CLUBFOOT TREATMENT IN MALAWI:

AWARENESS, ACCESS & OUTCOMES

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Malawi Against Physical Disabilities (MAP)
MALAWI:
SUN, SAND, ROLLING HILLS
MALAWI’S PEOPLE

- 13 million people
- 85% live in rural areas
- Av. life expectancy: 41 yrs
- Median age of pop’n: 16 yrs
One of the world’s least developed countries

54% of its 13 million inhabitants live below the poverty line

Approx. 1 million Malawians live with a disability (incl. 150,000 children)
REHAB IN MALAWI

- Malawi Against Physical Disabilities (MAP)
  - Orthopedic Clinical Officers (OCOs), Physiotherapists, Nurses, Workshop Staff (make assistive devices)

- Supported mainly by donations, some government assistance

- Specialty Clinics:
  - Clubfoot
  - Cerebral Palsy
  - Polio
  - Rural Outreach
BACKGROUND

- Clubfoot: major cause of disability in children in developing nations
- Neglected clubfoot: stigma; can limit education and social activity
- Non-operative treatment initiated in the 1\textsuperscript{st} year of life is ideal
- Ponseti Method:
  - suited to developing countries
  - Minimal surgical/technological expertise req’d
CLUBFOOT IN MALAWI

- 5000 children with untreated clubfeet & 500 more are born each year
- OCOs are trained in the Ponseti Method
- Need follow-up on awareness of & access to treatment
OBJECTIVES

To examine:

- Parental knowledge and perspectives of clubfoot & its treatment options
- Factors affecting awareness of clubfoot & its treatment
- Barriers to accessing treatment
METHODS

- **Participants**: mothers of children receiving clubfoot treatment
- **Location**: MAP clinics in Lilongwe and rural areas
- **Research Tool**: Questionnaire
## RESULTS: DEMOGRAPHICS

- **50 mothers interviewed (43 LL, 6 HC, 1 DH)**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Average age of mothers</td>
<td>24.9</td>
</tr>
<tr>
<td>Average # of children per mother</td>
<td>2.8</td>
</tr>
<tr>
<td>% of mothers who:</td>
<td></td>
</tr>
<tr>
<td>Only had some primary school education</td>
<td>70</td>
</tr>
<tr>
<td>Were homemakers</td>
<td>76</td>
</tr>
<tr>
<td>Were married</td>
<td>88</td>
</tr>
<tr>
<td>Identified themselves as being Christian</td>
<td>87.5</td>
</tr>
</tbody>
</table>
RESULTS: AWARENESS

60% of mothers had not heard of Clubfoot prior to diagnosis

87.8% responded “Yes” to:
“Can you describe your child’s condition?”
RESULTS: AWARENESS

98% responded “Yes” to: “Is your child’s foot condition correctable?”
RESULTS: ACCESS

Where is Treatment Available?

- Bottom Hospital (Lilongwe) - 73.5%
- MAP (Malawi Against Physical Disabilities) - 4.1%
- District Hospital - 22.4%
## RESULTS: ACCESS

Distance & Transportation

<table>
<thead>
<tr>
<th>Accessing the nearest health facility</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>Travel Time:</td>
<td></td>
</tr>
<tr>
<td>&lt; 1 hour</td>
<td>44</td>
</tr>
<tr>
<td>1 to 3 hours</td>
<td>44</td>
</tr>
<tr>
<td>&gt; 3 hours</td>
<td>12</td>
</tr>
<tr>
<td>Mode of Transport: walking</td>
<td></td>
</tr>
<tr>
<td>walking</td>
<td>70</td>
</tr>
<tr>
<td>public transit</td>
<td>28</td>
</tr>
<tr>
<td>private transit</td>
<td>2</td>
</tr>
</tbody>
</table>
RESULTS: ACCESS

Age of Child at Diagnosis

Percent of Children

<table>
<thead>
<tr>
<th>Age</th>
<th>Percent of Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>At Birth</td>
<td>78</td>
</tr>
<tr>
<td>Less than 7 days old</td>
<td>12</td>
</tr>
<tr>
<td>1 week old</td>
<td>8</td>
</tr>
<tr>
<td>3 weeks old</td>
<td>2</td>
</tr>
</tbody>
</table>
RESULTS: ACCESS

