

BMJ Open Patients' perceived involvement in clinical decision-making and associated factors among adult patients admitted at Jimma Medical Center, Oromia, Ethiopia: a cross-sectional study

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ABSTRACT

Objective To assess patients' perceived involvement in clinical decision-making and associated factors among adult patients admitted at Jimma Medical Center, Oromia, Ethiopia, 2022.

Design An institution-based cross-sectional study was employed.

Setting A study was conducted at a governmental tertiary teaching and referral hospital located in Jimma Zone, Oromia region, southwestern part of Ethiopia. The study was conducted between 15 July and 7 September 2022.

Participants A total of 422 randomly selected adult patients admitted at Jimma Medical Center were enrolled, after excluding those who were acutely ill during the study period.

Methods Data were collected via a structured, interviewer-administered tool, entered into EpiData V.4.6 and exported to SPSS V.26 for analysis. Bivariable and multivariable logistic regression analyses were used to identify factors associated with the outcome variable. Significant factors were declared at $p < 0.05$.

Main outcome measure Patients' perceived involvement in clinical decision-making (adequate involvement/poor involvement).

Results A total of 51.4% (95% CI: 46.4 to 56.3) of respondents had adequate perceived involvement in clinical decision-making. Participants who were aged >60 years (adjusted OR (AOR): 2.01 (95% CI: 1.44 to 5.65)), college and above the level of education (AOR: 4.6 (95% CI: 1.6 to 13.26)), length of hospital stay >15 days (AOR: 2.8 (95% CI: 1.41 to 5.5)) and high health literacy level (AOR: 2.04 (95% CI: 1.34 to 4.21)) were more likely to be associated with adequate perceived involvement in clinical decision-making whereas non-prior hospitalisation (AOR: 0.493 (95% CI: 0.3 to 0.82)) and passive autonomy preference (AOR: 0.22 (95% CI: 0.13 to 0.37)) were less likely to be associated with adequate perceived involvement in clinical decision-making than each of their corresponding counterparts.

Conclusion Only nearly half of the respondents had adequate perceived involvement in clinical decision-making. Collaborative autonomy preferences, high educational levels, long length of hospital stay, high

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ The study uses systematic random sampling approach and validated surveys that were translated for use with our population.
- ⇒ Though the shared clinical decision-making approach should be assessed from both the perspective of patients and healthcare providers, this study focuses only on patients' perspectives.
- ⇒ The results of the study findings cannot be assumed to be generalisable to all the public hospitals of Jimma Zone, as other health facilities were not included.
- ⇒ The study design was cross-sectional, which cannot create causal attribution between independent and dependent variables.
- ⇒ A social desirability bias might also affect the result of the study.

health literacy level and patients in the older age group were among the factors significantly associated with respondents' adequate perceived involvement in clinical decision-making. Healthcare professionals have to consider empowering patients' perceived involvement in clinical decision-making, and hospital management has to reinforce healthcare professionals' efforts to promote patients' perceived involvement in clinical decision-making.

INTRODUCTION

Patient involvement means the participation of the patient in decision-making or expressing opinions about different treatment methods, which includes sharing information, feelings and signs and accepting health team instructions.¹ The term 'patient involvement' first originated in 1987 and is a complex concept, but recently it has been widely preferred as a key component of the 21st-century healthcare system in many nations around the world.^{1 2} Patient involvement is an important part of

patient-centred care and the patient should be viewed as an active participant and involved in any decision-making processes as well as needed for safe and high-quality healthcare.³ Shared decision-making (SDM) is a process in which patients and clinicians work together to make decisions based on evidence, risk-benefit analyses, expected outcomes, and patient preferences and values in deciding about diagnosis, treatment or follow-up when more than one medically reasonable option is available or when patient preferences vary strongly.^{4,5}

Patients are increasingly expected to be in charge of their health and to be involved in decisions about their health.⁴ Strategies that engage, support and empower patients are vital to the sustainability of healthcare systems worldwide.² Informed patients are more likely to feel confident to report both positive and negative experiences and have increased concordance with mutually agreed care management plans, which not only improves health outcomes but also advances learning and improvement while reducing adverse events.⁶ Patient participation in decision-making can improve the care of chronic illness, increase patient satisfaction and adherence to treatment plans, decrease medical errors as well as treatment costs and eventually lead to a better quality of care.¹⁷ However, various potential obstacles can influence its implementation at the patient, healthcare worker and healthcare centre levels.⁷

