

# Patients Satisfaction and Associated Factors Towards Physiotherapy Services in North West Ethiopia

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**Background:** Patient satisfaction is a critical patient-focused indicator of the general quality of patient care and health care. There was only one previous study conducted to assess patient satisfaction with physiotherapy services in Ethiopia.

**Objective:** This study aimed to assess patients' satisfaction and associated factors towards physiotherapy services in North West Ethiopia.

**Methods:** An institution-based cross-sectional study was conducted. Using consecutive sampling method, 393 samples were collected. The collected data were cleaned, coded, entered into Epi-Data version 4.2 and exported to SPSS version 25 for analysis. The binary logistic regression model was fitted and p-value less than 0.25 was used to select significant variables for multivariate analysis. Results were presented in frequency distribution tables and graphs.

**Results:** Overall 201 (51.1%) of the respondents were satisfied. The odds of physiotherapy service satisfaction at age greater than 55 years old were OR 1.78 (95% CI: 1.02–3.09) times higher than the age less than or equal to 55 years old. The odds of physiotherapy service satisfaction of married respondents were OR 1.75 (95% CI: 1.05–2.90) times higher than for single patients and the odds of satisfaction of having a good feeling about physiotherapy service was OR 3.76 (95% CI: 1.46–9.70) times higher than their counterparts.

**Conclusion:** Almost half of the respondents were satisfied with the physiotherapy service. Age, marital status, history of having information about physiotherapy and feelings about the physiotherapy service were significant variables affecting patient's satisfaction in the physiotherapy service.

**Keywords:** patient satisfaction, physiotherapy, Northwest Ethiopia

## Background

Patient satisfaction is an essential marker of the quality of healthcare service. It is the degree to which a patient feels that their needs and point of view have been met on behalf of their everyday expenditure made to get quality health-care services.<sup>1,2</sup> Patients who are satisfied with the quality of health care are more likely to adhere to a treatment plan, seek medical consultation in the hospital, maintain a continuous relationship with the hospital, recommend the hospital to others in the community, make informed choices about the health-care providers, offer feedback and encourage a continuous quality improvement in the hospital.<sup>3–5</sup>

Physiotherapy is a health-care profession primarily focused on the management of impairments and disabilities and the promotion of functional ability, mobility,

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quality of life and movement potential through examination, evaluation, diagnosis and physical intervention.<sup>6,7</sup> Physiotherapy helps to reduce pain, improve joint mobility and strength, restore physical functioning and prevent injury, prevent or delay surgery, improve balance, coordination, strength, flexibility and function, and restore the aptitude to survive daily tasks. Physically, intellectually, or emotionally disabled individuals cover a significant portion of the world population.<sup>8</sup>

Greater than one billion people in the world live with some form of disability, from those nearly 200 million experience considerable difficulties in functioning. It will be a more significant concern because its prevalence is on the rise due to aging populations and the higher risk of disability in older people as well as an international increase in chronic health conditions.<sup>8</sup> Satisfaction with treatment effect is important to distinguish from satisfaction without treatment delivery, as those who are satisfied due to an improvement from their illness would be less likely to seek additional treatment, or tend to suggest the services of those organizations to other people.<sup>6</sup>

Globally, physical therapy has been a low priority for many governments, especially those with limited health investment, which has resulted in under-developed, poorly coordinated services.<sup>8</sup> In the last decade, there has been an increase in patient satisfaction studies seeking to assess the quality of care from the patient's own perspective.<sup>9–11</sup> These satisfaction studies were mainly done in western countries and among patients with musculoskeletal disorders. While health-care services in developed countries have utilized the health outcomes associated with patient satisfaction the use of patient satisfaction to inform care practices is evolving in developing nations.<sup>3</sup> Several studies conducted in southern Africa indicate a significant gap between the requirement for rehabilitation and its response with an increase in aging populations, the rising prevalence of non-communicable diseases and the increasing numbers of people living with the consequences of injury.<sup>12</sup> Many countries in Sub-Saharan Africa (SSA) contend with a shortage of rehabilitation workers, including physiotherapists. It is difficult to accurately quantify the unmet need for physiotherapists in the Sub-Saharan African region.<sup>13,14</sup>

