LEARNING FROM THE BEST TO CURB THE WORST: TOWARDS ADDRESSING THE CHILD OBESITY THREAT IN KENYA

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Presentation Overview

- **Introduction: Kenya and Kenyatta University**
- Describe the emerging public health problem of obesity in Kenya and Eastern Africa.
- Explain the development and purpose of the KIDS-CAN Research Alliance
- Provide preliminary findings from the KIDS-CAN pilot study on child obesity in Kenya.
KIDS-CAN team Introduced
Kenya

- **East Africa**
- **Neighbours**
- **On the Equator**
- **Population**
- **Capital city**
- **Provinces**
- **Ethnic Comm.**
- **Eng & Swahili**
- **6-9 hrs S/Day**
Kenyan Staple foods

Ugali

Githeri

Vegetables

Whole fish
In the farms.....
Nyama Choma culture
Traffic snarl-up—Pedestrians “fight” for space
THE OLDEST SCHOOL BOY IN THE WORLD

85 year old Kimani Maruge with his 6 year classmates Joseph and Charles
The goldmine of distance runners

- L. Maasai
- 19 year old
- Gold Medal
- 10,000 m
- Berlin 2009
Big question # 1

- How has Kenya managed to produce such disproportionately high number of world class athletes?
Proposed reasons

1. Favourable environmental conditions
2. Traditional diet (Paleolithic diet)
3. Favourable physiological characteristics
Big question # 2

• Can Kenya continue with its international athletics prowess in the face of a physical activity and nutrition transition??
De l'Afrique il y a toujours quelque chose nouveau (out of Africa there is always something new)

- Philip Boit – THE Skier
- Brother to Mike Boit
- Practices on Kenya roads
- Departure from the norm
- Will represent Kenya in Vancouver 2010
Under threat!
McDonald’s Hits Africa
From Nairobi to Ottawa: June 18th 2009
Welcome to Kenyatta University
Vision Statement

• To be a dynamic, an inclusive and a competitive centre of excellence in teaching, learning, research and service to humanity.

Mission Statement

• To provide quality education and training, promote scholarship, service, innovation and creativity and inculcate moral values for sustainable individual and societal development.
Identity Statement

• A community of scholars committed to the generation and dissemination of knowledge and cultivation of wisdom for the welfare of society.

Philosophy Statement

• Sensitivity and responsiveness to societal needs and the right of every person to knowledge.
STUDENT POPULATION

- Has a 23,000 students
- 10,000 are residents
- 13,000 are non-residents
Student Hostel
Room service
KU Culture week

- Annual event
  Students, Staff & community artists to show talent
THE DEPARTMENT OF EXERCISE, RECREATION & SPORTS SCIENCE
• Established in 1965 to cater for certificate teacher training

• 1976 a Bachelor of Education (P.E) degree programme was initiated with only 3 students enrolling to pursue P.E

• To date, more than 1000 P.E students have graduated from the department and are serving in various sectors in the country
The department expanded in 2002 to offer two more programmes:

- Bsc. Exercise and Sports Science
- Bsc. Leisure and Recreation Management

Five groups have graduated from the two programmes.

About 300 students are currently pursuing their undergraduate and postgraduate studies at the Department.
The department has a teaching staff of 18 members:
- 2 professors
- 2 senior lecturers
- 6 lecturers
- 8 assistant lecturers
- A number of part-time lecturers are used now and then depending on the courses being offered each semester
Service to community

“Fitness breaks”
LINKAGES & COLLABORATION

• IAAF
• CHEORI
• Kyambogo University – Uganda
• Tswane University – SA
• University of Karlsruhe – Germany
• Volda University – Norway
• University of Dar Es Salaam-Tanzania
• University of Copenhagen(CMRC)-Denmark
• University of Stellenbosch – SA
Welcome to 17th Biennial (ISCPES) Conference 2010

Kenyatta University
17th Biennial Conference of the International Society for Comparative Physical Education and Sport (ISCPES)
June 6th - 8th 2010 at Safari Park Hotel
NAIROBI, KENYA

Dr. Mark Tremblay
Keynote Speaker ISCPES 2010

More info: www.ku.ac.ke/conference
THE EMERGING PUBLIC HEALTH PROBLEM OF OBESITY IN KENYA AND EASTERN AFRICA REGION

AND

THE PHYSICAL ACTIVITY & NUTRITION TRANSITION
OBESOGENIC ENVIRONMENT

- Environment that encourages the overconsumption of energy-dense foods & engaging in insufficient PA
SCREEN INVASION
Passion for the World around us
African children are becoming Technophiles

