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## Urban Health Bulletin: A Compendium of Resources

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The *Urban Health Bulletin* is a periodic update of USAID and non-USAID information on a range of urban health issues.

In this issue, we highlight 18 abstracts of recently published journal articles covering a diverse set of issues. I would like to particularly highlight the first abstract by Van de Poel *et al.* Their recent analysis of data from the USAID-sponsored demographic health surveys (DHS) takes several novel approaches to characterizing how children are fairing in poor urban environments.

We welcome your comments and suggestions. If you are not already, please send your email address to receive future *Urban Health Bulletins*.

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## Urban Health Analysis

1 - *Soc Sci Med.* 2007 Aug 13

### Are urban children really healthier? Evidence from 47 developing countries.

Van de Poel E, O'donnell O, Van Doorslaer E.

Erasmus University Rotterdam, Rotterdam, The Netherlands.

On average, child health outcomes are better in urban than in rural areas of developing countries. Understanding the nature and the causes of this rural-urban disparity is essential in contemplating the health consequences of the rapid urbanization taking place throughout the developing world and in targeting resources appropriately to raise population health. Using micro-data on child health taken from the most recent Demographic and Health Surveys for 47 developing countries, the purpose of this paper is threefold. First, we document the magnitude of rural-urban disparities in child nutritional status and under-5 mortality across all 47 developing countries. Second, we adjust these disparities for differences in population characteristics across urban and rural settings. Third, we examine rural-urban differences in the degree of socioeconomic inequality in these health outcomes. The results demonstrate that there are considerable rural-urban differences in mean child health outcomes in the entire developing world. The rural-urban gap in stunting does not entirely mirror the gap in under-5 mortality. The most striking difference between the two is in the Latin American and Caribbean region, where the gap in growth stunting is more than 1.5 times higher than that in mortality.

On average, the rural-urban risk ratios of stunting and under-5 mortality fall by, respectively, 53% and 59% after controlling for household wealth. Controlling thereafter for socio-demographic factors reduces the risk ratios by another 22% and 25%. We confirm earlier findings of higher socioeconomic inequality in stunting in urban areas and demonstrate that this also holds for under-5 mortality. In a considerable number of countries, the urban poor actually have higher rates of stunting and mortality than their rural counterparts. The findings imply that there is a need for programs that target the urban poor, and that this is becoming more necessary as the size of the urban population grows.

*2 - Int J Gynaecol Obstet. 2007 Jul 10*

### **Health of urban Ghanaian women as identified by the Women's Health Study of Accra.**

Hill AG, Darko R, Seffah J, Adanu RM, Anarfi JK, Duda RB.

Department of Population and International Health, Harvard School of Public Health, Boston, MA, USA.

**OBJECTIVE:** The purpose of the Women's Health Study of Accra was to provide an assessment of the prevalence of communicable and non-communicable illnesses.

**METHOD:** This was a prospective, community-based study that included an interview for medical illnesses, a comprehensive physical examination, and laboratory testing. A total of 1328 women were examined at Korle Bu Teaching Hospital, University of Ghana.

**RESULTS:** Prevalent conditions included poor vision (66.8%), malaria (48.7%), pain (42.8%), poor dentition (41.6%), hypertension (40.2%), obesity (34.7%), arthritis (27.1%), chronic back pain (19.4%), abnormal rectal (16.0%) and pelvic examinations (12.7%), HIV in women age 24-29 (8.3%), and hypercholesterolemia (22.7%). Increasing age, lack of formal education, and low-income adversely affected health conditions.

**CONCLUSION:** The high prevalence of preventable illnesses in this expanding urban population indicates that the health care services are obligated to develop and provide screening, preventive strategies and treatment for both general health and gynecologic health conditions.

*3 - Int J Infect Dis. 2007 Jul 11*

### **Diarrhea and fever as risk factors for anemia among children under age five living in urban slum areas of Indonesia.**

Semba RD, de Pee S, Ricks MO, Sari M, Bloem MW.

