“STUDY ON SATISFACTION LEVELS OF PATIENTS WITH MICRO CELLULAR RUBBER FOOTWEAR IN BIHAR & JHARKHAND, INDIA”

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Introduction

• People with leprosy, lymphatic filariasis (LF), diabetes mellitus and other circulatory diseases are 20 times more likely to have foot problems than the general public.

• Protective footwear must be worn by all patients with sensory loss in their soles throughout their life time.

• MCR cushioned insoles tend to distribute walking pressure more widely over the sole thereby minimising the risk of wounds on pressure points.
Protective Footwear
Continue...

- Podiatry appliances correct abnormal foot function
- Lepra India has been producing high-quality protective footwear for people with leprosy since past 20 years
- Each patient undergoes a Bio-Mechanical assessment following which footwear are made with 10 mm Micro Cellular Rubber (MCR) with podiatry appliances as required
Methodology

• A simple questionnaire was developed in local language and pilot tested with 10 people before the final version was used.

• The questionnaire included questions on feet, footwear quality, color, design, availability, pressure points, durability, etc.

• 400 footwear users (168 female and 232 male) with Grade II foot-related disabilities were interviewed.

• Every week, the findings were sent to the principal investigator for data entry. 10% of the data was cross-checked for accuracy.
LEPRA scale to measure the satisfaction level of a Clint regarding MCR footwear

Name:                      Age:                        sex:                      Occ:
Disability status:        Duration of Footwear:   Ulcer Status:
District:                 Village:                      PHC:

Q.1 How long you are wearing the MCR chappals?
   Less than 6 month | More than 6 months | More than year | More than 2 year

Q.2 Are you feeling Pain during daily activities with footwear?
   A Yes
   B No

Q.3 Are you feeling instability with footwear during your routine work?
   A Yes
   B No

Q.4 Has you developed callus (hard Skin) in your foot due to footwear?
   A Yes
   B No

Q.5 Has you developed any Abnormality/damage of skin texture due to footwear?
   A Yes
   B No

Q.6 How is it cosmetic appearance for you?

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Very Good</th>
<th>Good</th>
<th>Satisfactory</th>
<th>Ugly /bad</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finishing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q.7 How frequently you are wearing the footwear?

<table>
<thead>
<tr>
<th>Most of time</th>
<th>Every day for some time</th>
<th>A few days every week</th>
<th>Rarely or never</th>
<th>Not specified</th>
</tr>
</thead>
<tbody>
<tr>
<td>every day</td>
<td>every day for some time</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q.8 What do you think about maintenance (polishing, cleaning, and repairing) of footwear?
   A Easy and less costly
   B costly and difficult to manage
   C Not specified

Q.9 Any suggestion would you like to give for improvement of footwear.

……………………………………………………………………………………………………………………………………………………
……………………………………………………………………………………………………………………………………………
……………………………………………………………………………………………………………………………………

Date.............. interviewer name
Results

Duration of Footwear

<table>
<thead>
<tr>
<th>Period</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 6 Months</td>
<td>42</td>
</tr>
<tr>
<td>&gt; 6 months</td>
<td>61</td>
</tr>
<tr>
<td>&gt; 1 year</td>
<td>176</td>
</tr>
<tr>
<td>&gt; 2 year</td>
<td>121</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
</tr>
</tbody>
</table>

Use of Footwear

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most of the Time</td>
<td>299</td>
</tr>
<tr>
<td>Everyday for some time</td>
<td>92</td>
</tr>
<tr>
<td>A few days every week</td>
<td>6</td>
</tr>
<tr>
<td>Rarely or Never</td>
<td>0</td>
</tr>
<tr>
<td>Not Specified</td>
<td>3</td>
</tr>
</tbody>
</table>
## Results

### Instability in use of footwear

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impossibility</td>
<td>39</td>
<td>361</td>
<td>400</td>
</tr>
</tbody>
</table>

### Pain

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impossibility</td>
<td>9</td>
<td>391</td>
<td>400</td>
</tr>
</tbody>
</table>
Results

Hard Skin

- Yes: 19
- No: 381
- Total: 400

Skin break

- Yes: 21
- No: 379
- Total: 400
Footwear Exhibition (Mela)
Results

Satisfaction

- **Very good**
  - Design: 129
  - Finishing: 33
  - Quality: 127
  - Colour: 101

- **Good**
  - Design: 183
  - Finishing: 187
  - Quality: 180
  - Colour: 171

- **Satisfactory**
  - Design: 75
  - Finishing: 59
  - Quality: 75
  - Colour: 117

- **Ugly/Bad**
  - Design: 10
  - Finishing: 17
  - Quality: 15
  - Colour: 9

- **Others**
  - Design: 3
  - Finishing: 4
  - Quality: 3
  - Colour: 2
Results

- 69 people asked for covered shoes
- 26 people suggested T-model *Chappals* (flip-flops without counter heal or back straps)
- 29 people suggested using soles made of tyre rubber and tube upper as they last well during Monsoon season (paddy harvesting) and are easy-to-clean with water
Conclusion

• This study reveals high levels of satisfaction with MCR footwear.

• The study also highlighted the need to modify footwear as per client requirements and satisfaction levels.

• If we do not meet client requirements, they will stop using protective footwear which will potentially lead to multiple disabilities.
Thank you