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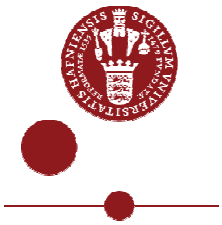

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Medicine Use in Children in Uganda

Research Dissemination Workshop

By

Child Health and Development Centre
Makerere College of Health Science

Venue: Fairway Hotel
2nd May 2013

Sponsored by Danish International Development Assistance

SUMMARY: CHILDMED- CAPACITY BUILDING

The Child Health and Development Centre in collaboration with the University of Copenhagen are implementing a capacity building project- ChildMed. The project, supported by DANIDA, focuses on improving quality use of medicine in children. The overall objective of this multidisciplinary project is to improve the quality of medicine use and management for children in Uganda through research and research training. Our hypothesis is that appropriate and effective medicinal treatment depends on four key dimensions: coherency of policies relevant to children's medicine use; accurate diagnostic procedures; availability and adequate use of appropriate medicines; and effective communication of perceptions and knowledge.

The project has registered 4 PhD students, 4 Masters Students and has 2 post doctorate researchers, working on cross-cutting issues of children's medicines (policies, diagnosis, medicines and communication). PhD study areas included acute respiratory infections (pneumonia and asthma), HIV/AIDS, neglected diseases (Schistosomiasis) and relevant policies. The four Masters Degree students' areas of research include policy, epilepsy, and HIV/AIDS, Masters Students come from School of Medicine (Pediatrics), School of Public Health (Health Policy), School of Psychology (Clinical Psychology) and College of Humanities and Social Sciences (Social Work and Social Administration). Post doctorate researchers' areas are acute respiratory infections and asthma and neglected diseases (Schistosomiasis).

ChildMed outputs include 4 PhDs and 4 Masters Degrees from Makerere University and 2 Post doctorates by the end of 2014. The project was launched in March 2011 and a Situation Analysis Study on children's medicine in the country was disseminated to key stakeholders.

Partner institutions:
University of Copenhagen

- Faculty of Life Sciences
- Faculty of Social Sciences
- Faculty of Health Sciences

Makerere University, Kampala:

- Child Health and Development Centre, School of Medicine
- Department of Pharmacology, School of Medicine
- Department of Pediatrics, School of Medicine
- School of Public Health, College of Health Sciences
- Department of Social Work and Social Administration, College of Humanities and Social Sciences

PROGRAMME

Time	Presentation	Presenter	Discussant
8:30-9:00	Arrival and Registration	Ms. Margret Nakuya	
9:00-9:05	Welcome Remarks Coordinator (Uganda) ChildMed Project	Dr. Jessica Jitta Child Health and Development Centre	
9:05-9:10	Remarks Coordinator (Denmark) ChildMed Project	Prof Ebba H. Hansen, University of Copenhagen	
9:10-9:25	Remarks Chairman, Advisory Board ChildMed Project	Prof. Celestine Obua Deputy Principal CHS	
9.25 -9.30	Chairperson Chair Scientific Advisory Committee	Assoc. Prof Anne R. Katahoire	
9.30-10.00	Status of Child-size Medicines in Uganda	Mr. Xavier Nsabagasani	Prof. Odoi Adome
10:00-10:30	Immediate Clinical Outcomes of Children with Asthma and pneumonia, Mulago Hospital	Dr. Rebecca Nantanda	Dr Nabukeera N. Barungi
10:30-11:00	Acute respiratory infections and asthma in U-5 children: improved treatment to reduce morbidity and mortality in Uganda	Assoc Prof. Grace Ndeezi	Dr Mworozi Edison A.
11:00-11:30	Improving Uptake of Preventive Treatment for Intestinal Schistosomiasis among School Children in Jinja District	Dr. Simon Muhumuza	Dr Elizeus Rutebemberwa-
11:30-12:00	Why must I take medicine? The understanding of ARV therapy by Ugandan children on ART	Ms. Phoebe Kajubi	Dr. Joseph Rujumba
12:00-12:10	Multiple Anti-epileptic Drug Use in Children with Epilepsy: The Prevalence and Associated Factors	Dr. Rita Atugonza	
12:10-12:20	Availability and Appropriate use of Medicines for Treating Uncomplicated Malaria and Pneumonia in U5 Children in KCCA Clinics: Initial results	Dr. Julius Ssentongo	
12:20-12:30	Social Support, Self Esteem and Adherence to Medication for Epilepsy among Children: Preliminary results	Ms Susan Akwii	
12:30-12:40	Social Support for Refugee Children on ARV Therapy in Kyaka II refugee settlement	Ms Yusrah Nagujja	
12:45-1:00	Closing Remarks	Prof. James Tumwine, Chairman Higher Degrees committee CHS	

Abstract 1:

The Status of 'Child Size' Medicines: A Study of Health Policy Documents in Uganda

Xavier Nsabagasani; Jasper Ogwal Okeng; Anthony Mbony;, Freddie Ssengooba and Ebba Holme Ha

Introduction

The World Health Organization (WHO) and UNICEF in 2007launched the '*make medicines child size*" whereby WHO advised governments to develop separate essential medicines lists and standard treatment guidelines for children. Since 2007, Uganda has embraced medicine policy reforms to improve access and effective management of diseases. However, there is little evidence about policies focusing on 'child size' medicines in Uganda. The aim of the study was to identify and analyze policy provisions for child size medicines.