The Johns Hopkins Medical Institutions, 550 N. Broadway, Suite 700, Baltimore, MD 21205, USA.

**OBJECTIVES:** To characterize diarrhea and fever as risk factors for anemia among children in developing countries.

**METHODS:** We characterized risk factors for anemia in a sample of 32873 children, aged 6-59 months, from poor families in urban slum areas of Indonesia from 2000 to 2003. **RESULTS:** The prevalence of anemia was 58.7%. In separate multivariate models, after adjusting for age, sex, stunting, maternal age and education, and weekly per capita household expenditure, current diarrhea (OR 1.20, 95% CI 1.07-1.35, p=0.002), current fever (OR 1.44, 95% CI 1.18-1.75, p<0.0001), and a history of diarrhea in the previous seven days (OR 1.12, 95% CI 1.03-1.23, p=0.024) were associated with an increased risk of anemia.

CONCLUSIONS: Diarrhea and fever are important risk factors for anemia among young children living in urban slum communities in Indonesia.

4 - *J Biosoc Sci.* 2007 Jul 19;:1-14

### **Rural-urban migration and child survival in urban Bangladesh: are the urban migrants and poor disadvantaged?**

Islam MM, Azad KM. Department of Statistics, University of Dhaka, Bangladesh.

This paper analyses the levels and trends of childhood mortality in urban Bangladesh, and examines whether children's survival chances are poorer among the urban migrants and urban poor. It also examines the determinants of child survival in urban Bangladesh. Data come from the 1999-2000 Bangladesh Demographic and Health Survey. The results indicate that, although the indices of infant and child mortality are consistently better in urban areas, the urban-rural differentials in childhood mortality have diminished in recent years. The study identifies two distinct child mortality regimes in urban Bangladesh: one for urban natives and one for rural-urban migrants. Under-five mortality is higher among children born to urban migrants compared with children born to life-long urban natives (102 and 62 per 1000 live births, respectively). The migrant-native mortality differentials more-or-less correspond with the differences in socioeconomic status.

Like childhood mortality rates, rural-urban migrants seem to be moderately disadvantaged by economic status compared with their urban native counterparts. Within the urban areas, the child survival status is even worse among the migrant poor than among the average urban poor, especially recent migrants. This poor-non-poor differential in childhood mortality is higher in urban areas than in rural areas. The study findings indicate that rapid growth of the urban population in recent years due to rural-to-urban migration, coupled with higher risk of mortality among migrant's children, may be considered as one of the major explanations for slower decline in under-five mortality in urban Bangladesh, thus diminishing urban-rural differentials in childhood mortality in Bangladesh. The study demonstrates that housing conditions and access to safe drinking water and hygienic toilet facilities are the most critical determinants of child survival in urban areas, even after controlling for migration status. The findings of the study may have important policy implications for urban planning, highlighting the need to target migrant groups and the urban poor within urban areas in the provision of health care services.

5 - *Public Health Nutr.* 2007 Jul 27;:1-9

### **'The bigger the better' - mothers' social networks and child nutrition in Andhra Pradesh.**

Moestue H, Huttly S, Sarella L, Galab S.

Freelance Research Consultant, Halfway, Stafford Road, Swanage, Dorset, BH19 2BQ, UK.

**OBJECTIVE:** It is hypothesised that mothers' social networks can positively affect child nutrition through the sharing of health knowledge and other resources. The present study describes the composition of mothers' networks, examines their association with child nutrition, and assesses whether health knowledge is shared within networks. Design and setting Cross-sectional data for mothers of young children from Andhra Pradesh (south India) were combined with existing data from the Young Lives study, in which the mothers were participating (n = 282).

**RESULTS:** The composition of social networks varied between urban and rural areas, with urban networks being larger, more female, more literate and with a greater proportion of members living outside the household and being non-family. There was a positive association between child's height-for-age Z-score and mother's network size and network literacy rate. The association with network literacy was stronger among the poorest households. Women commonly reported

seeking or receiving health advice from network members.