Gone are the days telecommunication was a preserve of the rich. The mobile phone has edged out landline in personal communication.
The big transition
• Problem compounded by cultural beliefs & societal expectations

• Cultural beliefs: FAT = “Health” = Good Living

• Your job/level of education = match “public opinion and expectations”

• Fatness is seen as indicator of a wealthy family
‘Day after day if there’s food I’ll eat it. I want to maintain my weight because it doesn’t disturb me. I feel better than thin women, I feel sorry for them. My babies have always been big and healthy.’
Addressing social norms and sensitivity to cultural issues:

“Living in urban areas means we are much less Active than before…”

“A woman needs big arms to cook a big pot of food…”

“Xhosa women are not allowed to wear sports outfits and exercise in public…”

“There are no facilities, time or money enough to exercise…”

“If a fat person loses weight, they are considered “thin, even If still overweight by Western standards…”

“Being thin is associated with being unhappy or ill”

“I was meant to be big…”

(Sengwana Mj, Paolone TR, Caradon I3 2004, 27(1): 65-71)
Donkey: The obedient messenger
Prevent obesity in your child

with Dr Monda Ang’awa

Obesity is now a world-wide epidemic affecting adults, adolescents and children. More and more children and adolescents are either overweight or obese and many others are getting fatter. More than two thirds of these overweight children will become overweight adults.

Genes inherited from parents are often blamed but that is not entirely true as the gene pool cannot change that fast. Scientists have proven that parental obesity doubles the risk of a young child, whether thin or overweight, becoming an obese adult. In addition, the environment we now live in supports obesity because it promotes less physical activity and more eating — for example, eating in front of the television.

Too much television is harmful to children, as it is not only a sedentary activity, but also exposes children to influential advertisements for fast foods, sugary cereals and unhealthy snacks, which children love. Many children are driven to school while fewer are walking to school than before.

FAT CELLS CHANGE

Achieving a healthy weight becomes more difficult as children get older because fat cells change in number or size depending on a person’s age. They multiply during two growth periods: early childhood and adolescence. Overeating during those times increases the number of fat cells. After adolescence, fat cells tend to increase in size rather than quantity. Losing weight after adolescence, then, reduces the size of the fat cells but not their number, so weight loss becomes much more difficult.

OBESITY CAUSES DISEASES

Obese children and adolescents have poorer health than other children because they have unhealthy cholesterol levels and high blood pressure. Excessive weight predisposes a child to heart disease, asthma, gallbladder problems, sleep apnoea, liver abnormalities, cancer and full-blown obesity later in life. There is a dramatic increase in Type 2 diabetes in children largely due to the increase in obesity. Yet this disease has always been a disease of adults.

Obese children suffer major social and psychological problems — depression, eating disorders, drug abuse, suicide and violence. Childhood obesity is also partly responsible for the declining age of onset of puberty in girls, with the subsequent increased risk of breast cancer.

A boy enjoys a healthy traditional meal that is a better alternative to the high-fat, low-fibre foods that can cause obesity. (Photo: Tabitha Oywori/Standard)

FAT PROOF YOUR CHILD BY:

Teach children sensible eating habits early before they have free access to food because food preferences are learnt and cultivated, they are not in-born.

Giving small frequent healthy meals with lots of whole grains, legumes, fresh fruits and vegetables instead of two or three large meals.

Letting children choose their own food portions because they naturally eat 25 percent less when they choose their own portion size. When they are given larger portions their bite sizes are larger and they eat more.

Create a traffic-light diet. Green for go (low calories); yellow for “eat with caution” (medium calories) and red for “stop” (high calories).

Getting rid of tempting junk food from the cupboards at home and limiting fast foods, high-sugar and commercial packaged snacks. Make sure snacks are healthy and offer fruit and fresh vegetables and plenty of water to drink instead.

Focus on foods like oats, dried beans and soy that raise blood sugar more slowly than others.

Limit television, video games, and computer use to a few hours a week and instead involve the children in other activities like library visits, music lessons and family outings.

Many children are chronically tired. Make sure they get plenty of rest. Put them to bed early enough so they awoken naturally in time for a healthy breakfast.

Make your child feel loved unconditionally. Don’t criticise a child for being overweight. It does not help and such attitudes could lead to low esteem and eating disorders, which are even greater dangers to health.

Lead by example. Proper eating and lifestyle habits should be a family affair.

