

# Patients' Perception of Patient-Centered Care and Associated Factors Among Patients Admitted in Private and Public Hospitals: A Comparative Cross-Sectional Study

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**Introduction:** The provision of patient-centered care is challenging around the globe, including in Ethiopia. There is a scarcity of information on this issue. Therefore, this study aimed to assess patients' perceptions of patient-centered care and associated factors among patients admitted to public and private hospitals in Bahir Dar city.

**Methods:** A facility-based comparative cross-sectional study was conducted from May 8–June 15, 2022. Using a multistage sampling approach, the study participants were selected. An interviewer was used to collect the data. Bi-variable and multivariable logistic regressions were used to analyze the data. Statistical significance was declared using a  $p$  value  $< 0.05$ .

**Results:** Overall, 53.7% of patients reported poor patient-centered care. And it was higher among public hospitals (66.3%) than private hospitals (40.3%). Length of stay (AOR = 4.2; 95% CI [1.1, 15.3] and AOR = 4.3; 95% CI [1.4, 13]), intimacy with providers (AOR = 2.4; 95% CI [1.2, 4.6] and AOR = 3.9; 95% CI [1.1–9.6]), privacy during care (AOR = 4.2; 95% CI [1.93, 8.9] and AOR=3.3;95% CI: [1.5–7]), easy access to service (AOR=2.76;95% CI [1.33, 5.74] and AOR=3.8;95% CI [1.15, 12.7]) were associated with patient-centered care in public and private hospitals respectively. Awareness of the disease (AOR = 2.3; 95% CI [1.12, 4.8]), information on plans of care (AOR = 4.6; 95% CI [1.9, 10]), and being involved in decisions (AOR = 2.7; 95% CI [1.28, 5.9]) were associated factors in private hospitals. The following factors were associated with the practice of patient-centered care only in public hospitals: residence (AOR = 2.9; 95% CI [1.4, 5.5]), medication information (AOR = 2.88; 95% CI [1.34, 6.2]), and external appearance of hospital (AOR = 2.27; 95% CI [1.04, 4.97]).

**Conclusion:** This study showed that the practice of patient-centered care in public hospitals was poor compared to that in private hospitals. Hence, hospitals should train their staff regarding a culture of patient-centered care in order to deliver high-quality and safer care.

**Keywords:** patient-centered care, public hospitals, private hospitals

## Introduction

Patient-centered care was introduced by the American Institute of Medicine (IOM) to improve the quality of health care services in the 21st century.<sup>1</sup> The American Institute of Medicine defines patient-centered care (PCC) as care that is organized around the patient and where providers partner with patients and families to identify and satisfy the patient's full range of needs and preferences.<sup>1</sup> Patient-centered care aims to put patients at the center of their healthcare and treat them as individuals and as a partner and to let them be responsible for developing more integrated services that have the potential to generate significant benefits, including improving access to care, better health knowledge, increased compliance with the agreed care plan and treatment, increased survival/healing process, increased satisfaction with care, decreased patient distress, reduced length of stay in hospitals, reduced overall costs, and increased physical

wellbeing.<sup>2-9</sup> And also, PCC is directly and indirectly associated with quality and patient safety because it suppresses the negative impact of the staffing shortage and duty length on the quality of care and patient safety and complements the positive impact of a healthy work environment on the outcomes of care.<sup>10-12</sup>

Lack of patient-centered health care also contributes to poor quality of health care by causing missed appointments and decreased treatment adherence.<sup>13</sup> Examining patients' perception of services given to patients is the main concern of the health organization.<sup>14</sup> This is an important way for patients, health professionals, and health care organizations to provide quality care by encouraging patients to take a more active role in maintaining and promoting their care.<sup>15</sup> The Picker Institute and Harvard University proposed eight dimensions to measure PCC; these are patients' preferences, information and education, access to care, physical comfort, emotional support,<sup>16,17</sup> involving family and friends, continuity and transition, and the coordination of care.<sup>18</sup>

Patient-centered care has been central to health professionals' developing a holistic care approach, including a biopsychosocial approach to the patients they are serving.<sup>19</sup> But around the globe, the health system is failing to meet the needs of patients, despite the rising sophistication of equipment and the mobilization of massive resources. In Africa, especially in the sub-Saharan region, there is poor implementation related to providers, organizational features of the health system, and the wide socio-economic environment in which health care providers work.<sup>20</sup>

A study conducted in low- and middle-income countries showed that 8.6 million deaths occurred each year related to poor-quality health care.<sup>21</sup> A cross-sectional study conducted in Saudi Arabia shows that around 73% of patients perceived patient-centered care as good.<sup>22</sup>