Even though the majority of patients reported having a preference for involvement in clinical decision-making regarding their treatment during a clinical consultation, patients' actual perceived level of involvement in it can be considered low; their capacity, desire and opportunities were limited or varied widely and the causes of this diversity have long been unknown.^{8–10} Current evidence shows that most medical decisions are made by clinicians with little input from patients.¹¹ Patients were viewed as passive recipients of care, receiving only what the doctor ordered, despite the reported desire to be involved and the need for information exchange that would be a necessary step towards collaboration or sharing decisions about treatment with their care providers.¹² Consequently, patients and their families are excluded from or are assumed to be incapable of discussing their current health conditions and treatment plans.¹³ Generally, in the current healthcare system worldwide, patient-centred care widely ensures that patients are placed at the centre of all healthcare decisions even though there was a discrepancy between patient's preferences and their actual decision-making responsibility during clinical consultations.^{14,15} This emphasises the need to learn how patients perceive their involvement in clinical decision-making and the factors that influence their participation by focusing on patients' perceived roles in decision-making as well as their healthcare experiences.¹⁶

In developing countries, SDM is still a challenge in providing patient-centred healthcare; because of a lack of SDM culture, healthcare providers paternalism, poor inter-professional relationships, lack of continuity of care,

low patient literacy, lack of interest in decision-making along with trust in healthcare providers, poor patients family support and health conditions, as well as the health workers' work overload makes difficult to implement it in terms of consultation time.^{17–19} Furthermore, patients with low involvement in clinical decision-making are more likely to be hospitalised, re-admitted and attended the emergency room frequently, resulting in higher healthcare expenses than patients with higher levels of involvement.¹⁹ Lack of healthcare engagement is also expected to impede chronic-care implementation, increasing the burden of chronic diseases and the likelihood of patients having unmet medical needs and deferring medical treatment.²⁰ In Ethiopia, 'compassion and respectful care' is a reform agenda in the new national health sector transformation plan II, which highly supports the patients' and families' participation in decisions and care.²¹ However, the issue of patient's perception of involvement in clinical decision-making is less emphasised, and there is a lack of information regarding patients' perceived participation in clinical decision-making in general populations as well as in the current study area. Therefore, this study was carried out to assess the magnitude of patients' perceived involvement in clinical decision-making and associated factors among adult patients admitted at Jimma Medical Center, Oromia region, Ethiopia, 2022.

OBJECTIVES

General objective

To assess the level of patients' perceived involvement in clinical decision-making and associated factors among adult patients admitted at Jimma Medical Center, Oromia, South West Ethiopia, 2022.

Specific objective

To determine the level of patients' perceived involvement in clinical decision-making and associated factors among adult patients admitted at Jimma Medical Center, Oromia, South West Ethiopia, 2022.

To identify factors associated with patients' perceived involvement in clinical decision-making among adult patients admitted at Jimma Medical Center, Oromia, South West Ethiopia, 2022.

METHODS

Study design

An institution-based cross-sectional study was implemented to assess the patients' perceived involvement in clinical decision-making and associated factors among adult patients admitted at Jimma Medical Center, Oromia, South West Ethiopia, 2022.

Study setting and period

The study was conducted from 15 July to 7 September 2022. Jimma City is the capital of the Jimma Zone and is found in the southwestern direction from Addis Ababa,

the capital city of Ethiopia. Jimma Medical Center is the only tertiary teaching and referral hospital serving the whole southwestern part of Ethiopia. The centre has 16 service departments and 970 total bed capacities, and an estimated total number of 16 000 adult patients are admitted annually.

Population

Source population

All adult patients admitted at Jimma Medical Center.

Study population

All randomly sampled adult patients admitted at Jimma Medical Center during the study period.

Eligibility criteria

All patients who were aged 18 years and above and who were admitted to medical, surgical, maternity, gynaecology and ophthalmology wards at Jimma Medical Center were included, while patients who were acutely or critically ill were excluded.

Sample size determination and sampling technique

The sample size was calculated using a single population proportion formula by considering the proportion (P) of patients' perceived involvement in clinical decision-making and associated factors; $p=50\%$ as there was no published article in the study context, margin of error (d)=5% and 95% CI. The calculated total sample size was 384. By considering a 10% nonresponse rate, the final sample size was 422 participants. According to data from Jimma Medical Center's inpatient service, the average total flow reports of adult patients admitted to all wards in the prior months were 1644, which were obtained from 6-month reports. From them, a total of 1166 adult patients were admitted to five selected wards. The calculated final sample size was allocated proportionally for each selected ward depending on the average total number of monthly adult patients admitted to five selected wards.