The number of persons with disabilities in Ethiopia is likely to be underestimated due to inadequate definitions of what constitutes a disability and which disabilities should be included in the count.<sup>6</sup> Based on the World Report, there are an estimated 15 million children, adults

and elderly persons with disabilities in Ethiopia, representing 17.6% of the population where the physiotherapeutic measures are helping to solve the challenge.<sup>6</sup> The International Committee of the Red Cross in Ethiopia continues to cooperate closely with the ministry of social affairs and with its regional offices to promote long-term functioning of the physical rehabilitation sector.<sup>15</sup>

Studies on the experience of physiotherapy care and on patient satisfaction with their associated factors among patients in Ethiopia is scarce.<sup>14</sup> Many studies were mainly focused on assessing patient satisfaction at a hospital or facility level and not at a unit level. As far as our search indicates, only one previous study was done in Ethiopia about patient satisfaction towards physiotherapy services. But this study which was conducted before in Ethiopia, excluded individuals who cannot read and write the national language of Ethiopia from participating in the study.<sup>6</sup> This study will fill the gap of the previous study and will help the physiotherapists investigate the extent to which their services have been able to meet the needs of their clients/patients or not and will promote health education and research on health-related problems. Therefore this study is aimed to assess patients' satisfaction towards physiotherapy services and identify associated factors affecting patient satisfaction on physiotherapy service in North West, Ethiopia from April 26 to May 26, 2021.

## Objectives

### General Objective

To assess patients' satisfaction and associated factors towards physiotherapy services, North West Ethiopia.

### Specific Objectives

- To determine patients' satisfaction towards physiotherapy services, North West Ethiopia.
- To identify factors associated with patient satisfaction on physiotherapy services, North West Ethiopia.

## Methods and Materials

### Study Design

An institution-based cross-sectional study was conducted.

### Study Area and Period

The study was conducted in Debre Markos and Felege Hiwot Comprehensive Specialized Hospitals, North West Ethiopia. Debre Markos Comprehensive Specialized Hospital is found in East Gojjam Zone Debre Markos

town, 300 km away from Addis Ababa, North West Ethiopia and 265 km from Bihār Dar, the capital city of Amhara regional state. Felege Hiwot Comprehensive Specialized Hospital is found in Bahir Dar, the capital city of the Amhara region, 565 km North West of Addis Ababa, Ethiopia. Physiotherapy outpatients provides a service for about 200 patients per month with two physiotherapists in DMCSH and for about 900 patients in FHCSH. The study was conducted from April 26 to May 26, 2021.

## Population and Inclusion Criteria/ Exclusion Criteria

The source population of this study was all patients visiting the physiotherapy unit of Debre Markos and Felege Hiwot Comprehensive Specialized Hospital and the study population was all adult patients who had at least three physiotherapy care sessions in the center at Debre Markos and Felege Hiwot Comprehensive Specialized Hospital and were available during the data collection period. All adult patients who had at least three physiotherapy care sessions at DMCSH and FHCSH were included and patients who have difficulties in talking and unable to respond for an interview because of their illness (one patient were excluded because of talking difficulties) were excluded.

## Sample Size Determination and Procedure

Sample size was calculated by using a single population proportion formula with the following assumptions:  $n$  = required sample size,  $Z$  = critical value for normal distribution at 95% confidence level (1.96),  $d$  = 0.05 (5% margin of error),  $P$  = 54.4% (6) and an estimated non-response rate of 10%. The required sample size was:

$$\frac{\left(\frac{Z_{\alpha}}{2}\right)^2 P(1-P)}{d^2} = (1.96)^2 \times (0.54 \times 0.46) / (0.05)^2 = 382$$
 and adding 10% non-response rate gives final sample size of 420.

Using a proportional sampling method, 344 samples from Felege Hiwot and 76 from Debre Markos Comprehensive Specialized hospital were included.

## Study Variables

The dependent variables were patient satisfaction (satisfied/dissatisfied). The independent variables were age, sex, residence, marital status, educational status, occupation, history of hearing about physiotherapy service, presence

of supporting family, feeling towards physiotherapy, discontinuation of physiotherapy service, reason of follow up, and duration of follow up.

## Data Collection Tool

The MedRisk patient satisfaction (MRPS) tool contains a total of 27 items. It was validated and its reliability was checked using Cronbach's alpha having the value of 0.813. The items had patient-related factors, physiotherapist-related factors, and physiotherapy service-related factors and organizational factors.