A survey from South Africa suggests that the percentage of patients who rated their experiences as poor patient-centered health care practice was 16.8% for public and 3.2% for private health institutions, respectively.<sup>23</sup> A study done in Addis Ababa showed that 51% perceived poor patient-centered health care practice among patients admitted to hospitals.<sup>24</sup> Even though patients differ in terms of social, biologic, or cultural characteristics as well as in their preferences and the need for a more patient-centered approach in clinical practice and evaluation, this is widely recommended.<sup>25</sup> Previous studies from different literature show that residency, intimacy with care providers, awareness of disease, information on medication, easy access to services, involvement in decision making, privacy during care, appearance of the hospitals, and information on plans of care were factors that affected patients' perception of patient-centered health care.<sup>22,24,26,27</sup> In Ethiopia's health system, it has been a priority area of health selectors' transformation plan (HSTP) and the focus of quality improvement (QI), but it is mostly being implemented from a provider-centered approach. It also had limited understanding of patients' perspectives, and less is known regarding the PCC of patients admitted to private and public hospitals.<sup>24</sup> Currently, there is no such published study on patient-centered care and associated factors in this area at governmental and private hospitals. Therefore, this study aimed to assess patients' perception of patient-centered care and associated factors among admitted patients in Bahir Dar city public and private hospitals. Thus, measuring patient-centered care from patients' perspectives is critical to identify and prioritize areas of health care where improvements are needed during delivery of care, identifying patients' desires, and gaining important feedback for health professionals to make meaningful improvements during care, as well as an important service indicator to measure the performance of a healthcare facility.<sup>28-30</sup> This can increase information about services given in the organization and ensure trust between health care providers and patients as well as health institutions.

## Methods and Materials

### Study Setting and Study Period

The study was conducted in Bahir Dar, the capital city of the Amhara regional state in northern Ethiopia; it is far (565km) from Addis Ababa, the capital city of Ethiopia. According to data obtained from the Amhara regional health bureau, there are 7 hospitals in Bahir Dar city. Among these, there are 3 public hospitals (Tibebe Ghion specialized hospitals, Felege Hiwot compressive specialized hospitals, and Addis Alem primary hospitals) with 581, 629, and 250 average monthly adult patient admissions respectively, and four private hospitals (Gamby, Afilas, Adinas, and Dream Care) are found in the city with monthly average adult patient admissions of 170, 95, 115, and 64 respectively. The study was conducted from May 8 to June 15, 2022.

## Study Design

A facility-based comparative cross-sectional study was conducted.

## Source Population

All adult patients who were admitted in Bahir Dar city governmental and private hospitals.

## Study Population

All adult patients admitted to Bahir Dar city selected governmental and private hospitals who were available during data collection.

## Inclusion and Exclusion Criteria

At the time of data collection, all adult patients who were admitted to surgical, medical, and gynecological wards and those who were waiting in hospitals for 24 hours or more were included in the study. In contrast, all severely ill patients who were unable to give information at the time of data collection and outpatient clients were excluded from interviews.

## Operational Definition and Terms

Patient-centered care is the involvement of patients in clinical care with health care providers and measured with the eight dimensions of patient-centered care. Respondents who scored above or equal to the mean of the scored data, were classified as receiving “good patient-centered health care practice”, and if they scored below the mean, they were classified as receiving “poor patient-centered health care practice”.<sup>24</sup>

Easy access to service: the presence of timely health service available in the institution without difficulty. Patients had “good” perception if they scored above or equal to the mean and “poor” perception, if they scored below the mean.<sup>18,24</sup>

Communication on plan of care: the perception of the patient regarding clear information on treatment plan during hospital stay. Patients had “good” perception, if they scored above or equal to the mean and “poor” perception, if they scored below the mean.<sup>18,24</sup>

Privacy during care: perception of the respondent whether there was privacy during care. Patients had “good” perception, if they scored above or equal to the mean and “poor” perception, if they scored below the mean.<sup>18,24</sup>

Intimacy with providers: respondents’ perception regarding whether they knew their health care providers or care givers. It was measured with “yes” or “no”.<sup>24</sup>

Decision involvement regarding treatment: perception of patients regarding their involvement with healthcare provider in the choice of treatments or procedure, it was measured with “yes” or “no”.<sup>18,24</sup>

Information on medication: patients’ perception regarding the medication, how/when he/she were informed by health care providers, it was measured with “yes” or “no”.<sup>24</sup>

## Sample Size Determination and Sampling Methods

### Sample Size Determination

Using independent variables, EPI INFO version 7.2.0.1 was used to calculate the sample size. Thus, variables were information sharing regarding medication, intimacy with providers, and easy access to service. Using the assumption of CI = 95%, power = 80%, the ratio of unexposed to exposed was 1:1, the percent outcome in the exposed group ( $P_1 = 72.1\%$ ), and the percent outcome in the unexposed group ( $P_2 = 27.8\%$ ).<sup>24</sup> Accordingly, the sample size calculated by using the independent variable patients’ intimacy with care providers was found to be the highest, and 10% of non-respondents were considered. The calculated sample size was 400. Considering the design effect of 1.5,  $n = 1.5 \times 400$ ,  $n = 600$ . Therefore, using a 1:1 ratio, the final estimated sample size was 600 (300 from public and 300 from private) participants.