To proportionate the number of study participants for each ward, the formula $n=n \times nf/N$ was used, where n =number of adult patients in each ward, nf =final sample size and N =the average total number of monthly adult patients admitted to five selected wards. Accordingly, 261 (94) patients from the medical ward, 351 (127) patients from the surgical ward, 135 (49) patients from the gynaecology ward, 265 (96) patients from the maternity ward and 154 (56) patients from the ophthalmology ward were selected by using a systematic random sampling technique. For the selection of respondents, the sampling interval (K) was calculated by dividing the number of the source population by the sample size which gave the approximate result of 4. The list of existing adult patients admitted into each ward was prepared from the Hospital Admission Registration book and updated daily. The first respondent was selected by the simple random sampling lottery method. Respondents from each ward were assigned systematically and waited until their discharge. They were then interviewed on the day of discharge

from each ward, every four respondents, starting with the second respondent, until the required sample size was reached (for more details, see online supplemental figures).

Study variables

Dependent variable

Patients' perceived involvement in clinical decision-making.

Independent variables

Sociodemographic variables: age, gender, educational status, marital status, religion and place of residence.

Patients' clinical characteristics variables: history of hospitalisation, length of hospital stay, routine health check-up, duration of diagnosis with illness and perceived severity of current illness.

Health-seeking behaviour variables: patients' preference for autonomy, health literacy level of respondents.

Operational definitions

Level of patients' perceived involvement: determines the magnitude of a patient's perceived involvement in clinical decision-making, the cut-off points to define 'adequate involvement' and 'poor involvement' were considered using the calculated overall mean score for all items for each respondent (mean $\pm$ SD, n) under the tool, and this number was taken as a cut-off point: 'adequate involvement' for respondents whose score is above or equal to the cut-off point and 'poor involvement' for respondents whose score is below the cut-off point.^{18 22}

Autonomy preferences: the role preference of the respondents is to use their 'own experiences, beliefs and values' to decide on their health and medical care.^{19 23 24}

Health literacy: the ability of the patients to seek and acquire knowledge that helps them in using health information at various levels as required for self-management and communication with healthcare professionals to decide on their health and medical care.^{25 26}

Data collection tools and techniques

Standard, reliable, structured questionnaires adapted from available literature and guidelines were used to collect the data.^{27–29} The instrument comprised 4 sections and a total of 36 items. The first section contained eight items of sociodemographic characters merged with a developed five-item patient clinical characteristics questionnaire and asked according to the manner of items. The second part was a 12-item OPTION instrument that was used to measure the patient's perceptions about their involvement in the clinical decision-making process.²⁷ Initially, the scale was developed by Elwyn *et al* (2003) to measure the extent to which clinicians involved patients in the decision-making process by observing and rating a consultation.³⁰ For this study, the scale was used to assess patients' perceptions of the consultation rather than the doctor's perceptions. Validity and reliability of 12-item OPTION scale instruments were established and reported by Alrawiai *et al* for use as a self-response Likert scale.²⁷

It was scored as a self-response Likert scale that ranges from strongly disagree to strongly agree after instructing respondents to choose an option that best matches their level of agreement with their perceived involvement in each statement of the overall decision-making process as was the case in other studies.^{18 27 31}

The third section contained a standard, five-item autonomy preference status questionnaire modified from existing empirical measures.^{28 32} Scores were recorded as strongly agree with 5, agree with 4, neutral with 3, disagree with 2 and strongly disagree with 1. The last part was the five-item health literacy questionnaire which was initially tested for its validation and psychometric properties.²⁹ Scores were recorded as strongly agree with 5, agree with 4, neutral with 3, disagree with 2 and strongly disagree with 1. Data were collected by using pretested, face-to-face, interviewer-administered questionnaires and conducted on the day of discharge of study participants. For OPTION scale questionnaires, the concept of perceived shared clinical decision-making was first explained briefly by the data collectors before starting interview questions. Three BSc public health officers and one MSc nurse supervisor were selected and assigned outside of the study settings after considering their previous experience in data collection.

Data quality control and management

The questionnaire was translated from English to the local languages (Afaan Oromo and Amharic) by a multilingual translator before data collection and then back-translated to English by another multilingual translator after data were collected. The data were collected by local language questionnaires, and data collectors were fluent speakers of both Afaan Oromo and Amharic. All questionnaire contents were contextualised to Ethiopian patients. Two weeks before the actual data collection, questionnaires were pretested on 5% of the final sample size at Shenen Gibe Hospital outside of the main study by using interviewer-administered techniques on a similar study population. During this period, all the instruments were checked for clarity, simplicity, feasibility, conceptuality, applicability, understandability, reliability and coherence. Internal consistency of the OPTION instrument, autonomy preference index, and health literacy items was evaluated, and the Cronbach's alpha value was 0.87, 0.82 and 0.87, respectively. Based on the feedback, all the necessary amendments were made. Some items were contextually clarified.