Data extraction tool was adopted from different articles that scores from 1 to 5 (higher values indicate higher satisfaction) for each item.<sup>6,16</sup> Items are presented in the form of statements written in a positive or negative direction and respondents score using a 1–5 Likert scale ("strongly satisfied", "satisfied", "uncertain", "dissatisfied", "strongly dissatisfied"). The tool had 27 items with a lowest value of 1 and highest value of 5 for each. The median of the total scores of the tool estimated the overall satisfaction of the respondents to physiotherapy service. Value of median and below is considered as dissatisfied and above the median value as satisfied (which is 106).<sup>17</sup>

## Operational and Term Definitions

Patients are considered satisfied when total satisfaction score is greater than the median value (106)<sup>17</sup> and dissatisfied when total satisfaction score of MRPS tool is less than or equal to the median value (106).

## Data Collection Procedures

First, the questionnaire was prepared in English and translated to Amharic, then back to English to check for its consistency. Data were collected by the consecutive sampling method. The relevant data involving socio-demographic data, physiotherapy service-related data, organization and physiotherapist-related data were collected from patients attending the physiotherapy services in Debre Markos and Felege Hiwot Comprehensive Specialized Hospital.

## Data Quality Assurances

Training about data collection was given for data collectors for one day before data collection. Pre-test was done on 5% of the participants at Tibebe Gion Specialized Hospital. Cronbach's alpha was computed from data of the pre-test to determine the internal consistency of responses and revealed experts on the field had a score

of 0.813 and face validity. Close monitoring and evaluation was done by the principal investigator in every aspect of the review. The principal investigator did a random evaluation assessment of the collected data for its completeness on a daily basis.

## Data Processing and Analysis

Data were collected, cleaned, coded, entered into Epi-Data version 4.2 and exported to SPSS version 25 for analysis. The binary logistic regression model was fitted to identify factors associated with satisfaction. Bi-variate and multi-variate logistic regression were performed between dependent and independent variables and p-value less than 0.05 at 95% CI is used to declare association. Model fitness was checked using a Hosmer Lemeshow goodness of fitness test which estimated a p-value of 0.234. Median and inter-quartile range was assessed for continuous variables and frequency, and the percentage was calculated for categorical variables. Results were presented in frequency distribution tables and graphs.

## Result

### Socio-Demographic Characteristics of the Study Participants

A total of 393 participants were included in this study with a response rate of 93.6%. Two-thirds (66.9%) of the participants were male and the median age of the respondents was  $39 \pm 10.5$  years. From the participants 125 (31.8%) were from the rural area and 254 (64.6%) were married. In terms of the educational status of the participants, 74 (18.8%) never attended school and 131 (33.3%) were civil servants (Table 1).

### Patient-Related Results of the Respondents

The most common reason for follow up for physiotherapy service was musculoskeletal disorder 232 (59%). From those participants 269 (68.4%) did not hear about physiotherapy care before getting the service, 367 (93.4%) have good feeling about physiotherapy care and from those who were attended physiotherapy care only 69 (17.6%) had a history of service discontinuation (Table 2).

In this study, 251 (63.9%) of the respondents were very satisfied with the physiotherapists being respectful, 198 (50.4%) with the physiotherapist able to give enough time for treatment and about 271 (69%) with the physiotherapist being friendly and courteous (Table 3).

**Table 1** Socio-Demographic Characteristics Related Results

| Variables                                      | Category          | Frequency | Percent (%) |
|--|-------------------|-----------|-------------|
| Age (ref <sup>18,19</sup> )                    | ≤55 years         | 308       | 78.4        |
|  | >55 years         | 85        | 21.6        |
| Sex  | Male              | 263       | 66.9        |
|  | Female            | 130       | 33.1        |
| Marital status                                 | Single            | 116       | 29.5        |
|  | Married           | 277       | 70.5        |
| Residence                                      | Rural             | 125       | 31.8        |
|  | Urban             | 268       | 68.2        |
| Educational status                             | Never attended    | 74        | 18.8        |
|  | Primary school    | 85        | 21.6        |
|  | ≥Secondary school | 130       | 33.1        |
|  | ≥College          | 104       | 26.5        |
| Occupations                                    | Farmer            | 60        | 15.3        |
|  | Merchant          | 46        | 11.7        |
|  | Civil servant     | 131       | 33.3        |
|  | Housewife         | 75        | 19.1        |
|  | Military force    | 39        | 9.9         |
|  | Others            | 42        | 10.7        |
| Presence of supporting family for the patients | Yes               | 198       | 50.4        |
|  | No                | 195       | 49.6        |

### Physiotherapy Service-Related Patient's Satisfaction

In this study, about 289 (73.6%) of the respondents were very satisfied with the improvement of their complaints after having treatment, and about 326 (83%) of the respondents were satisfied or very satisfied overall with the physiotherapy care given at the center (Table 4).