## Sampling Methods

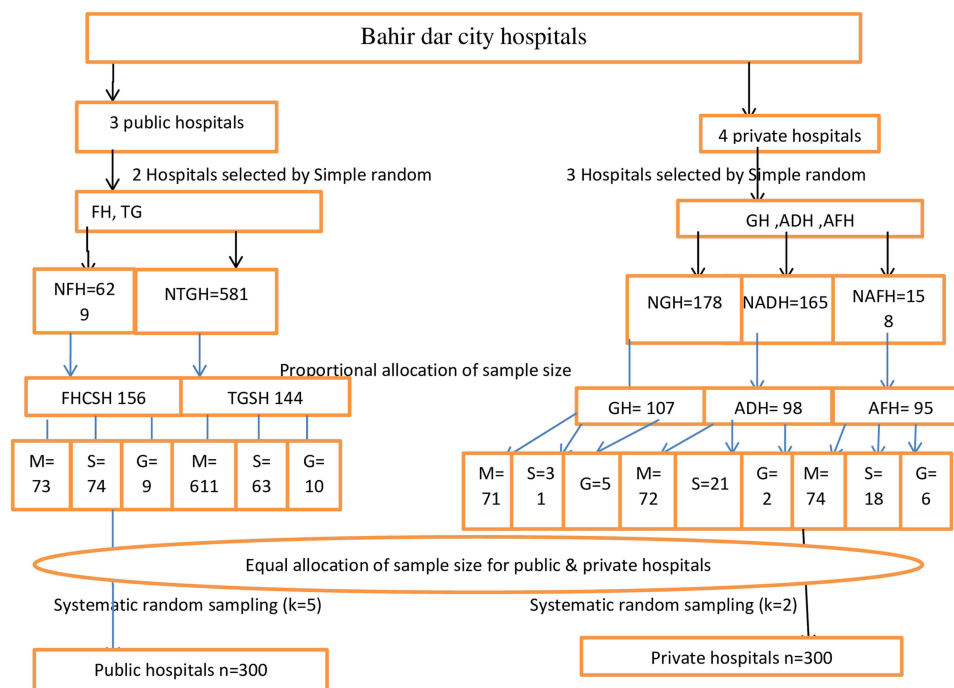
A multi-stage sampling technique was used. There are seven hospitals in Bahir Dar city; among those, two (TGSH and FHCSH) public hospitals and three (Gamby, Afilas, and Adinas) private hospitals were selected using a simple random

sampling technique using a lottery method. The sample size was allocated equally to both private and public hospitals. Then a sample size was allocated for each hospital proportionally based on inpatient flow from the previous month's average number of patients. From this, 156 for FHSC, 144 for TGSH, 107 for Gamby, 95 for Afilas, and 98 for Adinas hospital were proportionally allocated. Then proportional allocation was done for selected wards (surgical, medical, and gynecology) based on the previous month's average admitted numbers of patients. The first patient was randomly selected after calculating the interval for both public and private hospitals, and then every 4th patient for public hospitals and every 2nd patient for private hospitals were selected from each ward until a sample size was achieved for each hospital (Figure 1). Patients who were not present at the time of data collection were skipped, and the next number was included.

## Data Collection Tools and Procedure

An interviewer-administered structured questionnaire was used to collect data from participants during the study period. The data collection was done by three nurses (diploma) and one BSc nurse in a supervisory role. It has four parts, socio-demographics, eight dimensions of patient-centered health care, organizational and care provider-related factors.

The Institute of Picker and Harvard University developed eight dimensions for patient-centered care that are used to assess providers and health organizations on PCC. The dimension included respect for patients' needs and preferences; physical comfort; coordination and integration of care; transition and continuity of care; emotional support; accessibility of care; information and education for patients; and family and friends' involvement; and the tool had a five-point Likert scale with a total of 34 items.<sup>31</sup> The 34 items were computed and dichotomized as "good" and "poor". The questionnaire was adapted from studies done in Addis Ababa and was established in the Netherlands with the reliability of the tool checked by researchers and Cronbach's  $\alpha$  was 0.89.<sup>24,27,32</sup> It has a provider-related questionnaire, which has six items and answered with yes or no for each question. The organizational related variables had nine items answered on a five-point Likert scale, and each variable was computed and dichotomized. The data were reported as "good" and "poor" patient-centered care.



**Figure 1** Sampling procedure for patients' perception of patient-centered care among patients admitted in Bahir Dar city public and private hospitals, 2022.

