



Shared decision making among hypertensive clients in public hospitals of West Shoa, central Ethiopia, 2020: Institution based cross sectional study

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ABSTRACT

Background: Patient involvement in health care empowers patients to choose treatment and improves the quality of care and treatment outcomes. Despite its purpose, shared decision-making in clinical encounters was not given attention. So, this study aims to assess the level of shared decision-making among hypertensive patients.

Objective: To study the level of shared decision-making among hypertensive patients.

Method: The institution-based cross-sectional study method was used to collect data in three randomly selected public hospitals in the West Shoa Zone. A simple random sampling method was used for the selection of study participants. A pretested and structured shared decision-making questionnaire was used to measure patient engagement in decision-making. A descriptive analysis was done to determine the individual patient's level of involvement in shared decision-making. A 95% confidence interval (95% CI) was used to determine the level of shared decision-making.

Results: A total of 406 patients with hypertension participated in the study, yielding a response rate of 96.2%. Totally, 45.3% [CI (43.28–46.75)] of the participants have actively participated in shared decision-making. On the other hand, 53.6% [CI (49.42–56.7)] of participants reported they have been understood by their caregivers, and 52.9% [CI (46.2–58.9)] of the participants reported their caregiver helped them understand all the treatment options. On the other hand, only 121 patients, i.e., 34.7% [CI (28.86–37.8)] of the participants, have jointly chosen one type of treatment with their care provider.

Conclusion: The level of involvement in shared decision-making among hypertensive patients is low in the study area compared to the expected standard of shared decision-making. So enhanced patient involvement in health care decisions is important.

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List of Abbreviations

CI	Confidence Interval
IHRERC	Institutional Health Research Ethics Review Committee
SPSS	Statistical packages for social Sciences

1. Introduction

1.1. Back ground

Shared decision-making (SDM) is explained as an approach where healthcare providers and patients share the best existing indication when faced with the task of making decisions and where patients are held to consider options to achieve informed preferences. Shared decision-making is the ultimate goal of patient-centered care, in which patients and their caregivers make decisions together [1,2]. Achieving shared decision-making depends on building a good connection during the clinical encounter so that information is shared and patients are reinforced to explain their favorites and views during the decision-making process [1,3]. It requires caregivers to understand each patient's needs and choices to meet those needs and present the alternatives in a way that enables patients to select their preferred treatment option [4]. It involves assimilating the knowledge, concerns, and viewpoints of both caregiver and patient to form an agreement on treatment [5].

Shared decision-making has the potential to align decisions with the preferences and values of patients [6]. In a shared decision-making approach, the physician and the patient identify the decision to be made, share the treatment options and available evidence, elicit the patient's preferences, and reach a shared decision [2]. These are: introducing choice; explaining options, often by integrating the use of patient decision support; and helping patients explore favorites and make decisions^{1,2}.

Management of chronic diseases like hypertension is a long-lasting process that requires not only the providers of care but also the participation of patients to ensure control and prevention of disease-related complications. Patient involvement in decision-making is important to enhance the active role of patients. Shared decision-making is an intermediate stage between the traditional paternalistic model and the informed choice model (or consumerism), where decisions are left entirely to the patient [7,8].

Ethically, patients have the right to be informed about all the care they receive. But a study shows only a small proportion of decisions were informed to patients [9,10]. This shows that most medical decisions are imposed on patients without their knowledge, so they receive treatment they are not aware of. This failure to act together and build trust between patient and care provider leads to the loss of patients safety in care [11,12].

Despite the importance of shared decision-making in clinical encounters, it is not given much concern in Ethiopia. Even though previous research in other countries was mostly qualitative, the quantification of the magnitude remained a question. Here in this study area, the level of patient involvement in shared decision-making among hypertensive patients is not known, so this study fills the data gap in this area specifically and in Ethiopia in general.