— drbrigidmonda@gmail.com
National Data on Kenyan children are lacking
Fat, rich and beautiful: changing socio-cultural paradigms associated with obesity risk, nutritional status and refugee children from sub-Saharan Africa

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Abstract

There has been an increase in Australia’s intake of refugees and migrants from sub-Saharan Africa over the last two decades. These refugees have been exposed to nutritional risks prior to migration, which, together with changes associated with acculturation, impact on their health and nutritional status post-migration. However, there is a paucity of data in Australia that has examined the health and nutritional status of this ethnic minority in Australia. Despite basic research assessing the nutritional status of children, none have specifically concentrated on the health and nutritional situation of sub-Saharan refugee children. In the absence of such studies, this paper explores issues relating to obesity in sub-Saharan African refugee children within a cultural and public health framework. We begin by outlining the history of obesity and its cultural meaning. We then move to a consideration of predisposing factors for obesity and how these factors translate into obesity risk contexts of sub-Saharan refugees post-migration. We argue there are a number of key challenges related to culture and the relationship between socio-economic factors post-migration that require addressing by health professionals, dieticians and health educators to ensure the delivery of successful health outcomes.

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Conclusion

There are a number of key challenges related to culture and the relationship between socio-economic factors that require addressing by health professionals, dieticians and health educators to ensure the delivery of successful health outcomes.
Dietary patterns and nutritional status of pre-school children in Nairobi

Authors: E M Ngatia, P M Ng'ang'ia, J W G Muita, J K Imungi

Journal: East African medical journal

OBJECTIVE: To determine the dietary patterns and nutritional status of pre-school children in Nairobi, Kenya. DESIGN: A cross-sectional study. SETTING: Pre-schools in Nairobi, Kenya. SUBJECTS: Three hundred and four pre-school children (149 males and 155 females) aged three to five years were assessed. RESULTS: About 96% of the children had been breastfed 46.7% of them for 12-24 months (46.7%), and the mean breastfeeding duration was 20.17 months. The most commonly consumed foods on a daily basis were fruits, vegetables bread, ugali, porridge and milk. The level of malnutrition was low with underweight at 16% stunting 4.3% and wasting 1.0%. The factors that positively correlated with child nutritional status were the age of the mother and father. CONCLUSIONS: The children were consuming a variety of foods both at home and in school, and this together with the high literacy levels the parents/guardians could have contributed towards the good nutritional status.

Conclusion

1. ……nutrition challenge among school children in urban Kenya is shifting to overweight and obesity

Recommendation

2. There is need for policy makers and health professionals to give special attention to the issue of childhood obesity and overweight
PREVALENCE AND AWARENESS OF OBESITY AMONG PEOPLE OF DIFFERENT AGE GROUPS IN EDUCATIONAL INSTITUTIONS IN MOROGORO, TANZANIA

C.N.M. NYARUHUCHA, J.H. ACHEN, J. M. MSUYA, N.B. SHAYO and K.B.M. KULWA

ABSTRACT

Objective: To determine the prevalence rates and level of awareness of obesity among people of different age groups in Morogoro Municipality, Tanzania.

Design: A cross-sectional, descriptive study.

Subjects: One hundred adults aged 19-50 years old and 40 pupils aged 14-18 years old.

Setting: Four educational institutions in Morogoro Municipality were included in the study. The four institutions included a primary and a secondary school, a teacher's training college and a university.

Results: The prevalence of obesity among the sampled subjects in Morogoro Municipality was 25%, whereby 15.7% had a Body Mass Index (BMI) of between 25 and 30, and 9.3% had a BMI of more than 30. Age and occupation of all the subjects, together with marital status of adult subjects, were significantly related with obesity status. Prevalence of obesity increased with the increased age whereby subjects in the 41-50 years had the highest rate (45.4%). Employed subjects had higher rate of obesity (22.2%) than pupils or students. Similarly, married adults had higher rate of obesity (27.8%) than the single ones (4.7%). Unlike the old age group (41-50 years), 70% of the youngest subjects were not aware about the harmful effects of obesity. On the other hand, more than two thirds of all the subjects could not associate excess body weight with chronic non-communicable diseases such as coronary heart disease, high blood pressure and breathing problems.

Conclusion: Results of the current study indicate that obesity is increasingly becoming a public health problem in Morogoro Municipality, and probably in many other places in Tanzania. There is need for more public awareness on the effect of obesity on people's health through information, education and communication. It would be of great importance if such interventions were introduced at early age of life, for example by inclusion in school curricula.
Conclusion

1. ………..obesity is increasingly becoming a public health problem in Morogoro Municipality, and probably in many other places in Tanzania

Recommendations

1. There is need for more public awareness on the effect of obesity on people's health through information, education and communication.