Materials and Methods

This study focused on health policy documents between 2007 to date focusing on medicine for treatment of malaria, asthma, epilepsy, diarrhea and pneumonia among children under five.Health policy documents were limited to policy statements, strategic plans, treatment guidelines and essential medicine lists and were obtained from the relevant ministry of health departments and website.Achecklist was used for extraction of datawhich was analyzed for content in relation to child size medicine concepts.

Results

Ugandaneither has a separate essential medicines list nor standard treatment guidelines for children. There is no reference to 'child size' medicine concepts. However, there are implicit provisions in the Uganda Clinical Guidelines (UCG) of 2010 and Essential Medicines and Health Supplies List for Uganda (EMHSLU) of 2012. TheUCG provides a section for childrenand includes the Integrated Management of Childhood Illnesses (IMCI)-for which the guidelines have not been revised. The UCG recommends use of body weight to determine the dose levels for children. Similarly, the EMHSLU includes varying medicine strengthsfor age categories and child friendly dosage forms such as suppositories, fixed dose combinations and effervescent tablets. Nevertheless, there are no dispersible medicines included for pneumonia and malaria medicines.Syrups for pneumonia (amoxicillin and cotrimoxazole) have been deleted from the list.

Conclusion

There is need for separate essential medicines list and clinical guidelines for children. The fact that the IMCI guidelines have not been revised is a missed opportunity and hence it is recommendedthat the IMCI guidelines revision is needed to incorporate child size medicines.

Abstract 2:

Outcome of Children with Acute Asthma and Pneumonia in Mulago Hospital Kampala Uganda

Rebecca Nantanda; Marianne S Ostergaard; James K Tumwine

Background: Acute asthma and pneumonia have similar clinical presentation among under- fives. Outcome of children with pneumonia has been documented but little is known about outcome of children with acute asthma.

Aim: To determine outcome of children with acute asthma and associated factors. We also compared the immediate clinical outcomes of children with acute asthma and pneumonia.

Methods: A prospective study of 614 children with acute asthma and pneumonia aged 2 to 59 months presenting at the emergency paediatric unit of Mulago hospital Kampala was done. Interviews, physical examination, blood and radiological investigations were done. Hospitalised children were monitored twice daily for temperature, oxygen saturation, cyanosis, respiratory rate, chest in drawing, wheezing and ability to feed until discharge. The primary outcome was duration of hospitalization. Logistic regression analysis was done to determine factors associated long duration of hospitalization among children with asthma. Survival analysis was done to compare outcome of children with asthma and pneumonia.

Results: Overall mortality was 3.58%. Highest mortality occurred in children with bacterial pneumonia (68.2%). None of the children with asthma died. The average duration of hospital stay was 4.02 days (SD 4). Age less than 12 months (OR 5.6, 95% CI 1.7-20.0, p=0.005) and malnutrition (OR 38.6, 95% CI 2.2-688, p=0.013) and were independently associated with long hospital stay. Children with pneumonia stayed for a longer duration compared to those with asthma (p=0.002, log rank test).

Conclusion: Acute asthma has good prognosis. Age and nutrition status are important predictors of outcome among children with acute asthma. The findings reiterate the importance of nutrition as a child survival strategy for communicable and non-communicable diseases.

Key words*: Asthma, pneumonia, under-fives, outcomes*.

Abstract 3:

Acute respiratory infections and asthma in U-5 children; improved treatment to reduce morbidity and mortality in Uganda, A randomized controlled trial: Preliminary Results

Grace Ndeezi; James K Tumwine; Marianne Stubbe Østergaard

Introduction:

In low income countries children with cough and difficult breathing are assumed to have bacterial pneumonia and are treated with antibiotics (WHO). Under-diagnosis of asthma and failure to institute appropriate treatment may contribute to ALRI associated morbidity and mortality.

Objectives:

To determine the supplementary effect of inhaled corticosteroids (ICS) on mortality, normalization of respiratory function and duration of hospitalization in children U-5 admitted with severe ALRI.

Methods:

Children aged 2-59 months admitted at Mulago hospital with ALRI, are randomized to 500mcg of inhaled fluticasone or placebo, in addition to standard treatment. ICS are administered twice a day up to 5 days or earlier if the patient is well enough to be discharged. The clinical criteria for diagnosis of asthma (Nantanda et al) will be used post hoc to differentiate asthma from pneumonia.

Outcome measures:

The primary outcome is the proportion of ALRI associated case fatality. Secondary outcomes are: time to normalization of respiratory rate and oxygen saturation, and mean duration of hospitalisation.

Preliminary Results:

Descriptive statistics for the first 200 patients are presented here without group comparisons.