2. Methods and materials

2.1. Study area and period

The study was conducted in public hospitals in the west Shoa Zone, central Ethiopia, from March 30–April 30, 2020. West Shoa Zone has eight hospitals in general. It serves a total population of 2,652,781. From these 8 hospitals, three hospitals, namely, Ambo General Hospital, Jeldu Hospital, and Gedo Hospital, were included in the study. Different services are given in these hospitals, i.e., admission follow-up and treatment, outpatient patient follow-up, chronic patient follow-up and treatment, intensive care, maternity and child care services, HIV screening, and counseling services. The selected hospitals have separate outpatient departments for the treatment and follow-up of chronic diseases. So the data for this study were collected from the outpatient department of chronic diseases.

2.2. Objective of the study

To assess the level of shared decision-making among hypertensive patients in the public hospital of west Shoa zone, central Ethiopia.

2.3. Study design

The institution-based descriptive cross-sectional study design was used.

2.4. Source population

All hypertensive patients attending the chronic outpatient departments of hospitals in West Shoa were taken as the source

population.

2.5. Study population

All hypertensive patients attending the chronic outpatient departments of the selected hospitals in West Shoa Zone were taken as the study population.

2.6. Eligibility criteria

2.6.1. Inclusion criteria

Patients with hypertension who had been on follow-up for at least the last 6 months were included in the study.

2.6.2. Exclusion criteria

Hypertensive patients who had been on follow-up for 6 months and above but were unable to respond to the interview due to other physical health problems like hearing problems or speech impairment were excluded.

2.7. Sample size determination and sampling technique

The sample size for patient involvement will be calculated using the single population proportion formula as follows: proportion (P) of 50%, Z = 1.96, d = 0.05. We used p = 50% as we haven't found the study in similar areas with a similar tool [13].

$$n = \frac{z^2 p(1-p)}{d^2}$$

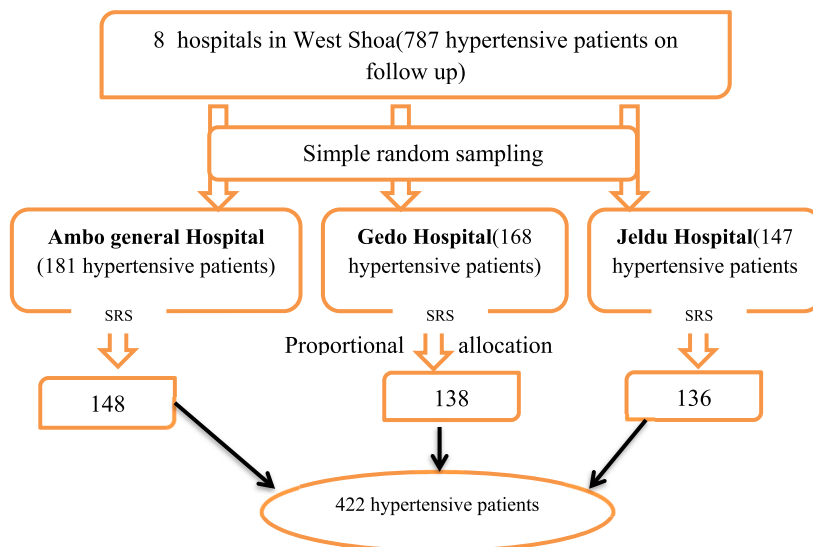
Z = 1.96, P = 50%, d = 5% = 0.05, n = $\frac{(1.96)^2 \times 0.5(1-0.5)}{0.05^2} = 384$

(0.05) [2]

By adding 10% non-respondents the final sample size will be 422.

2.8. Sampling technique

There are 8 hospitals in the West Shoa Zone. Three hospitals were randomly selected from eight hospitals using simple random sampling. 847 hypertensive patients were on follow-up in those 8 hospitals. In the three randomly selected hospitals, there were 496 hypertensive patients, which were taken from the previous month's patient flow. Then 496 patients were proportionally allocated to



*SRS=simple random sampling

Fig. 1. Schematic presentation of the sampling procedure to assess shared decision-making among hypertensive patients in public hospitals in West Shoa (2020).