### Organization-Related Patient Satisfactions

In this study, under half of the respondents, 144 (36.6%) were satisfied with the materials and equipment available in the center. About 326 (83%) respondents were satisfied with not waiting for long before being attended by the physiotherapists. The median score of satisfaction and inter-quartile range of the respondent was  $106 \pm 14$ , and as a whole, 201 (51.1%) of the respondent were satisfied with physiotherapy care given in the center (Table 5).

**Table 2** Patient-Related Results

| Variables   | Category                 | Frequency | Percent (%) |
|---|--------------------------|-----------|-------------|
| History of having information about physiotherapy service | Yes                      | 124       | 31.6        |
|   | No                       | 269       | 68.4        |
| Feeling about physiotherapy service                       | Very good                | 164       | 41.7        |
|   | Good                     | 203       | 51.7        |
|   | Uncertain                | 11        | 2.8         |
|   | Not good                 | 7         | 1.8         |
|   | Not very good            | 8         | 2.0         |
| History of physiotherapy discontinuation                  | Yes                      | 69        | 17.6        |
|   | No                       | 324       | 82.4        |
| Reason of follow up                                       | Musculoskeletal disorder | 232       | 59          |
|   | Neurologic disorder      | 161       | 41          |
|   |                          |           |             |
| Duration of follow up                                     | <6 month                 | 361       | 91.9        |
|   | >or= 6 month             | 32        | 8.1         |

## Factors Associated with Patients' Satisfaction with Physiotherapy Service

Age, marital status, history of having heard about physiotherapy and feeling about physiotherapy were associated significantly with the dependent variable. The odds of satisfaction with physiotherapy service in patients older than 55 years was OR 1.78 (95% CI: 1.02–3.09;  $p = 0.04$ ) times higher than in patients equal or younger than 55 years of age. The odds of satisfaction with physiotherapy service in patients who were married was OR 1.75 (95% CI: 1.05–2.90;  $p = 0.03$ ) times higher than in single patients, the odds of satisfaction with physiotherapy service in patients who have heard about physiotherapy before getting the service were OR 0.52 (95% CI: 0.31–0.87;  $p = 0.01$ ) times less than from those who did not hear about physiotherapy service and the odds of satisfaction with physiotherapy service in patients having a good feeling about physiotherapy service was OR 3.76 (95% CI: 1.46–9.70;  $p = 0.006$ ) times higher than those who had bad feeling (Table 6).

Accordingly, age, marital status, history of hearing about physiotherapy before getting service, and feeling about physiotherapy service are significantly associated factors affecting patient satisfaction.