## Data Quality Assurance and Control

The Structure questionnaire was translated into the local language (Amharic) and then back to English for consistency. To ensure the quality of data, three nurses (diploma) for data collection and one BSc nurse as supervisor were recruited and training was given for two days on how to collect data, objective, exclusion, and inclusion criteria. The questionnaires were also pretested on 5% (30) of patients from Addis Alem primary hospital before data collection to assess the questionnaire's reliability, consistency, and appropriateness, with subsequent correction and modification. Throughout the data collection period, the investigators and supervisor also did continuous follow-up and supervision. The collected data were reviewed and checked for completeness every day and before data entry.

## Data Analysis and Presentation

The data were checked for completeness and consistency, and then cleaned, coded, and entered into Epidata 4.6 and exported to SPSS version 25 for analysis. Multi-collinearity was checked using variance inflation factor (VIF) and the VIF of each variable was  $<5$ . The Hosmer and Lemeshow goodness-of-fit test was performed ( $P > 0.05$ ).

Descriptive statistical analysis such as frequency distribution and proportion was done for dependent and independent variables. To control the possible effect of confounders, all explanatory variables with a p-value of 0.25 from the binary logistic regression model were fitted into the multivariable logistic regression model, and finally the variables that had been independently associated with the dependent variable were identified on the basis of 95% CI and p-value less than 0.05.

## Result

### Socio-Demographic Characteristics of Respondents

A total of 600 admitted patients were included in this study, with a response rate of 100% for both public and private hospitals. The mean  $\pm$ SD age of the study participants in public and private hospitals was  $46.6 \pm 37.5$  and  $42.29 \pm 25.84$  years, respectively. Of the total study participants, 154 (51.3%) were male in public hospitals and 167 (55.7%) in private hospitals. Of the total respondents, 156 (52%) patients admitted to public hospitals and 141 (49.6%) patients admitted to private hospitals were from rural areas. From the admitted patients, 173 (57.7%) stayed in public hospitals for 6–10 days, and 243 (81%) stayed in private hospitals for 1–5 days (Table 1).

### Provider Related Factors

Of the study participants, 170 (56.7%) and 144 (48%) did not know their health care providers from public and private hospitals during care, respectively. In addition, more than half of the 196 (65.3%) patients were not involved in decision making during their care in public hospitals, and 121 (40.3%) patients were not involved in decision making in private hospitals. Number of study participants who did not respond to “awareness of their disease or diagnosis” was 234 (78%) in public hospitals and 136 (45.3%) in private hospitals (Table 2).

### Institutional Related Factors

Among study participants, 118 (39.5%) in public hospitals and 192 (64%) in private hospitals had a good perception of “easy access to services”. More than half, 156 (52%), of the study participants were from private hospitals, and 107 (35.7%) of public hospital users perceived the hospital to have provided “privacy during care”. Of the total, 181 (60.3%), of the private hospital study participants perceived that the hospital had a “good external appearance”. On the contrary, 104 (34.7%) participants from public hospitals perceived a “good external appearance” of hospitals (Table 3).

### Overall Prevalence of Patient-Centered Care

The overall mean patient-centered health care practice was 112 ( $SD \pm 30$ ) with a range of 43 up to 170. The current finding showed that perceived poor patient-centered health care practices in public and private hospitals were 66.3% (95% CI; 62–72%) and 40% (95% CI; 35–46%), respectively. The overall finding showed that more than half, 322 (53.7%), of patients experienced poor patient-centered health care practice in Bahir Dar city hospitals (Table 4).

**Table 1** Socio-Demographic Characteristics of the Respondents in Public and Private Hospitals

Variable	Categories	Types of Hospitals			
		Public n=300		Private n =300	
		Frequency	Percent	Frequency	Percent
Sex	Female	146	48.7	133	44.3
	Male	154	51.3	167	55.7
Age	18–34	90	30	87	29.0
	35–64	158	52.7	173	57.7
	65 and above	52	17.3	40	13.3
Residence	Urban	144	48	149	51.0
	Rural	156	52	141	49.6
Education	Cannot read and write	162	54	134	47.0
	Can read and write	28	9.3	27	9.0
	Primary school	31	10.3	47	15.7
	Secondary	40	13.3	79	26.3
Income	College and above	39	13	13	4.3
	<5000	173	57.7	172	57.3
	5000–10,000	100	33.3	115	38.3
	10,000 –15,000	15	5.0	5	1.7
	>15,000	12	4.0	8	2.7
Length of hospital stay in days	1–5	89	29.7	243	81
	6–10	173	57.7	27	9.0
	11–14	22	6.3	15	5.0
	15 and above	16	5.3	15	5.0

**Table 2** Perceived Health Providers' Related Factors That Might Affect Patient-Centered Care in Public and Private Hospitals of Bahir Dar City, 2022