*SRS=simple random sampling

the three selected hospitals according to the number of hypertensive patients on follow-up at each hospital. Then we used hypertensive patients' records as a sampling frame to select 422 patients randomly. The first patients who followed up in the study period were identified from the record. Then, we used their card numbers to randomly select the study participants. Then, depending on their schedule of follow-up (follow-up is conducted two days a week), we waited for the selected patients on the scheduled day to interview them. The patients who came on time were interviewed. Some patients visited the hospital not actually on the scheduled appointment; we recorded these patients separately and waited for them until their appearance for follow-up on the other schedules. Even if some patients missed their actual date of appointment, we found those patients on the next day of follow-up in the same week and interviewed them (Fig. 1).

2.8.1. Study variable

Level of shared decision-making between the health care provider and hypertensive patients.

2.9. Data collection tools and quality control

The standardized shared decision-making questionnaire (SDM-Q9) was used to measure the level of the shared decision-making process [14]. Shared decision making questionnaire is a questionnaire with nine items and modified 5-point Likert scale responses. Sociodemographic and other health-related questionnaires were developed from a review of different literature. The reliability of the tool was checked on a pretest. It has a reliability coefficient of 0.79. The questionnaires were translated into the local language (Afaan Oromoo) and then back to English by different language experts to check the consistency of the translation.

Table 1
Participants socio-demographic information among patients with hypertension in public hospitals of west shoa,2020.

Variable		Frequency	Percent
Sex of participant	Male	209	51.5
	Female	197	48.5
Age of participant	<29	68	16.7
	30–44	118	29.1
	45–59	123	30.3
	>60	97	23.9
Religion	Orthodox	151	37.2
	Protestant	185	45.6
	Muslim	33	8.1
	Wakefata	31	7.6
	Catholic	2	0.5
Residence place	Others	4	1.0
	Urban	184	45.3
Ethnicity	Rural	222	54.7
	Oromo	368	90.6
Marital status	Amhara	31	7.6
	Gurage	7	1.7
	Single	74	18.2
Educational status	Married	284	70.0
	Widowed	35	8.6
	Divorced	13	3.2
	No formal education	90	22.9
Participant's occupation	Elementary (grade 5–8)	169	41.6
	Secondary school (9–12)	85	20.9
	College/university	62	15.3
	Farmer	116	28.6
Participants' monthly income	Government employee	32	7.9
	Self-employee	115	28.3
	Merchant	29	7.1
	Retired	29	7.1
	Student	33	8.1
	House wife	52	12.8
	<1000	316	77.8
Participants' source of health information about their illness	1000 and above	90	22.2
	Reading book	30	7.4
	Newspaper	7	1.7
	HCW	406	100
	TV	97	23.6
	Radio	98	24.1
Others (internet, friends, family members)	8	2.0	

*others = Wakefata, Qaalicha

2.10. Data processing and analysis

Completed questionnaires were coded, entered, and cleaned using the EPIDATA version 3.1 computer program and then exported to Statistical Package for the Social Sciences (SPSS) version 23.0 for analysis. Descriptive statistics were used to calculate the frequency distribution, and the mean, standard deviation, and range were used to describe the level of shared decision-making among participants. Shared decision-making was measured using the SDM-Q-9 with a 4-point Likert scale ranging from strongly agree to strongly disagree. Participants who responded "strongly agree" and "agree" were categorized as "agree," and those who responded "strongly disagree" and "disagree" were categorized as "disagree" in our analysis. So for data presentation, we used the dichotomy "agree" and "disagree" for description.

2.11. Ethical and legal consideration

This study was conducted following the Declaration of Helsinki. Ethical clearance with an ethical approval number of PGC/77/2020 was obtained from the Institutional Health Research Ethics Review Committee (IHRERC) of Ambo University College of Medicine and Health Science.