**Table 3** Physiotherapists-Related Patient Satisfaction

| Variables   | Category          | Frequency | Percent (%) |
|---|-------------------|-----------|-------------|
| Physiotherapist made me feel the diagnosis correct                | Very satisfied    | 180       | 45.8        |
|   | Satisfied         | 138       | 35.1        |
|   | Uncertain         | 49        | 12.5        |
|   | Dissatisfied      | 21        | 5.3         |
|   | Very dissatisfied | 5         | 1.3         |
| Physiotherapist is accessible to receive feedback                 | Very satisfied    | 178       | 45.3        |
|   | Satisfied         | 135       | 34.4        |
|   | Uncertain         | 60        | 15.3        |
|   | Dissatisfied      | 20        | 5.1         |
| Physiotherapist treats me friendly and courteous                  | Very satisfied    | 271       | 69          |
|   | Satisfied         | 100       | 25.4        |
|   | Uncertain         | 12        | 3.1         |
|   | Dissatisfied      | 10        | 2.6         |
| Physiotherapist give enough time on treatment                     | Very satisfied    | 198       | 50.4        |
|   | Satisfied         | 130       | 33.1        |
|   | Uncertain         | 41        | 10.4        |
|   | Dissatisfied      | 24        | 6.1         |
| Physiotherapist acknowledge what I told                           | Very satisfied    | 165       | 42          |
|   | Satisfied         | 143       | 36.4        |
|   | Uncertain         | 74        | 18.8        |
|   | Dissatisfied      | 11        | 2.8         |
| I have no doubt about physiotherapist ability                     | Very satisfied    | 219       | 55.7        |
|   | Satisfied         | 128       | 32.6        |
|   | Uncertain         | 28        | 7.1         |
|   | Dissatisfied      | 18        | 4.6         |
| Physiotherapist who treat me give me respect                      | Very satisfied    | 251       | 63.9        |
|   | Satisfied         | 107       | 27.2        |
|   | Uncertain         | 30        | 7.6         |
|   | Dissatisfied      | 5         | 1.3         |
| Physiotherapist allow me to say my thought about my physiotherapy | Very satisfied    | 170       | 43.3        |
|   | Satisfied         | 155       | 39.4        |
|   | Uncertain         | 68        | 17.3        |
| Physiotherapist had genuine interest in treating me               | Very satisfied    | 207       | 52.7        |
|   | Satisfied         | 119       | 30.3        |
|   | Uncertain         | 57        | 14.5        |
|   | Dissatisfied      | 9         | 2.6         |

## Discussion

In this study, almost half of the respondents were satisfied with the physiotherapy service given at the centers. This result is lower than studies done in Pakistan,<sup>1</sup> Italy,<sup>4</sup> Ghana<sup>18</sup> and Nigeria.<sup>19</sup> This might be due to accessibility of equipment and materials not being adequate to fulfill the unmet needs of the clients. Another reason might be

**Table 4** Physiotherapy Service-Related Patient's Satisfaction

| Variables   | Category          | Frequency | Percent (%) |
|---|-------------------|-----------|-------------|
| I was satisfied due to my improvement after physiotherapy service | Very satisfied    | 141       | 35.9        |
|   | Satisfied         | 148       | 37.7        |
|   | Uncertain         | 70        | 17.8        |
|   | Dissatisfied      | 34        | 8.7         |
| I was satisfied for initial evaluations and treatment explained   | Very satisfied    | 139       | 35.4        |
|   | Satisfied         | 139       | 35.4        |
|   | Uncertain         | 76        | 19.3        |
|   | Dissatisfied      | 39        | 9.9         |
| I was satisfied by the appointment process                        | Very satisfied    | 210       | 53.4        |
|   | Satisfied         | 133       | 33.8        |
|   | Uncertain         | 27        | 6.9         |
|   | Dissatisfied      | 17        | 4.4         |
|   | Very dissatisfied | 6         | 1.5         |
| Overall, I was satisfied with the physiotherapy care I received   | Very satisfied    | 156       | 39.7        |
|   | Satisfied         | 170       | 43.3        |
|   | Uncertain         | 39        | 9.9         |
|   | Dissatisfied      | 28        | 7.1         |

that the study period was shorter than in Ghana and Nigeria which may mean that the respondents to a lesser extent have developed friendships with the physiotherapist and working staff of the center, which will again decrease the tendency of satisfaction. The other reason might be a difference in sample size, quality of service and socio-demographic characteristics of the respondents.

But the result is quite similar to a previous study done in Tigray, Mekelle, Ethiopia.<sup>6</sup> This might be due to the fact that the health policy of Ethiopia still did not give more attention to physiotherapy service. This is evidenced by poor progression of the type of management and use of updated and modernized medical instruments in many physiotherapy centers.<sup>20</sup> The other reason might be due to the study participants having almost similar socio-demographic characteristics.

In this study older age groups were more satisfied than young age groups. This result is supported by studies done in Sweden and in Asian countries.<sup>21,22</sup> The result is consistent with studies done in Nigeria<sup>23</sup> and Ghana.<sup>24</sup> This might be because older patients may have lesser expectations of the services due to co-morbidity and increased utilization of health-care services.