Two days of training were given to the data collectors to ensure that they had a common understanding of the study instrument and followed the same procedures. Training deals with the objectives of the study, confidentiality, data-collection techniques, and how to approach and forward questions to patients. Continuous follow-ups were made by the principal investigator and supervisor throughout the data collection period. Daily review or check-off of the completed questionnaires was made by

the principal investigator to ensure completeness and consistency of the collected data.

Data collectors obtained written informed consent from each participant after explaining the aim and importance of the study to ensure that they were voluntary and had the right to refuse or withdraw at any point in time from the interview. The information provided by the individual respondents was kept strictly confidential. Personal identifiers, such as names, addresses and private information of study participants, were never collected throughout the study. Respondents were also informed that there would be no incentive or harm to their participation in the study, and their responses to the interview were grouped with responses from other participants and reported as part of a research study. In the end, respondents who had heard and agreed with the information signed the consent to take part in the study.

Data processing and analyses

The collected data were coded, cleaned, reviewed, checked for completeness and entered into EpiData V.4.6 to point out errors made during data collection and then exported automatically to SPSS V.26 for analysis. Descriptive analyses were performed first to understand the general characteristics of all the study variables. The frequency distribution and percentages were used to calculate all categorical variables, while mean and SD were used to calculate all continuous variables. For patients' perceived involvement, 12 questions each had a five-point Likert scale with a minimum score of 1 and a maximum score of 5. OPTION scale instrument was a normal data distribution and ranges from 0 to 100 in nature. However, in this study, the mean value was used to categorise it for use, as the purpose of the study was to predict the overall level of patients' perceived involvement in clinical decision-making during clinical consultation rather than to focus on a level of every individual aspect of shared clinical decision-making items.¹⁸

For health literacy questionnaires, the calculated overall mean score for all items for each respondent (mean $\pm$ SD, n) under the tool was used, and this number was taken as a cut-off point and then categorised as 'high health literacy' for those respondents who score above or equal to the cut-off point and 'low health literacy' for those who score below the cut-off point.²⁶ The mean score for the five items was then calculated for each participant, with a maximum of 5 and a minimum of 1. For autonomy preferences status, the calculated total mean score for all items for each respondent (mean $\pm$ SD, n) under the tool was used, and this number was taken as a cut-off point and treated as a binary variable for those respondents who score above or equal to the cut-off point 'collaborative role' and below the cut-off point 'passive role'.^{32 33} The mean score for the five items was then calculated for each participant, with a maximum of 5 and a minimum of 1.

Bivariable binary logistic regression analysis was done to sort candidate variables with a p value less than or equal to 0.25 for multivariable binary logistic regression.

Multivariable binary logistic regression analysis was conducted to identify factors strongly associated with the outcome variable. The model fitness test was checked with the Hosmer-Lemeshow goodness-of-the-fit test at $p > 0.05$ and an omnibus likelihood test at $p < 0.05$. Accordingly, the result from the Hosmer-Lemeshow goodness-of-fit model adequately fits at a p value of 0.501. Multicollinearity test was done by the variance inflation factor and tolerance test. For each variable, frequencies, adjusted OR (AOR), 95% CI and p value at 5% were computed to measure the strength and/or a level of significance of the association. In multivariable logistic regression analysis, variables having a p value ≤ 0.05 were used to declare statistical significance. The data were described and presented using narrative text, tables and figures.

Patient and public involvement

No patient or public is involved.

RESULT

Sociodemographic characteristics of respondents

A total of 403 patients participated, and the response rate was 95.5%. Among the total respondents, about 187 (46.4%) were aged 20–39 years and 207 (51.4%) were females. Regarding clinical characteristics, almost half 204 (50.6%) of respondents have a history of hospitalisations, and 134 (33.3%) of respondents have a length of hospital stay greater than 15 days (table 1).

Overall level of patients' perceived involvement in clinical decision-making

Each respondent's total mean score for all OPTION scale items was 2.7 ± 0.7 (mean $\pm$ SD, $n = 403$). Accordingly, of all respondents ($n = 403$), 207 (51.4%) have adequate involvement (mean score > 2.7), while 196 (48.6%) have poor involvement (mean score < 2.7) in clinical decision-making (table 2).

