World Health Organization

WHO Functioning and Disability Disaggregation Tool (FDD11)

FDD11 aims to measure 1) distribution of disability in the population; and 2) prevalence of mild, moderate and severe levels of disability. The tool is designed to be used as a tool for disaggregation of other indicators by disability.

Rationale

Today, over one billion people or about 16% of the global population live with significant disability, and this number is increasing (1). While people with disability are a very diverse group, they commonly have less access to health services, education and work opportunities, and are more likely to live in poverty than those without disability.

Disaggregated data is fundamental to understand how the inequities that people with disability face globally can be addressed. More specifically, disaggregated data can reveal causes of the exclusion from different areas of life, highlight where inequalities exist and bring out further specifics that are essential for effective programme planning and inclusive policies (2). Recognizing its importance, the 2030 Sustainable Development Agenda affirms that data should be disaggregated by disability in addition to age, gender, income, ethnicity, race, geographic location and other characteristics in order to achieve the concept of “leaving no one behind” (3).

Currently, there is a global need for coherent, comparable and reliable data on disability and for an instrument that can be used by countries not just for data collection but also to allow for data disaggregation by disability (2). To address this, WHO has developed a new disability disaggregation tool (FDD11) derived from the WHO Model Disability Survey (MDS), which has already been implemented in more than 15 countries and has shown excellent psychometric properties (4). The instrument captures disability by assessing difficulties experienced when undertaking various activities due to a health problem.

Experience and evidence

The questions in this tool were derived from the MDS as a standalone instrument for collection and disaggregation purposes. More specifically, the 11 questions constituted a separate module on intrinsic capacity that was part of the brief version of the MDS.

WHO developed a full version of the MDS in 2014 to answer the global call for collection of comparable and comprehensive disability data. The MDS represented an evolution in the concept of disability measurement assessing three aspects to fully describe the experience of disability – 1) capacity, defined as the synthesis of all intrinsic physical and mental capacities of a person, determined by their health
condition or impairments; 2) functioning, defined as the outcome of the interaction between the individual’s capacity and features of the environment; and 3) environmental factors that affect the individual’s lived experience of disability (5).

Countries requested a brief version of the MDS to be used as a module that could be integrated into existing surveys to allow for monitoring disability prevalence or collecting information on environmental barriers for evidence-informed policymaking (4). The brief MDS was developed through an expert consensus process and analytical work (6). The capacity module in particular included 11 questions, which constitute the FDD11 disaggregation tool. FDD11 was created as a separate instrument for two main reasons – 1) to allow for a quick integration in existing surveys when countries need to use a very short instrument, and 2) to capture a comprehensive functioning information when disaggregating by disability. The tool measures difficulties in the following functioning domains - seeing; hearing; walking or climbing steps; remembering or concentrating; washing all over or dressing; sleeping; doing household tasks; joining community activities, such as festivities, religious or other activities; feeling sad, low, worried or anxious; getting along with close people including family and friends; and bodily aches and pain.

**Questionnaire (11 questions)**

**Interviewer:** The next questions ask about difficulties you may have doing certain activities because of a HEALTH PROBLEM. Please think about the last 30 days taking both good and bad days into account. I want you to answer the following questions on a scale from 1 to 5 where 1 means no difficulty and 5 means you cannot do the activity. Please answer these questions WITHOUT taking into account any help.

<table>
<thead>
<tr>
<th></th>
<th>Question</th>
<th>1 None</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5 Extreme</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>How much difficulty do you have seeing things at a distance?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>How much difficulty do you have hearing?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>How much difficulty do you have walking or climbing steps?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>How much difficulty do you have remembering or concentrating?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>How much difficulty do you have washing all over or dressing?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>How much difficulty do you have sleeping because of your health?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
## Indicator calculation

Disability is understood as a continuum (or scale) ranging from no disability to very high levels of disability. Through this tool, the goal is to obtain a continuum, or metrical scale, of disability ranging from zero (no disability) to 100 (severe disability), in line with the WHO International Classification of Functioning, Disability and Health.

When data is analysed, the 11 questions in the module are used to construct a metrical scale of disability, where an individual disability score is estimated for every respondent using. Having created the metrical scale and estimated the score for each respondent, distributions of disability scores are obtained for the country or region population. These distributions can be obtained for the complete sample and when data is disaggregated, for specific groups, for instance men and women, for persons belonging to different age groups or for employed and unemployed persons.

To construct this metrical scale, a Rasch analysis should be used, because it provides a robust methodology to:
- Confirm that all questions used are measuring a single concept, i.e. disability,
- Create valid interval scales with true metrical properties,
- Create individual scores, considering that questions have different “weights”, in terms of level of disability that they capture,
- Test the structural validity of the generated scales, and

<table>
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<tr>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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</thead>
<tbody>
<tr>
<td>How much difficulty do you have doing household tasks because of your health?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Because of your health, how much difficulty do you have with joining community activities, such as festivities, religious or other activities?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>How much difficulty do you have with feeling sad, low, worried or anxious because of your health?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Because of your health, how much difficulty do you have getting along with people who are close to you, including your family and friends?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>How much bodily aches or pain do you have?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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- Provide an estimate of reliability.

More details on how to apply a Rasch analysis will be included in the manual for implementation of the FDD11 tool.

References

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