Another variable which was statistically significant was marital status by which married respondents were more satisfied than single. The result is consistent with the studies done in Nigeria<sup>3</sup> and Ghana.<sup>24</sup> It is also consistent with

**Table 5** Organization-Related Patient Satisfaction

| Variables   | Category          | Frequency | Percent (%) |
|---|-------------------|-----------|-------------|
| Satisfaction about waiting time before being attended by physiotherapists | Very satisfied    | 194       | 49.4        |
|   | Satisfied         | 132       | 33.6        |
|   | Uncertain         | 34        | 8.7         |
|   | Dissatisfied      | 25        | 6.4         |
|   | Very dissatisfied | 8         | 2.0         |
| Physiotherapist had complete materials and equipment needed to my care    | Very satisfied    | 46        | 11.7        |
|   | Satisfied         | 98        | 24.9        |
|   | Uncertain         | 111       | 28.2        |
|   | Dissatisfied      | 86        | 21.9        |
| Satisfaction about the phone facilities in the centre                     | Very satisfied    | 52        | 13.2        |
|   | Satisfied         | 16        | 4.1         |
|   | Uncertain         | 28        | 7.1         |
|   | Dissatisfied      | 159       | 40.5        |
|   | Very dissatisfied | 99        | 25.2        |
| Satisfaction about the cleanliness of the center                          | Very satisfied    | 91        | 23.2        |
|   | Satisfied         | 45        | 11.5        |
|   | Uncertain         | 193       | 49.1        |
|   | Dissatisfied      | 64        | 16.3        |
|   | Very dissatisfied | 64        | 16.3        |
| Satisfaction about parking facilities in the centre.                      | Very satisfied    | 27        | 6.9         |
|   | Satisfied         | 6         | 1.5         |
|   | Uncertain         | 38        | 9.7         |
|   | Dissatisfied      | 94        | 23.9        |
|   | Very dissatisfied | 179       | 45.5        |
| Satisfaction about the waiting area in the centre                         | Very satisfied    | 76        | 19.3        |
|   | Satisfied         | 5         | 1.3         |
|   | Uncertain         | 28        | 7.1         |
|   | Dissatisfied      | 45        | 11.5        |
|   | Very dissatisfied | 168       | 42.7        |
| Overall satisfaction of respondents on physiotherapy service              | Satisfied         | 147       | 37.4        |
|   | Dissatisfied      | 201       | 51.1        |
|   |                   | 192       | 48.9        |

studies done in Ethiopia.<sup>6</sup> This might be because married people in this study have more stressful factors than single, where the married person who feels more stress relieved by the physiotherapeutic treatment in terms of physical and psychological context might have better satisfaction. This also might be due to married person have better financial, social and family support than singles.

The satisfaction of respondents who had heard about physiotherapy before getting the service was less than those who had not heard about physiotherapy. This might be because those patients who were familiar with

**Table 6** Bivariate and Multivariate Analysis of Factors Associated with Patient's Satisfaction

| Variables                   | Category  | Satisfaction Status              |                                  | COR (95% CI)   | AOR (95% CI)   |
|-----------------------------|---|----------------------------------|----------------------------------|--|--|
|                             |   | Satisfied                        | Dissatisfied                     |  |  |
| Age (ref <sup>18</sup> )    | >55 years<br>≤55 years  | 54<br>147                        | 31<br>161                        | 1.91(1.16,3.13)<br>1   | 1.78(1.02,3.09))*<br>1   |
| Sex                         | Female<br>Male  | 76<br>125                        | 54<br>138                        | 1.55(1.02,2.38)<br>1   | 1.41(0.87,2.29)<br>1   |
| Marital status              | Married<br>Single   | 160<br>41                        | 117<br>75                        | 2.50(1.60,3.92)<br>1   | 1.75(1.05,2.90)*<br>1  |
| Residence                   | Rural<br>Urban  | 76<br>125                        | 49<br>143                        | 1.77(1.15,2.73)<br>1   | 1.17(0.684,2.00)<br>1  |
| Family support              | Yes<br>No   | 90<br>111                        | 108<br>84                        | 0.63(0.42,0.94)<br>1   | 0.64(0.41,1.01)<br>1   |
| Occupation                  | Civil servant<br>Farmer<br>Merchant<br>House wife<br>Military force<br>Others | 57<br>40<br>23<br>49<br>13<br>19 | 74<br>20<br>23<br>26<br>26<br>23 | 1<br>2.60(1.37,4.92)<br>1.30(0.66,2.55)<br>2.45(1.36,4.40)<br>0.65(0.31,1.37)<br>1.07(0.53,2.16) | 1<br>1.95(0.95,3.99)<br>1.00(0.49,2.04)<br>1.84(0.97,3.51)<br>0.48(0.21,1.07)<br>0.93(0.43,2.04) |
| Education Level             | Unable to write and read<br>Primary<br>≥secondary<br>≥college                 | 47<br>54<br>55<br>45             | 27<br>31<br>75<br>59             | 1<br>1.00(0.52,1.91)<br>0.42(0.23,0.75)<br>0.44(0.23,0.81)                                       | 1<br>1.20(0.60,2.39)<br>0.54(0.29,1.02)<br>0.74(0.37,1.51)                                       |
| Hearing about physiotherapy | Yes<br>No   | 52<br>149                        | 72<br>120                        | 0.58(0.38,0.89)<br>1   | 0.52(0.31,0.87)*<br>1  |
| Feeling about physiotherapy | Good<br>Bad   | 192<br>9                         | 175<br>17                        | 2.07(0.90,4.77)<br>1   | 3.76(1.46,9.70)*<br>1  |
| Duration of treatment       | < 6 month<br>>or =6 month   | 180<br>21                        | 181<br>11                        | 1<br>1.92(0.89–5.01)   | 1<br>2.08(0.89,4.85)   |
| History of discontinuation  | Yes<br>No   | 43<br>158                        | 26<br>166                        | 1.74(1.02,2.96)<br>1   | 1.76(0.97,3.20)<br>1   |