**CONCLUSION:** Big and literate social networks are associated with better child nutrition, especially among the poor. The dissemination of health knowledge between network members is a plausible way in which social networks benefit child nutrition in India. Further research into the underlying mechanisms is necessary to inform the development of interventions that channel health information through word of mouth to the most excluded and vulnerable families.

*6 - Rev Invest Clin. 2007 Jan-Feb;59(1):32-41.*

### **Food insecurity and obesity are positively associated in Mexico City schoolchildren**

Ortiz-Hernandez L, Acosta-Gutierrez MN, Nunez-Perez AE, Peralta-Fonseca N, Ruiz-Gomez Y.

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**OBJECTIVE:** Here we analyzed the relationship of the food insecurity with overweight and food consumption in schoolchildren of Mexico City.

**MATERIALS AND METHODS:** Sample (n=768) students of six primary schools of Mexico City. Socioeconomic status and food insecurity were evaluated by means of a questionnaire. According to food security-insecurity, the students were categorized in three groups (food secure, moderate food insecure and severe food insecure). Food consumption frequency was evaluated with a questionnaire. It was considered that students were overweight when their Z score values of body mass index (BMI) to age was greater than +2 standard deviations, according to CDC reference.

**RESULTS:** The highest rate of overweight was observed in children with severe food insecurity (15.8%), followed by children with moderate food insecurity (10.4%), and by food secure children (6.9%). The same pattern was observed after adjusting by age, sex and socioeconomic status. The students with food insecurity had greater consumption of fatty cereals, salty foods and high energy density sweets.

**CONCLUSION:** In schoolchildren, food insecurity is related to greater risk of overweight, possibly because the more food insecure households acquire more low cost and high energy density foods.

## **Urban Health Programming**

*7 - Promot Educ. 2007;14(2):101-2.*

### **Network of healthy communities of Rio de Janeiro--Brazil.**

Becker D, Edmundo KB, Guimaraes W, Vasconcelos MS, Bonatto D, Nunes NR, Baptista AP.

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Poor communities in Rio de Janeiro, which are known as favelas, suffer from various problems related to poor housing, poverty, unemployment, violence and organized crime, and lack of access to basic services, such as health care and education. In order to tackle these determinants, and inspired by WHO's international Healthy Communities/Cities movement, the network of Healthy Communities of Rio de Janeiro was formed in 2004. The Network is coordinated by the Center for Health Promotion (CEDAPS) and now includes more than 100

community groups and organizations in the state of Rio de Janeiro. Their aim is to promote health, community development and equity through community empowerment, participation, capacity building and advocacy. The paper describes the work that has been done since the Network's inception and the challenges which they face to reach their goals in the context of a country like Brazil. The Network represents an important landmark of how poor populations can organize themselves in a collective, participatory and constructive way to influence public policy and strive for better conditions of life in disadvantaged settings, like the favelas.

*8 - Promot Educ. 2007;14(2):68-73.*

**Lessons learned from the application of a participatory evaluation methodology to healthy municipalities, cities and communities initiatives in selected countries of the Americas.**

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Health promotion has made significant strides in the past few decades in the Americas. Creating a healthy and supportive setting, also known as the settings approach, continues to be one of the most widely used health promotion strategies. Interest in evaluating the effectiveness of these strategies has been increasing greatly in the past few years. Participatory evaluation holds great promise for helping to generate this evidence and promote understanding of the factors that affect, positively or negatively, the advances of health promotion in the Region. During 2004-2006, a Participatory Evaluation methodology was introduced into several countries in the Americas through formal trainings conducted by the Pan American Health Organization (PAHO) in collaboration with country partners. This article summarizes the main lessons learned from the application of the participatory evaluation methodology in various countries in Latin America and the Caribbean. Factors affecting the evaluation of the initiatives were identified at multiple levels (individual, community, organizational, political, economic, etc.).