2. It would be of great importance if such interventions were introduced at early age of life, for example by inclusion in school curricula.
## Childhood Obesity – A Global Problem

<table>
<thead>
<tr>
<th>Country</th>
<th>% Obese</th>
</tr>
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<tbody>
<tr>
<td>Australia*</td>
<td>26.5</td>
</tr>
<tr>
<td>Chile+</td>
<td>20</td>
</tr>
<tr>
<td>China¹</td>
<td>14-28</td>
</tr>
<tr>
<td>Canada*</td>
<td>26</td>
</tr>
<tr>
<td>USA*</td>
<td>35</td>
</tr>
<tr>
<td>UK*</td>
<td>25</td>
</tr>
<tr>
<td>Lebanon*</td>
<td>25</td>
</tr>
</tbody>
</table>

*The International Association for the Study of Obesity and R. Kelishadi, Childhood Overweight, Obesity and the Metabolic Syndrome in Developing Countries in Epidemiologic Reviews. May 2007.

WHO estimated that about 2 million deaths are attributable to physical inactivity worldwide, every year.

World Health Report, 2002
It is estimated that 22 million children worldwide are overweight or obese.

*The International Association for the Study of Obesity and R. Kelishadi, Childhood Overweight, Obesity and the Metabolic Syndrome in Developing Countries in Epidemiologic Reviews, May 2007.

Burden of disease by group in Developing Countries: 1990-2020

1990

Communicable diseases, maternal and perinatal conditions and nutritional deficiencies: 49%
Injuries: 15%
Noncommunicable Conditions: 27%
Neuropsychiatric Disorders: 9%

2020 (baseline scenario)

Communicable diseases, maternal and perinatal conditions and nutritional deficiencies: 14%
Injuries: 21%
Noncommunicable Conditions: 22%
Neuropsychiatric Disorders: 43%

Source: WHO, Evidence, Information and Policy, 2000
WHO Global Strategy on Diet, Physical Activity & Health

1. Reduce risk factors through essential public actions, health-promoting and disease prevention measures

2. Increase awareness and understanding of importance of diet and physical activity on health

3. Develop, strengthen, implement global, regional, national policies, plans etc to improve diets, physical activity that are sustainable, comprehensive & actively engage all sectors

4. Monitor science and promote research
National Data on Kenyan children are lacking
Kenyan International Development Study - Canadian Activity Needs (KIDS-CAN) Research Alliance
Working Together to Prevent Childhood Inactivity and Obesity

Pop. = 33,098,302

Pop. = 33,830,000
KIDS-CAN Objectives

- Promote and facilitate research in the determinants and predictors of childhood obesity
- Exploit the timing of the current childhood obesity crisis in Canada, the nutrition and PA transition in Kenya and the implementation of the CHMS
- Develop and foster a long-term international partnership and research alliance
- Serve as a model and nucleus for expansion of international partnership to other countries
KIDS-CAN Pilot study

Objectives

• To gather anthropometric data and PA levels among urban and rural Kenyan children aged 9-13 years.

Aim

• To examine the potential nutrition and physical activity transition.
MEASURES

• height, weight, waist circumference, triceps & sub-scapular skinfolds
• We also looked at screen time
• Active transport
FINDINGS
Weight status: Boys

Weight Status: Boys

- Underweight
- Normal weight
- Overweight
- Obese

Prevalence (%)

Category

RKEN
UKEN
Weight status: Girls

Weight Status: Boys & Girls

- Underweight
- Normal weight
- Overweight
- Obese

Prevalence (%)

Category

RKEN
UKEN
Subscapular skinfold M/F

Population

RKEN

UKEN

*
MODE OF TRAVEL

DISTANCE TRAVELLED

Onywera et al., 2006: *Journal of Sport Science*
Amos Biwott (Gold 3000m SC, Mexico 1968)
Amos Biwott (Gold 3000m SC, Mexico 1968)
Interview – Moses Tanui

10,000 m Olympic Medalist
National Data on Kenyan children are lacking
Conclusions

- Children from RKEN are leaner than their UKEN counterparts

- OWO is non-existent in our RKEN sample but is ~12% in the UKEN

- UKEN children spend significantly more time in front of a screen than RKEN children

- Considerably more RKEN children walk or run to school than UKEN children

These results show signs of a PA and nutrition transition especially in urban areas
Recommendations

Further research is required to understand and prevent the consequences of this transition

Hence

KIDS-CAN


3. V. Onywera, M. Boit, J. Waudo, M.S. Tremblay, K. Adamo, W. Wong A.W. Childhood obesity and physical inactivity threat in Kenyan: The time for action is now! the 8th International Conference on Urban Health, Nairobi, Kenya.2009
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