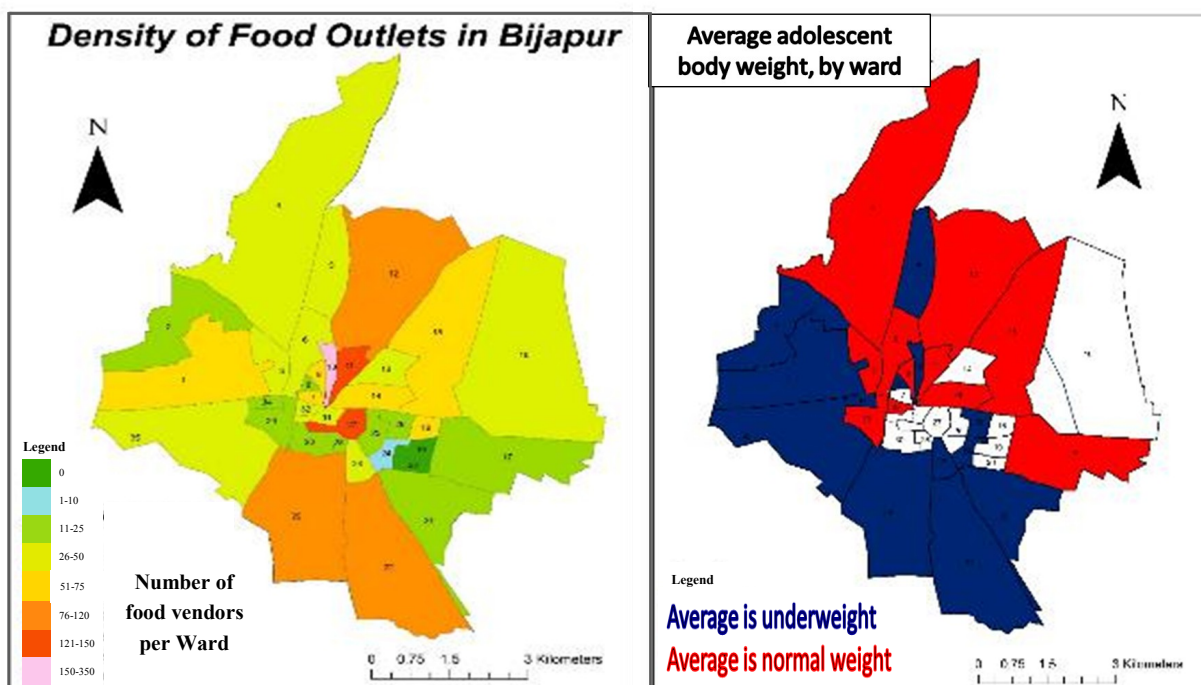
This project was supported in part with funding from the Emory Global Field Experience Fund.



Alex Tran team of trainees from the BLDE A's Engineering college, June

Data from GIS Mapping of Bijapur City and Food Outlets

Types and Distribution of Vendors Selling Food around the City, July 2013



Emory-BLDE Ph.D Trainee

New Study to Understand Effect of Globalization on Nutrition

Changes in diets, patterns of work and leisure have occurred in India following industrialization, urbanisation, economic development, and globalization. The pace of these diet and physical activity changes appears to be accelerating, leading to a situation where under nutrition exists in parallel with chronic diseases not only among adults but also among children. There is an urgent need to address and understand the implications of these changes in children. Bijapur city, undergoing socio-economic development with likely penetration of global and urban influences, provided NIH Fogarty Global Health Fellow 2013 and Emory PhD nutrition trainee Nida Shaikh the opportunity to investigate the effects of globalization on nutrition.

The goal of this project was to develop a nutrition transition assessment survey to measure nutrition changes among children, ages 13-18 years. While in Bijapur, Nida Shaikh developed this survey through a methodological process using qualitative methods including freelist and cognitive interviews. She trained and led a field research team of twelve professionals from Bijpur during June 2013 to January 2014. The survey was tested among 200 children, ages 13-18 years to check for its reproducibility and validity. The children, selected from the 2012 study cohort in Bijapur also provided three food recalls and were measured for their height, weight, and waist circumference. An excellent response rate (99%) for achieved due to the whole-hearted cooperation of the participating children and their parents.

Through this project, Nida was able to give back to the Bijapur community. She engaged local resources via the project coordinators, interviewers, data entry typists and translators. BLDE University's S.S. High school invited Nida to educate their students about the importance of healthy living and holistic eating. Feedback to the study participants and their parents were given in the form of child growth charts to monitor the children's heights and weights according to their age.