Respondent's overall autonomy preference status

The total mean score and SD of each respondent for all five items was 2.5 ± 0.8 (mean $\pm$ SD, $n = 403$). Accordingly, of all the respondents ($n = 403$), 190 (47.1%) patients have collaborative preference (mean score > 2.5), while 213 (52.9%) have passive preference (mean score < 2.5) (table 3).

Overall health literacy level of respondents

The total mean score and SD of each respondent for all five items was 2.5 ± 0.9 (mean $\pm$ SD, $n = 403$). Accordingly, of all the respondents ($n = 403$), 186 (46.2%) have high health literacy (mean score > 2.5), while 217 (53.8%) have low health literacy (mean score < 2.5) (table 4).

Bivariate and multivariate analyses of factors associated with the outcome variable

All predictors were entered into bivariate logistic regression. Respondents' age, marital status, educational level achieved, history of hospitalisation, length of hospital stay

Table 1 Distribution of respondents by sociodemographic characteristics ($n = 403$)

Variable	Category	Frequency ($n = 403$)	Percentage (%)
Age (years)	20–39	187	46.4
	40–59	134	33.3
	≥ 60	82	20.3
Gender	Male	196	48.6
	Female	207	51.4
Marital status	Single	70	17.4
	Married	282	70.0
	Divorced	30	7.4
	Widowed	21	5.2
Educational status	Not read and write	126	31.3
	Read and write	72	17.9
	Primary	84	20.8
	Secondary	72	17.9
	College and above	49	12.2
Religion	Orthodox	123	30.5
	Muslim	165	40.9
	Protestant	106	26.3
Place of residence	Rural	141	35.0
	Urban	262	65.0
History of hospitalisation	Yes	204	50.6
	No	199	49.4
Routine health check-ups	Yes	103	25.6
	No	300	74.4
Length of hospital stay since admission (days)	1–5	115	28.5
	6–10	86	21.3
	11–15	68	16.9
	Above 15	134	33.3
Duration of diagnosis with the disease (years)	Less than 5	91	22.6
	Above or equal to 5	92	22.8
Perceived status with current disease	Severe	107	26.6
	Moderate	210	52.1
	Mild	86	21.3

n , total number of respondents.

since admission, duration of diagnosis with the diseases, perceived severity of current illness, health literacy and preference for autonomy variables were selected to be factors for multivariable logistic regression analysis at a significant level (p value) < 0.25 . Finally, after controlling confounding variables, variables such as age, level of education, history of hospitalisation, length of hospital stay, health literacy and preference for autonomy were

Table 2 Overall level of patients' perceived involvement in clinical decision-making on the 'OPTION' scale of respondents (n=403)

OPTION scale items	S D; n	D; n	N; n	A, n	S A, n	Mean±SD
	%	%	%	%	%	
The clinician draws attention to an identified problem as one that requires my decision.	39 9.7	92 22.8	117 29	146 36.2	9 2.2	2.98±1.03
The clinician indicates that there is more than one way to deal with my identified problem(s) ('equipoise').	32 7.9	103 25.6	103 25.6	153 38.0	12 3.0	3.02±1.036
The clinician assesses my preferred approach to receiving information to assist decision-making.	106 26.3	141 35.0	108 26.8	38 9.4	9 2.2	2.28±1.11
The clinician lists 'options', which can include the choice of 'no action'.	75 18.6	122 30.3	102 25.3	86 21.3	18 4.5	2.62±1.14
The clinician explains the pros and cons of options to me (taking 'no action' is an option).	76 18.9	128 31.9	98 24.3	96 23.8	5 1.2	2.56±1.08
The clinician explores my expectations (or ideas) about how the problem(s) are to be managed.	79 19.6	143 35.5	83 20.6	88 21.8	10 2.5	2.52±1.10
The clinician explores my concerns (fears) about how the problem(s) are to be managed.	40 9.9	82 20.3	77 19.1	186 46.2	18 4.5	3.14±1.10
The clinician ensures my understanding of the provided information.	78 19.4	164 40.7	108 26.8	42 10.4	11 2.7	2.36±0.996
The clinician enables me explicit opportunities to ask questions during the decision-making process.	93 23.1	153 38.0	103 25.6	47 11.7	7 1.7	2.31±1.00
The clinician indicates my preferred level of involvement in decision-making.	94 23.3	154 38.2	105 26.1	37 9.2	13 3.2	2.30±1.02
The clinician indicates that either a decision was made or there was an agreement on how to proceed/postpone the decision.	49 12.2	125 31.0	140 34.7	82 20.3	7 1.7	2.68±0.986
The clinician indicates the need to re-evaluate the decision (or deferment).	41 10.2	77 19.1	122 30.3	148 36.7	15 3.7	3.04±1.05

Attitudes were scored as S A—5, A—4, N—3, D—2 and S D—1.