2.12. Informed consent

Written informed consent was obtained from the participants in a language they could understand (Afaan Oromoo) before the interview after communicating the risks, benefits, and burdens of the study. All methods were performed following relevant guidelines and regulations. Participants were given all-inclusive information about the study and were guaranteed confidentiality and protection of their privacy before giving consent. For participants who couldn't read the informed consent form, the document was orally presented to them or their legally authorized representative in the presence of an independent witness; hence, informed consent was obtained from illiterate participants and was approved by the ethics committee. Institutional Health Research Ethics Review Committee (IHRERC) of Ambo University College of Medicine and Health Science. An information sheet was attached to the first part of the questionnaire, and then a participant's signature was obtained and kept with each questionnaire. All the procedures were approved by the ethics review committees at Ambo University. Participation in this study was fully voluntary. In addition, no personal identifiers were used on the data collection questionnaire, and the data obtained from the study participants were not accessed by anybody except the investigator and kept confidential. The participants were assured that they had the right to refuse or withdraw if they were not comfortable at any time. Further preventive measures against COVID-19 were taken throughout the data collection period.

3. Results

A total of 406 patients with chronic diseases were involved in the study, giving it an overall response rate of 96.2%. Two hundred and twenty (54.2%) of the participants were above or equal to the age of 45 years. The majority of the participants, i.e., 222 (54.7%), were rural residents. (Table 1).

4. Participants' disease and health care characteristics

The majority, 330 (81.3%) of the participants, do not have a family history of chronic disease. Most, 282 (69.5%) of the participants were less than 5 years diagnosed with their disease and almost half (49.3%) of the participants attend chronic clinics every month. A large proportion (288) of the participants do not have a history of previous hospitalization with the disease. The majority of the

Table 2

Participants' disease and health care characteristics among patients with hypertension in public hospitals of west shoa,2020.

Variables		Number	Percentage
Family history of the same chronic disease	Yes	76	18.7
	No	330	81.3
Duration since diagnosed with the disease	<5yrs.	282	69.5
	>5 yrs.	124	30.5
Schedule of follow up	Every month	200	49.3
	Every 2 months	175	43.1
	On condition	31	7.6
Previous history of hospitalization	Yes	118	29.1
	No	288	70.9
Patients' awareness of the right to make treatment decision	Yes	287	70.7
	No	119	29.3
Do you search for information intentionally in advance of your health care provider's advice?	Yes	190	46.8
	No	216	53.2
Do you think you have enough knowledge about your treatment?	Yes	112	27.6
	No	294	72.4

*HCP=Health care professional.

participants (287, or 70.7%) were aware that they have the right to decide about their care according to their preferences. More than half (53.2%) of the participants reported that they do not intentionally search for health information about their disease condition in advance for their caregivers' information, and all of them gain health information about their disease from their health care provider. (Table 2).

Participant's extent of Perceived involvement in shared decision making by health care providers.

The mean of the participant's score for shared decision-making was 59.7 [95% CI (56.2–61.40)] with a standard deviation of 15.07 (59.7 ± 15.07). Less than half (45.3%) of participants scored above the mean value, while 222 (54.7%) scored less than the mean value. Participants' responses were dichotomized as "agree" (strongly agree and agree) and "disagree" otherwise. (Table 3).

5. Discussion

This study was conducted to assess hypertensive patients' perceived involvement in shared decision-making with a healthcare provider. Our results correspond to those of a previous study, in which patients perceived differences in SDM involvement according to the different steps in the decision-making process. According to this study, the majority of the respondents (54.7%) were told by their care provider that they were in a position to decide on their care. This is much lower when compared with the studies conducted in Malaysia [15] and Spain [5]. This might be the case as healthcare providers rush to check other patients as there are several patients following chronic OPD.