Specific issues that were addressed included the political context, turnover of personnel in key institutions, concerns related to the effectiveness of participatory processes, and the existence of strong and sustained leadership at the country level. These factors are intertwined and affect each other in very complex ways, a fact that was reflected in the municipalities' experiences with participatory evaluation.

Challenges included the ability to secure resources for the evaluation, the time needed to conclude the process, and working in an intersectoral manner. However, participating municipalities reported that the process of implementing a participatory evaluation and working with various stakeholders had an empowering effect: communities and stakeholders were more willing and interested in participating in health promotion initiatives in a sustained manner; alliances and intersectoral collaboration were strengthened; communication channels were opened; and municipalities were stimulated to review their planning and implementation processes in order to more appropriately incorporate health promotion principles. The article concludes with recommendations to improve the planning and implementation process of participatory evaluation efforts.

## Urban Environmental Health

9 - *Int J Environ Health Res.* 2007 Apr; 17(2):151-6.

### **Prevalence of enterotoxigenic *Staphylococcus aureus* and *Shigella* spp. in some raw street vended Indian foods.**

Ghosh M, Wahi S, Kumar M, Ganguli A.

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In India, the street food trade is a growing sector with its expansion linked with urbanisation and the need of urban populations for both employment and food. However, the microbiological status of popularly consumed raw street foods, general hygienic and vending practices are not known. We visited 75 vendors (50 having fixed stalls and 25 with mobile stalls) operating in three major locations: mandi (open market place), bus terminus and railway station in New Delhi and Patiala City. A total of 150 samples each of coriander sauce, of ready-to-eat salads and coconut slices collected were analysed for *Staphylococcus aureus* and *Shigella* spp. Enterotoxigenic *Staphylococcus aureus* were detected in 91 (60%) samples of coriander sauce, 87 (58%) samples of coconut slices and 129 (86%) samples of ready-to-eat salads. Twenty-three (15%) samples of coconut slices contained *Shigella* (18 *Sh. dysenteriae* type 1 and 5 *Sh. flexneri* 2a), 13 (8%) samples of ready-to-eat salads and 10 (6%) samples of coriander sauce contained *Sh. flexneri* 2a. Street vendors lacked access to potable water, toilet facilities and operated under poor hygiene conditions. The results of our study suggest that street vended coconut slices, coriander sauce and ready-to-eat salads could be important potential vehicles for food-borne diseases.

10 - *Cien Saude Colet.* 2007 May-Jun;12(3):743-53.

### **Assessment of sanitation and housing conditions: the importance of home visits in the Family Health Program context**

Azeredo CM, Cotta RM, Schott M, Maia Tde M, Marques ES.

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Knowledge of health-related environmental conditions - such as basic sanitation and housing - are of singular importance for establishing measures designed to upgrade the quality of life at the individual, family and community levels. Through home visits, this paper evaluates families enrolled in the Family Health Program (FHP) in Teixeiras, Minas Gerais State, Brazil, including their housing and basic sanitation conditions. A transverse observational study, its semi-structured questionnaire was applied to 10% (n=364) of the families enrolled in this Program. The net water supply coverage reached 83% of homes in urban areas and 11.7% in rural areas. The public water supply was the final disposal point for the water used in 82.2% of urban dwellings and 10.9% of rural homes. Home visits offer inside glimpses into the lives of the beneficiaries of this Program, particularly in view of the unequal distribution of the sanitation infrastructure between urban and rural areas, constituting an important tool for the Family Health Strategy, by helping identify the key factors in the health x disease processes noted in the settings within which these families live, and paving the way to better health through Health Education.