This project was supported by funding from the U.S. National Institutes of Health and The Academy of Nutrition and Dietetics Foundation.

Picture Database of Foods and Beverages in Bijapur, India

With the goal of documenting the availability of different types of foods and beverages in Bijapur, Nida Shaikh, Emory Ph.D trainee in Nutrition and Health Science led the development of a picture database of foods and beverages in Bijapur in 2013.

The research team developed an impressive database of 1000 foods and beverages and their nutritional content by taking photographs of raw, cooked, and packaged foods and beverages available in the local market at Gandhi Chowk, in convenient 'kiraana' stores, in supermarkets, and those on street vendor carts. Efforts to publish a booklet of these foods is underway. The booklet would be a first of its kind, useful for physicians, nutritionists, and consumers.

The U.S. National Institutes of Health and The Academy of Nutrition and Dietetics Foundation provided funding for this project.



Nida Shaikh, Dr. Shailaja Patil, and field research team
December 2013



Examples of foods included in
the picture database

Second Collaborative Visit from Colleagues in Atlanta, USA

Colleagues from Atlanta, USA, visited Bijapur in December, 2013 to build our ongoing collaborations.

As part of this visit, Dr. Solveig Cunningham, faculty member in the Department of Global Health at Emory University, presented together with Dr. Shailaja Patil a symposium on Social Determinants of health at the BLDE Scientific Society. The symposium highlighted the ways in which globalization can change the health environment.

Dr. Chris Cunningham, Economist at the Federal Reserve Bank of Atlanta, held a symposium for Bijapur school of Commerce on knowledge exchange and the urban wage premium.

Drs. Shailaja Patil and Solveig Cunningham were also welcomed at the Women's University, where they discussed possibilities for collaboration in training and research with V.C. and Deans.



Symposium at the Scientific Society, December 2013



Visit with colleagues at Women's University, December 2013



Chris Cunningham at a workshop on wages in cities at ASP Commerce, December 2013

Contributing to Bijapur

One of the goals of our Institute is to promote health and to serve the community of Bijapur.

The studies we have initiated are designed to provide information that will be useful to parents, teachers, young people, and policy makers in addressing the health challenges of today and the future.

Dr. Shailaja and the trainees from Emory have shared their knowledge in medicine and nutrition, and public health with pupils and teachers in our community through lectures and question-answer sessions held at schools. They have also shared training in research methods with young researchers at local institutions.



Dr. Shailaja Patil and members of the GHI team talking with pupils about healthy eating and physical activity, July 2013

Our Partners in Building a Center for Social Determinants

The projects described here are among the first steps in the development of a Center for Social Determinants of Health. The goal of this center will be both to understand emerging health challenges in our changing community and world and to work with leaders in our community and more broadly to develop effective ways for ensuring a healthy future. We would like to express our gratitude to Dr D. Prabhakaran , Executive Director, CCDC New Delhi, Dr Nikhil Tandon Professor of Endocrinology & Metabolism AIIMS New Delhi for their valuable guidance & support in building this center for Social determinants.

These first steps could not have been taken without the support of our institutions and many colleagues and leaders in Bijapur. We remain deeply grateful to them.

Here we name a few of the invaluable partnerships that have been crucial in expanding the reach of the Center thus far.

BLDE's P.G. Halakatti Engineering college Principal Dr. Huggi and Department of Civil faculty arranged a presentation by our team on how to conduct GPS mapping. Eight final year Civil department students participated in mapping all the food outlets in Bijapur city. Head and faculty of Pediatrics dept. Shri B M Patil Medical College provided discussions and guidance on topics around adolescent health and obesity in Bijapur. A post-graduate student from the department facilitated a short survey of physicians.

The Commissioners of Municipal Corporation and Bijapur Development Authority engaged in discussions about the mapping of Bijapur city and its wards. They kindly shared the data available to them and discussed with us the project of mapping the food outlets in the city. We will continue our contact to explore how our findings can be helpful for city planning and development.

We are greatly indebted to our 6 participant school managements (3 private & 3 government) for their continued support in conducting Wave-2 survey in 2013..Several schools in Bijapur welcomed our team to speak with students about healthy living, including nutrition and physical activity. We would be failing in our duty if we don't mention our gratitude for the 400 adolescents and their families for their excellent cooperation for this research study.

The District Education Dept.(DDPI) kindly allowed the participation of schools in the study, to promote understanding of the health needs of our young people. The Vice Chancellor and deans of the Women's University welcomed our team and are engaged in developing active collaborations in areas pertinent to the social determinants of health.

What Are Social Determinants?

The social determinants of health are the economic and social conditions including those in which people are born, grow, live and work, that influences their health status and risk for disease.



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