A, agree; D, disagree; n, frequency of respondents; N, neutral; S A, strongly agree; S D, strongly disagree; SD, standard deviation.

Table 3 Overall autonomy preference index of respondents (n=403)

Autonomy preference index items	S D; n	D; n	N; n	A; n	S A; n	Mean±SD
	%	%	%	%	%	
You prefer to make the important final decisions about which treatment you receive.	122 30.3	139 34.5	103 25.6	30 7.4	9 2.2	2.17±1.015
You prefer to make the final decision about which treatment you receive, but after seriously considering the clinician's opinion.	47 11.7	141 35.0	154 38.2	57 14.1	4 1.0	2.58±0.906
You prefer to share responsibility with your clinicians for deciding your best treatment methods.	19 4.7	70 17.4	150 37.2	119 29.5	45 11.2	3.25±1.021
You prefer the clinician to make the final decision about which treatment will be used, but after seriously considering your opinions.	4 1.0	30 7.4	86 21.3	188 46.7	95 23.6	2.1563±0.902
You prefer to leave all decisions regarding your treatment to your clinicians, even if you disagree with it.	13 3.2	63 15.6	85 21.1	160 39.7	82 20.3	2.42±1.076

Attitudes were scored as S A—5, A—4, N—3, D—2 and S D—1.

A, agree; D, disagree; N, neutral; S A, strongly agree; SD, standard deviation; S D, strongly disagree.

Table 4 Overall health literacy status of respondents (n=403)

Health literacy scale items	S D; n	D; n	N; n	A; n	S A; n	Mean±SD
	%	%	%	%	%	
You have sufficient information to manage your health.	62 15.4	135 33.5	108 26.8	86 21.3	12 3.0	2.6±0.1.071
You can appraise the health information you get.	151 37.5	132 32.8	71 17.6	46 11.4	3 0.7	2.05±1.036
You can actively engage with your healthcare professionals.	51 12.7	140 34.7	108 26.8	85 21.1	19 4.7	2.7±1.081
You have the ability to good health information.	52 12.9	135 33.5	120 29.8	87 21.6	9 2.2	2.6±1.023
You have an understanding of health information well enough to know what to do.	63 15.6	136 33.7	124 30.8	62 15.4	18 4.5	2.5±1.064

Attitudes were scored as S A=5, A=4, N=3, D=2 and S D=1.
A, agree; D, disagree; N, neutral; S A, strongly agree; SD, standard deviation; S D, strongly disagree.

significantly associated with the outcome variable at 95% CI and a p value <0.05 in multivariable logistic regression analysis.

Respondents who were aged >60 years were two times more likely to have adequate perceived involvement in clinical decision-making than those 20–39 years (AOR: 2.01, 95% CI: 1.40 to 5.65). Respondents who have college and above level of education were nearly five times more likely to have adequate perceived involvement in clinical decision-making than those who did not read and write (AOR: 4.60, 95% CI: 1.60 to 13.26). Respondents who had a length of hospital stay >15 days were nearly three times more likely to have adequate perceived involvement in clinical decision-making than those whose length of hospital stay was <5 days (AOR: 2.80, 95% CI: 1.41 to 5.50). Respondents who have high health literacy were two times more likely to have adequate perceived involvement in clinical decision-making than those who have low health literacy (AOR: 2.04, 95% CI: 1.34 to 4.21).

The study also indicated that respondents who do not have a history of hospitalisation were about 51% less likely to have adequate perceived involvement in clinical decision-making than those who have a history of hospitalisation (AOR: 0.493, 95% CI: 0.30 to 0.82). Participants who had a passive preference for autonomy were also 78% less likely to have adequate perceived involvement in clinical decision-making than those who had a collaborative preference for autonomy (AOR: 0.22, 95% CI: 0.13 to 0.37) at a p value <0.05 (table 5).

DISCUSSION

Globally in the current healthcare system, patient-centred care widely ensures that patients are placed at the centre of all healthcare decisions during the clinical consultation care process. Involvement in decision-making allows patients to have self-awareness to express their emotions, fears, personal values, beliefs, roles, specific health

information needs and preferences about their health conditions, diagnosis or treatment in reaching a shared decision with their healthcare providers,¹³ although patients desire participation in health-related decision-making to a different extent.³³ This study aimed to assess the levels of patients' perceived involvement in clinical decision-making and associated factors among adult patients admitted at Jimma Medical Center, Oromia, southwest Ethiopia. Accordingly, this study found that nearly half (51.4% (95% CI: 46.4 to 56.3)) of the respondents reported adequate perceived involvement in clinical decision-making. It also identified that patients' perceived involvement in clinical decision-making was significantly associated with age, level of education, length of hospital stay, history of hospitalisation, health literacy level and autonomy preference status.

