Studying the Use of Antibiotics for Treating Severe Acute Malnutrition

FANTA Research Offers Major Findings

More than 20 million children around the world suffer from severe acute malnutrition, which contributes to 1 million preventable deaths every year. To provide scientific evidence on the most effective treatment for severe acute malnutrition, specifically on the use of antibiotics in outpatient treatment, the Food and Nutrition Technical Assistance III Project (FANTA) worked with Washington University in St. Louis to conduct research that resulted in important new findings. These findings provided evidence to help improve recovery from severe acute malnutrition and reduce mortality.

FANTA’s research was heralded as one of two studies offering the “first major scientific findings in a decade about the causes and treatment of severe malnutrition” by the New York Times in 2013.

The research study was a randomized controlled trial conducted in Malawi and the areas in which the study was carried out was representative of other rural areas in sub-Saharan Africa with a heavy burden of malnutrition and HIV infection. The trial enrolled 2,767 children with severe acute malnutrition with no medical complications. The children were treated as outpatients (at home), from December 2009 to January 2011, following the standard treatment for severe acute malnutrition, which consisted of nutrition counseling and provision of ready-to-use therapeutic food. The trial consisted of three groups; in addition to standard treatment, one group received a 1-week course of amoxicillin; a second group received a 1-week course of another antibiotic, cefdinir; and a third group received a placebo.

### Key Findings

#### Recovery rates

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Recovery Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Placebo</td>
<td>85.1%</td>
</tr>
<tr>
<td>Amoxicillin</td>
<td>88.7%</td>
</tr>
<tr>
<td>Cefdinir</td>
<td>90.9%</td>
</tr>
</tbody>
</table>

#### Mortality rates

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Mortality Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Placebo</td>
<td>7.4%</td>
</tr>
<tr>
<td>Amoxicillin</td>
<td>4.8%</td>
</tr>
<tr>
<td>Cefdinir</td>
<td>4.1%</td>
</tr>
</tbody>
</table>
Findings

The results of the study showed significantly reduced mortality rates and higher rates of recovery from severe acute malnutrition for the children in the two groups that received antibiotics. Although all children received counseling and ready-to-use therapeutic food, mortality rates were reduced by 36 percent for those who received amoxicillin and 44 percent for those who received cefdinir compared to the placebo group. Similarly, recovery rates were higher among antibiotic groups—89 percent for those who received amoxicillin and 91 percent for those who received cefdinir, compared to 85 percent for the placebo group. The study results suggested that antibiotics lowered the risk of complications (severe bacterial infection) during treatment and that the routine inclusion of antibiotics for outpatient treatment of severe acute malnutrition without medical complications is warranted and could potentially save thousands of lives.

Impact

The FANTA study was published in the *New England Journal of Medicine* and was heralded as offering one of the “first major scientific findings in a decade about the causes and treatment of severe malnutrition” by the *New York Times* in January 2013. The study not only provided evidence to guide programs that treat children with severe acute malnutrition, but application of the study findings can help advance the Millennium Development Goal to reduce child mortality. The results and impact of this study highlight the importance of continued investments in expanding the nutrition evidence base, which is crucial for improving nutrition programming and service delivery as well as meeting key targets for global development.

Learn more...

Log on to www.fantaproject.org to access:

- The research report: *Randomized, Double-Blind, Placebo-Controlled Trial Evaluating the Need for Routine Antibiotics as Part of the Outpatient Management of Severe Acute Malnutrition*
- The article in the *New England Journal of Medicine*: “Antibiotics as Part of the Management of Severe Acute Malnutrition”
- Information about FANTA’s research activities

Contact Information:

Food and Nutrition Technical Assistance III Project (FANTA)
FHI 360
1825 Connecticut Avenue, NW
Washington, DC 20009-5721
Tel: 202-884-8000
Fax: 202-884-8432
Email: fantamail@fhi360.org

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