Variables	Categories	Types of Hospitals			
		Public n=300		Private n=300	
		Frequency	Percent	Frequency	Percent
Intimacy with provider	No	170	56.7	144	48.0
	Yes	130	43.3	156	52.0
Awareness of disease/diagnosis	No	234	78.0	136	45.3
	Yes	66	22.0	164	54.7
Information on treatment options	No	145	48.3	135	45.0
	Yes	155	51.7	165	55.0
Involved in decisions	No	196	65.3	121	40.3
	Yes	104	34.7	179	59.7
Information on medication	No	172	57.3	170	56.7
	Yes	128	42.7	130	43.3
Providers' familiarity with your disease	No	111	37.0	89	29.3
	Yes	189	63.0	211	70.3

## Factors Related To Patient-Centered Care at Public Hospitals

In a bi-variable analysis, fifteen variables were associated with patient-centered health care practice in public hospitals. In multivariable analysis, seven of them were found to be significantly associated. When compared to patients with rural residence, the odds of an urban resident perceiving poor patient-centered health care practices were 2.9 times more likely (AOR = 2.9; 95% CI: (1.4, 5.5)). The odds of patients who stayed at hospitals for 6–10 and 11–14 days perceiving poor patient-centered health care practice were 3.3 and 4.2 times higher as compared to the odds of patients who stayed at

**Table 3** Perceived Institutional Related Factors That Might Affect the Patient-Centered Care at Public and Private Hospitals of Bahir Dar City, 2022

Variables	Categories	Types of Hospitals			
		Public n=300		Private n=300	
		Frequency	Percent	Frequency	Percent
Presence of reception	Good	160	53.3	196	65.3
	Poor	140	47.7	104	34.7
Easy access to service	Good	118	39.3	192	64.0
	Poor	182	60.7	108	36.0
Presence of disturbing sounds	Good	153	51.0	188	62.7
	Poor	147	49.0	112	37.3
Attractiveness of hospital	Good	104	34.7	181	60.3
	Poor	196	65.3	119	39.7
Privacy during care	Good	107	35.7	156	52.0
	Poor	193	64.3	144	48.0
Information on safety alert	Good	167	55.7	163	54.3
	Poor	133	44.3	137	45.7
Information on plan of care	Good	161	53.7	176	58.7
	Poor	139	46.3	124	41.3
Information on diet	Good	199	66.3	178	59.3
	Poor	101	33.7	122	40.7
Availability of medication	Good	140	46.7	191	63.7
	Poor	160	53.3	109	36.3

**Table 4** Eight Dimension Measuring of Patient-Centered Care at Public and Private Hospitals of Bahir Dar City, 2022

Dimension		Private	Frequency	Public	Frequency
Respect patients' needs and preferences	Good	189	63.0	99	33.0
	Poor	111	37.0	201	67.0
Information and education	Good	150	50.0	91	30.0
	Poor	150	50.0	209	70.0
Physical comfort	Good	153	51.0	96	32.0
	Poor	147	49.0	204	68.0
Access to care	Good	209	69.6	97	32.0
	Poor	91	29.4	203	68.0
Emotional support	Good	173	57.6	74	24.6
	Poor	127	42.4	226	75.4
Continuity and transition of care	Good	214	71.0	158	52.0
	Poor	96	29.0	142	48.0
Coordination of care	Good	144	48.0	94	31.0
	Poor	156	52.0	206	69.0
Family or friend involvement	Good	196	65.0	123	41.0
	Poor	104	35.0	177	59.0
Overall PCHCP	Good	278	46.7		
	Poor	322	53.7		

hospitals for less than five days (AOR=3.3; 95% CI (1.6,7) and (AOR=4.2 (1.1, 15.3) respectively. Patients who knew their health care provider were 2.4 times more likely to perceive poor patient-centered health care practice as compared to patients who did not know their health care provider (AOR = 2.4; 95% CI: (1.2, 4.6). Patients who did not receive information on medication making during care were 2.88 times more likely to perceive poor patient-centered health care



as compared to their counterparts (AOR = 2.88; 95% CI: (1.34, 6.2). Patients who did not agree on easy access to service were 2.76 times more likely to perceive poor patient-centered health care practice as compared to those who did agree (AOR = 2.76; 95% CI: (1.33, 5.74). Patients who perceived the external appearance of the hospitals as not good looking were 2.27 times more likely to perceive poor patient-centered health care practice as compared to patients who perceived the external appearance of the hospitals as good-looking (AOR = 2.27; 95% CI: 1.04, 4.97). Patients who perceived poor privacy during hospital care were 4.2 times more likely than patients who perceived good privacy during hospital care to perceive poor patient-centered health care practice (AOR = 4.2; 95% CI: 1.93, 8.99) (Table 5).