**Non-biting cyclorrhaphan flies (Diptera) as carriers of intestinal human parasites in slum areas of Addis Ababa, Ethiopia.**

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A study was conducted to determine the role of non-biting cyclorrhaphan flies as carriers of intestinal parasites in slum areas of Addis Ababa from January 2004 to June 2004. A total of 9550 flies, comprising of at least seven species were collected from four selected sites and examined for human intestinal parasites using the formol-ether concentration method. The dominant fly species was *Chrysomya rufifacies* (34.9%) followed by *Musca domestica* (31%), *Musca sorbens* (20.5%), *Lucina cuprina* (6.8%), *Sarcophaga* sp. (2.8%), *Calliphora vicina* (2.2%) and *Wohlfahrtia* sp. (1.8%). Six intestinal helminths (*Ascaris lumbricoides*, *Trichuris trichiura*, hookworms, *Hymenolepis nana*, *Taenia* spp. and *Strongyloides stercoralis*) and at least four protozoan parasites (*Entamoeba istolytica/dispar*, *Entamoeba coli*, *Giardia lamblia* and *Cryptosporidium* sp.) were isolated from both the external and gut contents of the flies. *A. lumbricoides* and *T. trichiura* among the helminths and *E. istolytica/dispar* and *E. coli* among the protozoans were the dominant parasites detected both on the external and in the gut contents of the flies, but occurring more in the latter. Among the flies, *C. rufifacies* and *M. sorbens* were the highest carriers of the helminth and protozoan parasites, respectively. The public health significance of these findings is highlighted.

12 - *Int Q Community Health Educ.* 2005-2006;24(2):153-60.

**Participatory action research: community diagnosis and intervention in controlling urinary schistosomiasis in an urban community in Ibadan, Nigeria.**

Olaseha IO, Sridhar MK. University of Ibadan, Nigeria.

Schistosomiasis is second only to malaria and is endemic in Nigeria. It has been reported that the infection is more prevalent, irrespective of gender, in the age group 5 to 14 years. It is least among the age group 26 and 55 and occurs mostly in the rural areas in the country. The infection is spreading from the rural areas to various urban communities, particularly the agricultural and fishing populations. In Ibadan, capital of Oyo State in southwestern Nigeria where the focus of this study is made, the infection has been reported among children and adolescents in six Local Government Areas. Students of Advanced Diploma in Health Education (ADHE) of the Department of Health Promotion and Education, during a community diagnosis exercise among primary schools in two communities in Ibadan, met with this problem. The purpose of this study is to mobilize the affected communities, with both internal and external resources through a participatory-action process, to combat the infection which is one of their major problems. Since the prevalence of schistosomiasis in target communities is age related, investigations were concentrated in 17 Primary Schools in the two communities.

The investigation involved laboratory confirmation by collecting 147 urine samples from a total population of 676 children and examining them microscopically for the schistosome ova. In addition, the quality of stream water and their vector presence were assessed. The key intervention strategy used was community mobilization of both internal and external resources of targeted communities. The striking outcome of the intervention study is that the outbreak of schistosomiasis in the communities was formally reported to the Federal Ministry of Health and the Oyo State Ministry of Health. All infected pupils were treated, the long awaited water scheme to replace the broken pipes was completed, and two new water supply schemes were implemented by the communities. Further, the communities displayed sign boards prohibiting

community members from fetching water from "Dandaru" river for daily domestic needs. It is concluded that the combined efforts of all the actors helped the community to enjoy improved water supply and reduced their exposure to infection from the stream, which was the source of the infection.

## Urban Vector Disease

*13 - Ethiop Med J. 2007 Apr;45(2):151-8.*

### **Prevalence of urban malaria and associated factors in Gondar Town, Northwest Ethiopia.**

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**BACKGROUND:** Malaria has become one of the major health problems currently facing the urban communities. The rapid increase in urbanization, rural-urban migration and climatic changes are among the main factors contributing for the rise of malaria in urban areas. To our knowledge, there has been no malaria prevalence study so far conducted in Gondar Town.

**OBJECTIVE:** The aim of this study was to determine the prevalence of malaria infection and its associated risk factors in Gondar Town. **METHODS:** A community-based survey was conducted in three randomly selected malarious Kebeles of Gondar Town during November-December 2004. Blood films were collected from a finger-prick of 734 members of the selected households for microscopic examination of malaria parasites.