The result of the present study is lower than the study done in Saudi Arabia, China, New York and Japan, where 57%, 60%, 61.0% and 71% of survey respondents reported having adequate perceived involvement in clinical decision-making, respectively.^{5 34–36} Use of a large sample size and sociodemographics could make a difference. In addition, the high perception of involvement in clinical decision-making was due to the study population (patients with diabetes have relatively good adherence to therapy, and therefore they were more likely perceived to be actively involved in managing their illness) similar to a study conducted in Japan. The current study finding is higher when compared with a study done in Uganda, in which 11.3% of the respondents had adequate perceived participation in clinical decision-making.¹⁸ This inconsistency might be due to differences in sample size (a relatively small number of respondents have participated) and study setting (as respondents were from primary healthcare) in the previous study.¹⁴

The finding of the current study is analogous to the studies conducted in Germany, which found older patients

Table 5 Binary and multivariable logistic regression analyses of factors associated with patients' perceived involvement in clinical decision-making (n=403)

Variables	Categories	Poor involvement	Adequate involvement	(COR, 95% CI)	(AOR, 95% CI)	P value
		No. (%)	No. (%)			
Age of respondents (years)	20–39	76 (38.8%)	111 (53.6%)	1	1	
	40–59	77 (39.3%)	57 (27.5%)	0.51 (0.32, 0.80)	1.04 (0.80, 2.53)	0.32
	≥60	43 (21.9%)	39 (18.8%)	0.62 (0.37, 1.05)	2.01 (1.40, 5.65)	0.005*
Educational status achieved	Not able to read and write	84 (42.9%)	42 (20.3%)	1	1	
	Read and write	45 (23.0%)	27 (13.0%)	1.20 (0.66, 2.20)	0.96 (0.435, 1.88)	0.791
	Primary	43 (21.9%)	41 (19.8%)	1.91 (1.08, 3.36)	1.29 (0.64, 2.61)	0.472
	Secondary	16 (8.2%)	56 (27.1%)	7.00 (3.60, 13.65)	3.65 (1.53, 8.71)	0.004*
	College and above	8 (4.1%)	41 (19.8%)	10.25 (4.41, 23.8)	4.60 (1.60, 13.26)	0.005*
History of hospitalisation	Yes	76 (38.8%)	128 (61.8%)	1	1	
	No	120 (61.2%)	79 (38.2%)	0.39 (0.26, 0.58)	0.493 (0.30, 0.82)	0.006*
Length of hospital stay since admission (days)	1–5	57 (29.1%)	58 (28.0%)	1	1	
	6–10	46 (23.5%)	40 (19.3%)	0.6 (0.5, 1.05)	1.7 (0.8, 3.4)	
	11–15	41 (20.9%)	27 (13.0%)	0.65 (0.35, 1.2)	0.9 (0.40, 2.05)	
	≥15	52 (26.5%)	82 (39.6%)	1.6 (0.94, 2.6)	2.8 (1.41, 5.50)	0.003*
Health literacy	Low	141 (71.9%)	76 (36.7%)	1	1	
	High	55 (28.1%)	131 (63.3%)	4.42 (2.90, 6.73)	2.04 (1.34, 4.21)	0.003*
Patient preference	Collaborative	46 (23.5%)	144 (69.6%)	1	1	
	Passive	150 (76.5%)	63 (30.4%)	0.13 (0.086, 0.29)	0.22 (0.13, 0.37)	0.000*

1; Reference, No.: frequency of respondents.

*Significant at p value ≤0.05.

AOR, adjusted OR; COR, Croud-Odd Ratio.

had adequate perceived involvement when a decision was made about their treatment.³⁷ This could be evidenced that the older the patients get, the more they might experience informal education and become more concerned about their illness, thereby agreeing and consenting to the recommendations of the healthcare providers. In contrast, studies conducted in China,⁵ the United Kingdom³⁸ and Malaysia showed that younger patients' perceived better involvement in clinical decision-making than older patients. This study also showed that respondents who achieved the tertiary (college and above) level of education had adequate perceived involvement in clinical decision-making compared with those who could not read and write. This finding was supported by the study conducted in Malaysia.³¹ The reason might be that highly educated patients are more confident, have a better comprehension of the medical information provided by healthcare providers and are also able to seek and/or verify information inside and outside the health system to monitor their health condition.^{5 18} The present study finding shows that respondents who had a history of hospital admission were more likely to have adequate perceived involvement in clinical decision-making than their counterparts, and this was consistent with the studies conducted in China,⁵ Australia,³⁹