Utility: The findings of this study will be used to inform policy and scale up the use of ICS in management of asthma in children living in Uganda.

Abstract 4:

Improving Uptake of Preventive Treatment for Intestinal Schistosomiasis among School Children through Teacher Motivation: serial cross sectional surveys in Jinja district, Uganda

Simon Muhumuza[1], Anne Katahoire[1], Fred Nuwaha[2] and Annette Olsen[3]

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[2] Makerere University, School of Public Health, Kampala Uganda
[3] University of Copenhagen, Faculty of Health and Medical Sciences, Section for Parasitology, Health and Development, Copenhagen, Denmark

Summary Background:

Realization of the public health benefits of mass drug administration (MDA) for the control of schistosomiasis depends on achieving and maintaining high annual treatment coverage. In Uganda, the uptake of preventive treatment for schistomiasis among school-age children is low. This study reports on whether a new strategy of motivating school teachers improves uptake of treatment.

Methods: Serial cross-sectional surveys were conducted at baseline (after MDA in 2011) where teachers did not receive any motivation and at follow-up MDA in 2012 where teachers received motivation in Jinja district of Uganda. Uptake of praziquantel was assessed in 1,010 randomly selected children from 12 primary schools during the baseline survey and in another set of 1,020 randomly selected children from the same primary schools during the follow-up survey.

Results: Self-reported uptake of praziquantel increased from 28.2% (95% CI 25.4%-30.9%) at baseline to 48.9% (95% CI 45.8%-52.0%) ($p<0.001$) at follow-up. The proportion of children reporting fear of treatment as the major reason for non-uptake reduced from 78.9% (95% CI 72.8%-79.1%) at baseline to 65.5% (95% CI 61.2%-69.5%) ($p<0.001$) at follow-up. There was no change in the proportion of children reporting side effects attributable to praziquantel at baseline 49.8% (95% CI 43.8%-55.8%) and at follow-up 46.6% (95% CI 42%.1-51.2%) ($p=0.50$) as well as in the proportion of children with correct knowledge of schistosomiasis transmission and control between the baseline 45.9% (95% CI 42.7%-73.7%) and follow-up 44.1% (95% CI 41.0%- 47.2%) ($p=0.42$).

Conclusion: Increased teacher motivation to distribute treatment increased uptake of praziquantel among school-age children although the realized uptake is still lower than is recommended by the world health organization (WHO). Additional measures are needed to increase uptake of praziquantel if school-based MDA is to achieve the objective of preventive chemotherapy.

Key words: Schistosomiasis, uptake of praziquantel**,** school children, Uganda

Abstract 5:

"Why must I take medicines?" The Understanding of Antiretroviral Therapy by Ugandan Children on ART

Phoebe Kajubi[1]; Susan Whyte[2]; Andrew Kunihira[3]; David Kyaddondo[1]; Anne R.Katahoire[1]

[1]Makerere University, College of Health Sciences, School of Medicine, Child Health and Development Centre, Kampala, Uganda
[2]Department of Anthropology, University of Copenhagen, Denmark
[3]Mulago Mbarara Teaching Hospitals Joint AIDS Program, Kampala, Uganda

Background: The number of HIV infected children receiving ART in Uganda rose from17, 000 in 2008/2009 to 26,699 in 2011 (MOH, 2012). The Uganda National ART Guidelines recommend that based on the child's age and understanding, their diagnosis and ART should be communicated to them to make them responsible for their medication (MOH, 2008). Research suggests that children are more adherent if they know their diagnosis and the reason for taking medicine (Bikaako-Kajura, et al., 2006). The study explored HIV infected children's understanding of ART.

Methods:
We conducted a cross-sectional survey of 394 HIV infected children aged 8-17 years on ART and 393 caregivers in 9 health facilities in Jinja District, Uganda between September and December 2011. Associations between demographic characteristics of HIV infected children and their understanding of ART were ascertained using STATA version 10.

Results: Of the 394 HIV infected children, 55.7% were female; median age was 12 years (SD=2.7, range 8-17years). Only 32% had both parents alive, 37% had one biological parent alive and 31% were double orphans. Most (93%) were attending school and the highest level of education reported by 51.5% of the children was P.1-P.4. The majority (81%) of caregivers were female, 31% were biological mothers, 15% grandparents and only 7.9% were biological fathers. Majority of caregivers (78%) had ever been to school, highest level of education reported being primary. Most were subsistence farmers.

Only half (50.8%) of the HIV infected children reported they were taking medicines for HIV; 11.4% did not know why they were taking medicines, others mentioned taking medicines for TB (8.1%), sickle cells (4.6%), malaria (7.4%) and other diseases (17.7%). There was no significant difference between males and females in this regard. However, children aged 13-17years were significantly more likely to know than those aged 8-12 (p=0.000). Children who were double orphans were more likely to know they were taking medicines for HIV than single orphans and those who had a biological parent (p=0.000).

Conclusions: Only half of the HIV infected children knew they were taking medicines for HIV. Age and orphan status were associated with children's understanding of medicines for HIV.