## Factors Related to Patient-Centered Care at Private Hospitals

Both bivariable and multivariable logistic regression analyses were implemented to determine factors that were associated with patient-centered care in private hospitals. Respondents who had stayed in the hospital for 6–10 days or more were 4.3 and 3.8 times more likely to perceive poor patient-centered care, respectively (AOR = 4.3; 95% CI: 1.4, 13) and (AOR = 3.8; 95% CI: 1.2, 11.6). When compared to their counterparts, patients who did not know their health care provider were 3.9 times (AOR = 3.9; 95% CI: 1.1–9.6) more likely to have poor patient-centered care. The odds of poor patient-centered were 2.3 times more likely among patients who did not receive information on disease than their counterparts (AOR = 2.3; 95% CI: 1.12, 4.8). And also, respondents who had not received information on the plan of care were 4.6 times more likely to perceive poor patient-centered care (AOR = 4.6; 95% CI: 1.9, 10). Patients who did not have any involvement in decisions during care were 2.7 times more likely to perceive poor patient-centered care than their counterparts (AOR = 2.7; 95% CI: 1.28, 5.9). On the other hand, as compared to patients who perceived good privacy, those who perceived the opposite were 3.3 times more likely to perceive the care as poor (AOR: 3.3; 95% CI: 1.5–7). Furthermore, patients who did not agree on easy access to service were 5.1 times more likely to perceive poor patient-centered care (AOR=5.1;95% CI:1.9, 13.2) (Table 5).

## Discussion

This study aimed to measure perceived patient-centered care in private and public hospitals in Bahir Dar, Ethiopia. In addition, the study tried to compare perceived patient-centered care and its associated factors among patients admitted to private and public hospitals. The current finding showed that rate of poor patient-centered care among patients admitted to governmental and private hospitals was 66.3% and 40% respectively. This finding was much higher than that of a study conducted in South Africa, which found 16.8% of public hospital patients and 3.2% of private hospital patients perceived poor patient-centered care.<sup>23</sup> This discrepancy might be due to different socioeconomic status, infrastructure, and measuring tools.<sup>33</sup> The current finding showed a higher magnitude of poor patient-centered care was in public hospitals as compared to private hospitals, which was similar to the study done in Addis Ababa.<sup>24</sup> This might be due to the ease of access to services, including the reception of patients, equipped with modern equipment and provision of quality care to attract more customers to private hospitals.<sup>34,35</sup>

The overall (both public and private hospitals) finding showed that more than half, 53.7%, of patients perceived poor patient-centered care. This finding was similar to the study conducted in Addis Ababa (51%).<sup>24</sup> However this finding was higher as compared to the study conducted in Saudi Arabia (27%)<sup>22</sup> and Norway (15%).<sup>9</sup> This inconsistency might be due to difference in sociodemographics and measuring tools, as the previous study used 17 scale questionnaires.<sup>36</sup> This finding showed that low level of patient-centered care indicates poor quality of care given to patients by health facility.

We found patients staying for longer in hospital were more likely to have a poor perception of patient-centered care as compared to patients staying in hospital for less than five days among patients admitted in both private and public hospitals. This was similar to the study done in South Wollo.<sup>27</sup> This might be due to the fact that patients who stay longer in hospital have higher demands, physical disturbance, sleep deprivation, and might have hospital-acquired infections as they spend more time in hospitals.

On the other hand, the odds of having a poor perception of patient-centered care were higher in patients with a poor perception of access to service as compared to those with a good perception of access to service in private and public hospitals. The study showed poor patient experience regarding easy access to service risks patients who might have returned for future health care needs.<sup>37</sup>



**Table 5** Bi-Variable and Multivariable Logistic Regression Analysis of Patient-Centered Care in Private and Public Hospitals

