HIV AND INFANT FEEDING DATA ANALYSIS

Geneva, 12-14 November 2003

WORKSHOP REPORT

For further information please contact:

Department of Child and Adolescent Health and Development (CAH) World Health Organization

20 Avenue Appia 1211 Geneva 27 Switzerland

tel 🗆 🗆 + 41 22 791 32 81 fax + 41 22 791 48 53 website http://www.who.int/child-adolescent-health



Department of Child and Adolescent Health and Development World Health Organization

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Contents

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Introduction	1
Objectives	2
Issues in HIV and infant feeding studies, and recommendations arising	3
Measurement and classification of infant feeding practices Feeding data to be collected	3 3
Methods for measuring feeding practices - including tools to be used, frequency of visits and recall period Quality of interaction between data collectors and mothers Defining and classifying feeding practices The need for individual record meta-analyses	4 5 5 5
New Considerations for HIV and infant feeding in light of expanded access to long-term HIV treatment	6
Measurement and classification of outcomes	6
Issues in statistical analysis	6
Next steps	9
References	10
Annex 1. List of participants and agenda	11
Annex 2. Studies represented at the meeting	16
 Annex 3. Brief discription of studies Mashi (Milk) Study: Prevention of Milk-Borne Mother-To-Child Transmission of HIV-1c (Botswana) CTLs Study: CTLs and Prevention of Breast Milk HIV-1 Transmission (Kenya) SIMBA Study: Reducing Risk of HIV-1 Transmission from Mother to Infant Through 	17 17 18
 Breastfeeding Using Antiretroviral Prophylaxis in Infants (Rwanda and Uganda) Vertical Transmission Study (South Africa) Zimbabwe Vitamin A for Mothers and Babies Project (ZVITAMBO): Infant Feeding 	20 21
 Component (Zimbabwe) Impact of HAART on MTCT and Mother's Health: The Kesho Bora Project 	23
(Kenya, Tanzania, Rwanda, Burkina Faso)	25

Acronyms

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AIDS	Acquired immunodeficiency syndrome
ART	Antiretroviral treatment
CTL	Cytotoxic T-Lymphocytes
DNA	Deoxyribonucleic acid
HAART	Highly Active Antiretroviral Therapy
HIV	Human Immunodeficiency Virus
МТСТ	Mother-To-Child Transmission of HIV
PBMCs	Peripheral blood mononuclear cells
PCR	Polymerase chain reaction
UNICEF	United Nations Children's Fund
RNA	Ribonucleic acid
UN	United Nations
WHO	World Health Organization

Introduction

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Mother-to-child transmission (MTCT) of HIV is the most significant source of HIV infection in young children. The virus may be transmitted during pregnancy, labour or delivery, or through breastfeeding. About two thirds of infants born to HIV-infected mothers will not be infected, even in the absence of interventions. About 15-25% of infants of HIV-infected women will be infected during pregnancy or delivery, and an additional 5-20% may become infected during breastfeeding (1, 2). While breastfeeding carries the risk of HIV-transmission, not breastfeeding carries other significant health risks to infants and young children, such as an increased risk of diarrhoea and pneumonia morbidity and mortality (3).

The mode of breastfeeding is one of many factors that may affect the risk of HIV transmission. There is some evidence that exclusive breastfeeding may be less likely to transmit HIV than mixed feeding. Several studies are currently underway or are planned in diverse settings to determine the association between infant feeding patterns and HIV-transmission and HIV-free survival.

A workshop was organized from 12-14 November 2003 in Geneva gathering investigators from six of these studies and other scientists involved in research in the area of HIV and infant feeding to discuss key issues related to collection and analysis of infant feeding data in the context of HIV transmission. The agenda of the workshop is shown in Annex 1; the list of studies represented at the meeting is shown in Annex 2.

Objectives

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The workshop had the following specific objectives:

Primary

- To share the experience of analysing data on infant feeding and HIV transmission and HIV-free survival from groups that have already analysed data from their studies.
- To discuss analytical issues related to infant feeding patterns and HIV transmission and HIV-free survival.
- To come to an agreement on recommended approaches for analysis and presentation of data from studies on HIV and infant feeding.

Secondary

- To share tools/instruments used for data collection.
- To discuss experience with infant feeding data collection.

In order to achieve these objectives, an investigator from each participating study was asked to provide the following information.

- One page study summary including: study site, investigators, objectives, outcomes, design, tools used for infant feeding assessment, the current status of implementation, and any publications or reports.
- Brief description of the plan of analysis, and of issues and challenges faced in the analysis (or while developing the plan of analysis).
- A presentation including a brief description of the study design, measurement of infant feeding practices and outcomes, and issues in data analysis.

The information provided from each of these studies is summarised in Annex 3.

Issues in HIV and infant feeding studies, and recommendations arising

The studies discussed at the meeting were of three types:

- Cohort studies examining the association of infant feeding practices, chosen by the mother after counselling, with risk of HIV transmission and HIV-free survival;
- Randomized trials to compare the effect of exclusive breastfeeding on the risk of HIV transmission and HIV free survival with replacement feeding, with all participants receiving antiretroviral drugs for prevention of MTCT;
- Randomized trials to compare the effect of different antiretroviral drugs or regimens for prevention of MTCT, with mothers choosing one of the infant feeding options after counselling.

In light of the information given in the background and study-specific presentations, the group discussed issues relevant to current and future studies of this type, and made recommendations.

Measurement and classification of infant feeding practices

Feeding data to be collected

To a large extent, the specific feeding data that need to be collected depend on the objectives of the particular study and its context (e.g. programme-linked research or clinical trials). However, data that might be useful to collect in most HIV and infant feeding studies include:

- Breastfeeding initiation, current status and duration, reason for cessation.
- Consumption of non-milk liquids, non-human milks, solid foods, traditional and western medicines.
- Whenever a change in practice is reported during longitudinal follow up, the reason for the change in practice, and other measures for documenting possible reverse causality (i.e. morbidity in the period immediately prior to change of practice lead to the change in practice). The information that would be useful is clinical indicators in the period just before the change of feeding practice supplemented with reported information on reason for change of practice from mothers.
- Age at which certain liquids or foods were introduced in addition to breast milk (e.g. animal milk, solids).
- Process of breastfeeding cessation.
- Quality of diet beyond cessation of breastfeeding.

As research studies become more complex, with multiple postnatal interventions, data collection burdens will be high. The amount of data to collect and the degree of detail will continue to depend on the study objectives. For example, for examining whether exclusive breastfeeding is associated with a lower risk of HIV transmission than predominant or partial breastfeeding, detailed feeding data is needed. In studies comparing different antiretroviral drug regimens, where the objective may only be to generate adjusted transmission estimates that take into account breastfeeding patterns, less detailed feeding information using only general categories may be required. Intermediate amounts of detail in feeding information may be required to produce programme or policy recommendations.