**RESULTS:** Among 734 examined blood films, 39 (5.3%) were positive for malaria infection, of which 29 (74.4%) were due to *Plasmodium falciparum* and 10 (25.6%) due to *P. vivax*. Seven (18%) malaria infections were reported from children under the age of five years, indicating the endemicity of malaria to the study area. Age-specific rates show that higher malaria prevalence rate was found among under-five children (7.2%) and 15-19 year-old age group (7.3%). Proximity to mosquito breeding sites was found to be the main risk factor for malaria infection (OR = 2.4, 95% CI. 1.2-5.1).

**CONCLUSIONS:** The prevalence of malaria in Gondar Town was found to be high. The prevalence was strongly associated with proximity of residence to potential mosquito breeding sites. The occurrence of the disease among under-five children would indicate that malaria is indigenous to the area. Use of personal protection methods such as insecticide treated mosquito nets should be scaled up, and malaria control interventions should target residents who are at a closer proximity to mosquito breeding sites.

*14 - Indian J Med Microbiol. 2004 January-March;22(1):54-56.*

### **Intestinal parasitic infection and total serum IgG in asymptomatic adult males in an urban slum and efficacy of antiparasitic therapy.**

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Department of Microbiology, St. John's Medical College, Bangalore - 560 034, Karnataka, India.

Malnutrition is thought to potentiate the polyclonal stimulation of IgE by parasites. This diminishes immunity due to the decrease in specific anti-parasitic IgE. Prevalence of intestinal parasitic infections in chronically undernourished, asymptomatic adult males from a slum and efficacy of anti-parasitic therapy and its effect on total serum IgE were evaluated. Stool specimens from 51

subjects were examined. Anti-helminth and anti-protozoan therapy consisted of oral, single dose albendazole (400mg) and tinidazole (2g) respectively. Total serum IgE was measured. 23 (45.1%) subjects were positive. Albendazole and tinidazole cleared intestinal parasites but had no significant effect on total serum IgE levels.

15 - *Mem Inst Oswaldo Cruz. 2007 Jul;102(4):489-96.*

**Variation in *Aedes aegypti*(Diptera: Culicidae) container productivity in a slum and a suburban district of Rio de Janeiro during dry and wet seasons.**

Maciel-de-Freitas R, Marques WA, Peres RC, Cunha SP, Lourenço-de-Oliveira R.

Seasonal variation in container productivity and infestation levels by *Aedes aegypti* were evaluated in two areas with distinct levels of urbanization degrees in Rio de Janeiro, a slum and a suburban neighborhood. The four most productive containers can generate up to 90% of total pupae. Large and open-mouthed containers, such as water tanks and metal drums, located outdoors were the most productive in both areas, with up to 47.49% of total *Ae. aegypti* pupae collected in the shaded sites in the suburban area. Water-tanks were identified as key containers in both areas during both the dry and rainy seasons. Container productivity varied according to seasons and urbanization degree. However, the mean number of pupae per house was higher in the suburban area, but not varied between seasons within each area ( $P > 0.05$ ). High infestation indexes were observed for both localities, with a house index of 20.5-21.14 in the suburban and of 9.56-11.22 in the urban area. This report gives potential support to a more focused and cost-effective *Ae. aegypti* control in Rio de Janeiro.

16 - *Mem Inst Oswaldo Cruz. 2007 Jun;102(3):271-6.*

**Urban and suburban malaria in Rondônia (Brazilian Western Amazon) II. Perennial transmissions with high anopheline densities are associated with human environmental changes.**