Patient-Centered Care in Public Hospitals						patient-centered Care in Private Hospitals			
Variable	Categories	Good PCHCP	Poor PCHCP	COR(95% CI)	AOR (95% CI)	Good PCHCP	Poor PCHCP	COR(95% CI)	AOR (95% CI)
Residence	Urban	65	71	3.5(2.1–5.8)	2.9(1.4–5.5)*	95	58	1.23(0.77–1.95)	
	Rural	34	130	1	1	84	63	1	
Length of hospital stay in days	1–5	42	47	1	1	135	62	1	1
	6–10	41	132	2.88(1.67–4.96)	3.3(1.6–7)**	15	20	2.9(1.4–6)	4.3(1.4–13)**
	11–14	9	13	1.29(0.5–3.3)	4.2(1.1–15.3)*	17	18	2.3(1.1–4.8)	3.1(0.9–10)
	15 and above	7	9	1.15(0.39–3.36)	0.78(0.2–3.2)	12	21	3.8(1.76–8.2)	3.8(1.2–11.6)*
Intimacy with care provider	No	42	128	2.38(1.46–3.89)	2.4(1.2–4.6)*	58	86	5.1(3.1–8.5)	3.9(1.1–9.6)**
	Yes	57	73	1	1	121	35	1	1
Awareness of disease	No	74	160	1.18(0.74–2.3)		70	66	1.87(1.2–2.98)	2.3(1.12–4.8)*
	Yes	41	25	1		109	55	1	1
Involved in decisions	No	51	145	2.4(0.25–0.68)	2(0.98–4.23)	57	64	2.4(1.49–3.87)	2.7(1.28–5.9)**
	Yes	48	56	1	1	122	55	1	1
Information on medication	No	47	125	1.8(1.1–2.9)	2.88(1.34–6.2)**	113	57	0.52(0.33–0.83)	0.5(0.23–1.1)
	Yes	52	76	1	1	66	64	1	1
Presence of reception	Good	32	108	1	1	127	47	1	1
	Poor	67	93	0.41(0.25–0.68)	0.70(0.34–1.4)	52	74	3.8(2.4–6.3)	1.8(0.78–6.3)
Easy access to service	Good	58	61	1	1	140	45	1	1
	Poor	138	143	3.96(2.4–6.6)	2.8(1.3–5.7)**	39	76	6(3.6–10)	5.1(1.9–13.2)**
Presence of disturbing sounds	Good	66	87	1	1	130	58	1	1
	Poor	33	114	2.26(1.59–4.33)	1.87(0.89–3.94)	49	63	2.88(1.77–4.68)	0.64(0.19–2.2)
Attractiveness of hospital	Good	55	49	1	1	128	53	1	1
	Poor	44	152	3.89(2.33–6.46)	2.27(1.04–4.97)*	51	68	3.2(1.99–5.2)	0.58(0.16–2.06)
Privacy during care	Good	58	49	1	1	115	50	1	1
	Poor	41	152	4.39(2.63–7.3)	4.2(1.93–8.98)**	64	71	2.6(1.6–4)	3.3(1.5–7)**
Information on plan of care	Good	58	103	1	1	132	44	1	1
	Poor	41	98	1.35(0.83–2.2)	0.5(0.25–1.099)	47	77	4.9(2.99–8.1)	4.6(1.9–10)**

**Notes:** \*Indicates statistical significance ( $p < 0.05$ ) \*\*Indicates statistically highly significant ( $p < 0.01$ ). "1"=reference category.

**Abbreviations:** AOR, adjusted odds ratio; COR, crude odds ratio; CI, confidence interval.

Privacy during care was significantly associated with a poor perception of patient-centered care. Study participants who had poor perceptions of privacy during care were more likely to perceive poor patient-centered care among public and private hospitals. The findings of this study were similar to those in Addis Ababa.<sup>24</sup> This might be due to over-disclosures of private patient information unpleasantly affecting patients' trust which can lead to ending their relationship with healthcare providers.<sup>38</sup>

Patient involvement in decisions during treatment was significantly associated with patient-centered care only in private hospitals. This finding showed that study participants who were not involved in decisions during treatment were more likely to have poor perception of patient-centered care as compared to those who were involved in decisions. This finding is similar to the study done in Switzerland.<sup>39</sup> A study showed that involvement of patients in decisions during care increases knowledge about the condition, of the harm and benefit, increases responsibility sharing, increases the quality of care, and better patient outcome.<sup>35,40</sup>

Information on plans of care was significantly associated with perceiving poor patient-centered care only in private hospitals. This was similar to studies done in Tanzania<sup>41</sup> and Addis Ababa.<sup>24</sup> The association might be due to patients' limited understanding of their plan of care which may adversely affect their ability to provide informed consent for hospital treatment and success in treating their disease.<sup>42</sup>

Patients who did not know their care provider were more likely to perceive poor patient-centered care as compared to patients who had good intimacy with care provider in public and private hospitals. This was similar to a study done in Ethiopia, Addis Ababa.<sup>24</sup> Patients who have good intimacy with care providers may have improved relationships and be encouraged to disclose their issues without frustration.<sup>43</sup>

Also, being an urban resident, attractiveness of hospitals and information on medication were significantly associated with poor patient-centered care only in public hospitals. The odds of perceived poor patient-centered care among urban residents were higher as compared to rural residents. This was similar to the study done in South Wollo.<sup>27</sup> This might be due to patients from rural areas being satisfied with simple bits of help, and it might be related to the awareness and access to health information and educational status of urban residents.