Canada⁴⁰ and Birmingham.⁴¹ This could be evidenced that patients' perceived involvement in clinical decision-making may change over time towards a greater desire for involvement as patients' experiences with illness and/or treatment develop, which increases their confidence in building a rapport with healthcare providers and helps them adapt their self-care. However, these may sometimes depend on a patient's particular diagnosis or illness, as their perceived participation in decision-making varies widely.³⁹

According to this study, respondents who had a length of hospital stay longer than 15 days were more likely to have better perceived involvement in clinical decisions about their health than those who stayed less than 5 days, as supported by the studies conducted in Chicago⁴² and Italy.⁴³ The possible reason might be that as patients stay longer in the hospital, their attitudes about their illness can change, and their relationships with healthcare providers could also develop, which results in patients becoming more knowledgeable about their disease and expressing a desire to work with healthcare providers to decide on the best treatment option. In addition, healthcare providers may have sufficient time to discuss the best treatment methods with patients and involve them in the decision-making process by carefully considering

their opinions.⁴³ In the current study, respondents who preferred an autonomy (an active or collaborative) role had a higher perceived involvement in making clinical decisions with their healthcare providers than those who preferred a nonautonomous (passive) role during healthcare delivery. This implies that patients who could use their own beliefs, values and experiences in making decisions about their health condition and/or medical care had an innate incentive to make decisions on their behalf, which was justified by various pieces of evidence.^{19 23 24 33}

The present study finding also reveals that respondents who have high health literacy levels reported higher perceived involvement in clinical decision-making about their health than those who have low health literacy levels. This is in line with the studies conducted in the United Kingdom⁴⁴ and Ethiopia.^{19 26} This indicates that patients can initiatively ask questions about the best treatment options as they build up health information about their health problems and treatments. If patients are aware of these relationships and are questioned directly about their preferences, both healthcare providers and patients will be able to interact more successfully to decide on better clinical care. On the contrary, unlike other studies, the present study findings did not show any significant differences between genders,^{27 37 38 44} marital status,^{33 38} duration of diagnosis with the disease^{19 38} and perceived severity with the disease,^{41 44} among study participants.

However, the study has some limitations. The study was conducted only by taking into account the viewpoints of patients without including healthcare providers' perspectives, and the authors indicated possible implications that the scope, objectives and methodological aspects of the current study delineated those study subjects. Additionally, the study was conducted at a single public hospital, and the results cannot be assumed to be generalisable to all health facilities found in the Jimma Zone. However, the authors stated that the hospital was the only tertiary teaching and referral hospital serving all nearby communities, had the highest flow rates of patients and had different kinds of healthcare delivery service compared to any other health facilities found in the study area. Furthermore, a cross-sectional study design cannot provide any information about true cause-and-effect relationships, but only about associations, and social desirability bias might also affect the result of the study.

Conclusion and recommendation

According to the present study finding, only nearly half of the respondents had adequate perceived involvement in clinical decision-making. The level of patients' perceived involvement in clinical decision-making was low among respondents. Age, level of education, length of hospital stay, history of hospitalisation, health literacy and autonomy preference status were significant predictor variables of patients' perceived involvement in clinical decision-making. Healthcare professionals have to consider empowering patients' perceived involvement in clinical decision-making, and hospital management has

to reinforce healthcare professionals' efforts to promote patients' perceived involvement in clinical decision-making in the area. The Ethiopian Ministry of Health should also promote a strategy that supports a policy of shared clinical decision-making. Future work is expected from researchers to conduct an interventional study and identify the pathway by which cultural backgrounds, diagnosis type and involvement of family and/or friends might affect the degree of patients' perceived involvement in clinical decision-making.

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Ethics approval The research was reviewed and approved by the Jimma University Institute of Health Review Board (JUIHRB) (Ref. No. JUIHRB-73/22). Then, a formal letter was submitted to the Jimma Medical Center Chief Executive Director Directorates. Subsequent permission and cooperation were obtained from the head departments of Jimma Medical Center. Written informed consent was obtained from each of the respondents who agreed to participate in the research after explaining the aim and the importance of the study. Participants were informed that they had the right to participate or not in the research. They were also assured about the confidentiality of the obtained data and that it was used for research purposes only. No name was written on the paper, but rather a code was provided to maintain confidentiality.

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