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Longitudinal entomological surveys were performed in Vila Candelária and adjacent rural locality of Bate Estaca concomitantly with a clinical epidemiologic malaria survey. Vila Candelária is a riverside periurban neighborhood of Porto Velho, capital of the state of Rondônia in the Brazilian Amazon. High anopheline densities were found accompanying the peak of rainfall, as reported in rural areas of the region. Moreover, several minor peaks of anophelines were recorded between the end of the dry season and the beginning of the next rainy season. These secondary peaks were related to permanent anopheline breeding sites resulting from human activities. Malaria transmission is, therefore, observed all over the year. In Vila Candelária, the risk of malaria infection both indoors and outdoors was calculated as being 2 and 10/infecting bites per year per inhabitant respectively. Urban malaria in riverside areas was associated with two factors: (1) high prevalence of asymptomatic carriers in a stable human population and (2) high anopheline densities related to human environmental changes. This association is probably found in other Amazonian urban and suburban communities. The implementation of control measures should include environmental sanitation and better characterization of the role of asymptomatic carriers in malaria transmission.

17 - *Mem Inst Oswaldo Cruz. 2007 Jun; 102(3):263-9.*

**Urban malaria in the Brazilian Western Amazon Region I: high prevalence of asymptomatic carriers in an urban riverside district is associated with a high level of clinical malaria.**

Tada MS, Marques RP, Mesquita E, Dalla Martha RC, Rodrigues JA, Costa JD, Pepelascov RR, Katsuragawa TH, Pereira-da-Silva LH.

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Cross sectional studies on malaria prevalence was performed in 2001, 2002, and 2004 in Vila Candelária, an urban riverside area of Porto Velho, Rondônia, in the Brazilian Western Amazon, followed by longitudinal surveys on malaria incidence. Vila Candelária is a working class district, provided with electricity, water supply, and basic sanitation. Previous preliminary surveys indicated high malaria incidence in this community. At the end of year 2000 regular diagnostic and treatment measures for malaria were introduced, with active search of febrile cases among residents. Despite of both rapid treatment of cases and relative good sanitary and housing conditions, the malaria incidence persisted at high levels during the following years with an annual parasite index of 150 to 300/1000 inhabitants. Parasite surveys in 2001, 2002, and 2004 achieved through microscopy and polymerase chain reaction to diagnose malaria showed a constant high prevalence of asymptomatic carriers for both *Plasmodium falciparum* and *P. vivax* parasites. It was concluded that asymptomatic carriers represent an important reservoirs of parasites and that the carriers might contribute to maintaining the high level of transmission. Comparing our findings to similar geo-demographic situations found in other important urban communities of the Brazilian Amazon, we propose that asymptomatic carriers could explain malaria's outbreaks like the one recently observed in Manaus.

## **HIV/AIDS among the Urban Poor**

18 - *J Trop Pediatr. 2007 Jun 19*

**Is Exclusive Artificial Feeding Feasible at 6 Months Post Partum in Cameroon Urban Areas for HIV-Exposed Infants?**

Njom Nlend A, Penda I, Same Ekobo C, Tene G, Tsague AL.

The aim of the study was to evaluate the feasibility of infant feeding options of HIV positive mothers in urban areas (especially compliance to artificial feeding choices), before the implementation of the infant feeding interventions and procurement of breastmilk substitutes. We conducted a survey among seropositive women diagnosed during pregnancy and counselled for infant feeding options. At 6 months post delivery an interview was done. 47 mothers were included. Bromocriptine was prescribed to all the mothers who opted for artificial feeding from birth. Findings: After counselling 85% of women opted for exclusive artificial feeding of whom 83% mothers practised this option since birth. For those who opted for replacement feeding The main given reason for infant feeding choice was related to medical or nurses advices. Overall 36% [CI 95%, 22-50] of the mothers who opted for artificial milk faced difficulties to afford supplies during the 6 months, leading into an early introduction of paps. Clinical mastitis were mentioned by all those mothers who breastfed. Infant feeding choices were related to the level of education ( $X^2 = 24.10$ ,  $P = 0.002$ ). Conclusion: Artificial feeding under recovery of cost seems feasible in urban areas in Cameroon and can be facilitate by the administration of antilacteal drugs. More adequate support must be provided for the mother who breastfeed in order to prevent and to treat mastitis. Additional training for counselling in HIV and infant feeding options is recommended for health workers.