From this study, information on medication was significantly associated with perceived patient-centered care. Study participants who did not receive information on medication were more likely to perceive poor patient-centered care as compared to those who did get information on medication. This was similar to the study done in Addis Ababa.<sup>24</sup> The association of perceived patient-centered health care and information on medication might be due to the fact that patients who receive clear advice on medication are more likely to adhere to their treatment and decrease intentional non-adherence to treatment.<sup>44</sup>

Attractiveness of hospitals was significantly associated with perceived patient-centered care. Study participants who perceived the attractiveness of the hospitals as "not good" were more likely to perceive poor patient-centered care as compared to patients who perceived the hospitals as good looking among patients admitted to public hospitals. This might be due to the external appearance of hospitals, which may affect the health and comfort of patients, staff, and visitors and can exacerbate patient suffering.<sup>45</sup>

Another factor that was significantly associated with perceived patient-centered care among patients admitted only to private hospitals was awareness of their disease. This finding also showed that patients who were not aware of their disease were more likely to perceive the healthcare encountered as poor. The study is in agreement with a study done in Addis Ababa.<sup>46</sup> A finding showed patients who do not fully understand their disease are more likely to have decreased self-care and noncompliance with treatment. This result indicates the need for health professional accountability and responsibility to provide optimal information.<sup>47</sup>

## Limitation and Strength of the Study

A strength of the study is that primary data were used and it was a multi-center cross-sectional study.

Social desirability bias might be a limitation due to patients' self-rating patient-centered care, and because participants rated their previous interaction with healthcare providers which could lead to some bias due to fear of getting service the next time. To reduce this bias, interviewers were selected out of selected representative hospitals and participants were interviewed in a private room.

## Conclusion

This study showed that more than half of the patients perceived poor patient-centered care. Moreover, the magnitude of poor patient-centered care was higher among public hospitals as compared to private hospitals. Length of stay, intimacy with care provider, privacy during care, easy access to service were commonly associated with patient-centered care in both private and public hospitals. Awareness of disease, involvement in decisions, and information on planes of care were significantly associated with perceived poor patient-centered care among patients admitted in private hospitals, whereas residence, information on medication and external appearance were associated with poor patient-centered care in public hospitals.

This study provides input for policymakers and helps the health care system provide high quality care. This will help fulfill the targets of reducing patient hazards and improving outcomes. Therefore, the government shall better support the care given in these institutions and instill the culture of patient-centered care because the majority of patients utilize public hospitals.

## Recommendations

### For Health Professionals

The health care professional shall see the gaps that lead to the possible reasons for poor patient-centered health care practice among hospitals' inpatient service regarding giving quality care such as creating good intimacy with patients, involving patients in decisions during treatment by providing optimal information, promoting awareness of the disease, and giving information on medication. Reduce patients' length of stay in hospital by providing appropriate healthcare services.

### Regional Health Bureau and Federal Ministry of Health

The Federal Ministry of Health and the Regional health bureau should give greater emphasis and provide appropriate strategies to provide patient-centered health care practice that increases patients' levels of perception by assisting hospitals or filling gaps, as well as providing scheduled capacity-building training for health care providers.

### For Researchers

Future researchers should evaluate provider's perspective of patient-centered health care. And also, as the study was assessing patients' perception, future researchers should conduct qualitative studies to have in-depth knowledge of poor patient-centered health care practice.

## Abbreviations

AOR, adjusted odds ratio; ADH, Adinas hospitals; AFH, Afilas hospitals; CAHP, Californian Association of Health Plan; COR, crude odds ratio; FHCSH, Felege Hiwot Comprehensive Specialized Hospital; GH, Gamby hospitals; G w, Gynecology ward; HSTP, Health Sectors Transformation Plan; IOM, Institute of Medicine; LMIC, low and middle income country; M, Medical ward; NADH, no. of inpatient admission in Adinas hospitals; NAFH, no. of inpatient in Afilas hospitals; NGH, no of inpatient admission in Gamby general hospitals; NFHH, no of inpatients admission in Felege Hiwot hospitals; NTG, no of inpatient admission; PCHCP, patient-centered health care practice; QI, Quality Improvement; S, Surgical ward; TGSH, Tibebe ghion specialized hospital.

## Data Sharing Statement

The data used in this study are available from the corresponding author upon reasonable request.

## Ethics Approval and Consent to Participate

Ethical approval for the research was obtained from Bahir Dar University, college of medicine and health sciences, institutional review board and ethics committee with protocol number 413/2022. The patients were informed about the confidentiality of the information they provided, and written consent was obtained from each participant. The participants were not required to write their names on the questionnaires. The respondents were informed that they had the right to refuse or terminate the interview at any point. This study was conducted following the ethical standards of the Declaration of Helsinki.

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## Author Contributions

Mengistu Ewunetu, Worku Temsigen (associate professors, PHD), Dagmawit Zewdu, Astewle Andargie, Mulu Kebede, and Tadios Lidetu played their role in contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis, and interpretation, or in all these areas; took part in drafting, revising, or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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