Mwanza, Tanzania – a model site for a Social Business - Poster, 2008

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Mwanza, Tanzania – a model site for a Social Business

“...comes in with her eyes shining. She shows us the hard skin on her hands while she is telling proudly that she had never expected to work again. But now she is working in her garden; she can take care of her kids again.

Whether it is the care of the doctor, the placebo or the probiotics, I don’t care (yet). It’s a privilege to hear these type of stories every Saturday as we follow up our participants.”

Ruben Hummelen, Erasmus University PhD student working on a probiotics human study of women with HIV/AIDS in Tanzania. 6th March, 2008

Gregor Reid, Lawson Health Research Institute Canada and www.westernheadseast.ca

Our probiotic yogurt has been used extensively in a Tanzanian Community Kitchen
- 85% population use pit toilets and 71% share with others
- 95% population regarded accessing medical care as a big problem
- Community Kitchen built: Women formed company, received business training. Land purchased to develop larger, sustainable business

Probiotics to help manage HIV/AIDS
Methods: A prospective, randomized, cross-over controlled trial was performed. Twenty-five HIV-positive adult males and females were recruited and assigned in a randomized sequence to receive 3 different types of yogurt for four weeks each, with a two week washout period between treatment. These comprised:
A. Micronutrient supplemented yogurt with probiotic Lactobacillus rhamnosus CAN-1.
B. Micronutrient supplemented plain yogurt.
C. Lactobacillus rhamnosus CAN-1 probiotic yogurt.

Results: There were 24 participants, 6 females and 18 males mean age 49, who completed the study, as one dropped out after one month. Two participants’ results were not used in the analysis because of non-compliance. Liver enzymes AST and ALT and serum creatinine and urine Indicators of kidney function were not adversely affected by the consumption of any yogurt type, and all levels remained within the normal reference ranges for adults (AST 14-71 U/L; ALT 10-60 U/L; serum creatinine = 95-130 micromol/L ura = 2.5-7.0mmol/L).

The highest crude CD4 cell increase (37 cells/µL) was found with product B, followed by product A (25 cells/µL). There was no change in the mean CD4 count for product C. The yogurt increased perceived energy levels (defined as >20% increase from baseline) in 10/22 (45%) subjects taking product B, 8/22 (36%) taking product A, and 9/22 (50%) taking product C.

Randomized, placebo controlled trial of 24 HIV/AIDS patients

<table>
<thead>
<tr>
<th>Group</th>
<th>Diarrhea at day 0</th>
<th>Diarrhea at day 15</th>
<th>Diarrhea at day 30</th>
<th>Diarrhea at 3 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probiotics</td>
<td>12</td>
<td>10</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Placebo (yogurt)</td>
<td>12</td>
<td>10</td>
<td>8</td>
<td>10</td>
</tr>
</tbody>
</table>

CD 4 counts

- Menzana Study design
  - 49 women between 18 and 45 years of age were included in the study.
  - They have confirmed HIV infection with a CD4 count <200
  - Presence of clinical signs and symptoms associated with hospitalization, and confirmed diagnosis of DV
  - The women were treated for 6 weeks with microlactate for 15 days and randomly assigned probiotic capsules or placebo to consume for 6 months in a blinded randomization

- The probiotic group had a mean increase of 68 cells/µL and the control group a mean decrease of 20 cells/µL in their CD4 count. The difference was not significant between treatment groups

- In the population that had a baseline CD4 <400, there was a significant increase in CD4 (p<0.049)

60% 50% 40% 30% 20% 10% 0%