**Note:** \*Statistically significant at P-value <0.05.

physiotherapy before using the service and patients who are not well informed about the particular health service delivery might have higher clearly defined expectations and patients might not be satisfied when they felt that their care needs had been unmet. This is supported by studies done in the UK<sup>25</sup> and Ghana.<sup>24</sup>

Finally, the satisfaction of respondents who had a good feeling about the physiotherapy service was higher than those who had a bad feeling. This might be because feeling better may help the patient have better improvement and achievement and will have a positive effect on patient satisfaction. The other reason might be patients might have lower expectations about the service they will get. This is

supported by studies done in Canada, Switzerland and Norway.<sup>26–28</sup>

## Limitation of the Study

A self-reported questionnaire used during data collection would tend to increase the chances of respondents' over- or under-estimation of satisfaction. The study design does not to assess a cause-effect relationship.

## Strength of the Study

Adequate sample size was used which enables a confident inference about the study participants, validated and

internationally standardized tool for data collection was used and the study title itself was novel in Ethiopia.

## Conclusion

Almost half of the respondents were satisfied with the physiotherapy service in a studied center in Ethiopia. Age, marital status, history of hearing about physiotherapy service and feelings about physiotherapy are significant factors affecting patient satisfaction in the physiotherapy service. More than half of the patients were dissatisfied with waiting area, equipment and materials available, parking facilities and phone facilities in the center.

## Recommendation

As patient satisfaction is the fundamental concern in all health-care sectors and for all health-care professionals, patients' feedback can be used scientifically in order to improve quality of health-care service. Based on the results of this study, we strongly recommend that health-care professionals do better to improve on informing the patient for better understanding and positive feeling about the physiotherapy service, health-care managers need to increase accessibility of the service with full availability of materials and equipment, and professionals throughout the country and finally researchers should investigate other factors affecting patient satisfaction on physiotherapy care.

## Abbreviations

DMCSH, Debre Markos Comprehensive Specialized Hospital; FHCSH, Felege Hiwot Comprehensive Specialized Hospital; PT, physiotherapy; COR, crude odds ratio; AOR, adjusted odds ratio; CI, confidence interval; MRPS, MedRisk Instrument for Measuring Patient Satisfaction; PS, Patient Satisfaction.

## Data Sharing Statement

The datasets used for this study are available from the corresponding author.

## Ethical Consideration

Ethical clearance was obtained from research ethical committee of Debre Markos University, College of Health Science and from the physiotherapy unit of Debre Markos and Felege Hiwot Comprehensive Specialized Hospital. There were no ethical concerns when we were doing this research. Informed consent was taken from each respondent before data collection. Confidentiality of the information was kept throughout the study by excluding names and patient record numbers as

identification in the data collection form and by ensuring the data was used only for this study. This study was done in accordance with the Declaration of Helsinki.

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## Author Contributions

All authors contributed to data analysis, drafting or revising the article, have agreed on the journal to which the article was submitted, gave final approval of the version to be published, and agree to be accountable for all aspects of the work.

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