<table>
<thead>
<tr>
<th>Family Hx of Clubfoot</th>
<th>% diagnosed at birth</th>
<th>% receiving treatment within 1st month of life</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes (N=15)</td>
<td>86.7</td>
<td>86.6</td>
</tr>
<tr>
<td>No (N=35)</td>
<td>74.3</td>
<td>80</td>
</tr>
</tbody>
</table>
RESULTS: ACCESS

Age of Child at Treatment

Percent of Children

Less than 7 days old
1 week old
2 weeks
3 weeks
1 month
2 months
6 to 8 months
8 to 12 months
2 years
3 years

At birth
4
10
12
4
8
4
2
2
2
2
2
2
2
RESULTS: OUTCOMES

Impression of Treatment Outcome

Percent of Mothers

Mother's Opinion of Child's Clubfoot/Clubfeet

- Improved Significantly: 77.6%
- Improved a little: 20.4%
- Stayed the Same: 2%
- Worse: 2%
RESULTS:
MOTHERS’ RECOMMENDATIONS

➢ For Fellow Parents:
  - Seek treatment for the child at a hospital or MAP immediately (90%)
  - Use own child as an example to other mothers of positive treatment outcomes

➢ For MAP:
  - Conduct awareness campaigns, especially in rural areas about clubfoot & its treatment
  - Educate staff at antenatal clinics & TBAs
  - Increase number of treatment locations
DISCUSSION

- Increasing Awareness of clubfoot and it’s treatment
- Facilitating Access to treatment
- Supporting positive Outcomes
DISCUSSION: CREATING AWARENESS

- **Awareness Campaigns**
  - Billboards in rural areas
  - Posters and flyers at each health centre
    - maternity ward, outpt dept., antenatal & under 5s clinic
  - Visual representation on any promotional material
    - Minimal recognition of terms clubfoot / talipes
    - Limited literacy / formal education
DISCUSSION:
CREATING AWARENESS

- Human Resources
  - Mothers as Peer educators
  - Traditional Birth Assistants (TBAs)
  - Health care providers at antenatal clinics
  - Volunteers
  - Liaise with other rehab organizations (MACOHA)
DISCUSSION:
EARLY DIAGNOSIS & TREATMENT

- Bottom Hospital in Lilongwe - treatment can be initiated on 1\textsuperscript{st} day of life
- Health centres and district hospitals – all 7 children began treatment within 1\textsuperscript{st} month
- Fair level of awareness of clubfoot & its treatment amongst health care providers & TBAs
- Need more data especially in rural areas to get a true picture of time of diagnosis & treatment
DISCUSSION : ACCESS

Majority walk > 1 hr carrying child on back
DISCUSSION : ACCESS

Lilongwe MAP:
- Admits children living in villages to the in-patient ward to receive weekly casting treatment
- Mothers stay with children
- Stay until bracing initiated

Difficulty is initially identifying children in rural areas – ties back to increasing awareness
DISCUSSION: OUTCOMES

- Positive outcomes despite low pre-diagnosis awareness & hardships to accessing treatment

- Mothers become well-informed about treatment and expected outcomes
  - Patient education by OCO and PT
  - Informally by observing other children’s progress

- Positive outcomes = early diagnosis & treatment & facilitating access & informal peer motivation
STUDY LIMITATIONS

- Small sample size – 50 mothers
- Lilongwe MAP’s catchment area: Lilongwe and rural areas of Central Malawi
- Possible bias:
  - interviews at the clubfoot clinics
  - intrinsically motivated mothers
  - Those who attend may not have transportation / access issues
FUTURE DIRECTIONS

- Survey OCOs and PTs re: their current management of clubfoot
- Ongoing re-training / refresher courses
- # of castings & length of treatment prior to braces
- % of children who do not complete treatment and reasons why
- Long-term follow-up re: functional outcomes after braces
SUMMARY

- Low pre-diagnosis awareness of clubfoot, yet prompt diagnosis & treatment
- Mothers recognize benefits of early Dx and Rx & are satisfied with outcomes
- Key Recommendations:
  - Awareness campaigns, especially in rural areas
  - Peer education
  - Improved perinatal counseling (TBA, clinics)
  - Ongoing training of OCOs and PTs
  - minimizing barriers - distance & transportation
REFERENCES


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  Malawi Against Physical Disabilities (MAP)

- MAP drivers, workshop staff, nurses

- Mothers who were interviewed
Thanks for listening! Questions?

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Lake Malawi