In addition, only about half of the participants (52.2%) respondents agreed that they got an explanation in detail about the benefits and disadvantages of the treatment, which is higher compared with studies in Malaysia [15], which is 13.8% and comparable with the study in Spain [5]. This increased number might be due to patients' strong preference for receiving information about treatment options but not necessarily for retaining control over decisional responsibility. On the other hand, about 52.9% of participants agreed that their care provider helped them understand all the treatment options, which is lower compared with studies conducted in Malaysia (77.1%), and less than half of the participants were helped to understand treatment options. But less than half of the participants (43.4%) were involved in selecting the treatment option they wanted, and only about 34% of participants were involved in the collaborative assessment of treatment. This small proportion might be due to the low awareness of the communities about their health conditions due to low health literacy. In this study, only a small percentage of participants reached consensus with their healthcare provider. The above finding shows a bit of advanced shared decision-making when compared with the study conducted in Malaysia [16]. This might occur as the majority of the participants in our setup are led in decision-making by healthcare providers.

This study also pointed out that there is less joint decision-making (34.4%) between physicians and patients. This is less when compared with the study in Spain⁵. This might be due to the problem with the health literacy of the participants, which is that physicians undermine patients' decisions. Also, the attitudes and decision-making styles of physicians were another factor that led to less participation of patients in joint decision-making [16].

6. Conclusion and recommendation

This study revealed that the level of shared decision-making in clinical encounters among patients with hypertension is low according to the principles of the chronic care model. So, healthcare professionals should practice and invite patients to be participants in their care. In addition, further research needs to be conducted in general on patients to further identify the reason behind low involvement in decision-making.

6.1. Strength

This study focuses on patient communication with healthcare workers, which lays the foundation for patient-centered care and is

Table 3

Chronic patients' extent of perceived involvement in shared decision making in selected Public Hospitals of West Shoa Zone, Central Ethiopia 2020 (n = 406).

SDM-Q-9 items (Variables)	Participants' response			
	Disagree		Agree	
	F	%	F	%
1 Your caretakers tell you clearly that you are in a position to make a decision.	184	45.3	222	54.7
2 Your care giver will try to understand from the conversation how you participate in shared decision-making.	188	46.3	211	53.6
3 Your care provider will explain the details when you have any doubts or complaints and make recommendations on the treatment.	182	44.8	224	55.2
4 Your care giver explained to you correctly and in detail the benefits and disadvantages of the treatment.	194	47.8	212	52.2
5 Your care provider helped you understand all the treatment options.	191	47.1	215	52.9
6 Your care provider asked you which treatment advice you prefer or is more acceptable.	230	56.6	176	43.4
7 Your caregiver and you once worked together to make a complete assessment of different treatment options.	268	66.00	138	33.99
8 Your caretaker and you once jointly chose one type of treatment.	265	65.2	121	34.7
9 Your care provider and you once reached a consensus on the process of future treatment.	251	61.8	155	32.2

*Frequency.

the first of its kind in the study area.

6.2. Limitation of the study

This study is not free of limitations. This study is descriptive in that it couldn't identify factors associated with participants' level of shared decision-making. On the other hand, the study is cross-sectional, so it couldn't determine cause and effect.

Declarations

Ethical approval and consent to participate

Ethical clearance with an ethical approval number of PGC/77/2020 was obtained from the Institutional Health Research Ethics Review Committee (IHRERC) of Ambo University College of Medicine and Health Science. Written informed consent was obtained from the participants before the interview. For participants who couldn't read the informed consent form, the document was orally presented to them or their legally authorized representative in the presence of an independent witness; hence, informed consent was obtained from illiterate participants and was approved by the ethics committee.

Institutional Health Research Ethics Review Committee (IHRERC) of Ambo University College of Medicine and Health Science:

- Ayana Cimdesa (MSc.)
- Yohannes Gemechu (MSc.)
- Lemma Mideksa (MSc.)
- Abebe Dechassa (MSc., Assistant professor)

All methods were performed per relevant guidelines and regulations. In addition, no personal identifiers were used on the data collection questionnaire, and the data obtained from the study participants were not accessed by anybody except the investigator and kept confidential. The participants were assured that they have the right to refuse or withdraw if they are not comfortable at any time.

All study participants are above the age of eighteen; hence, the data was taken directly from the individuals. No data was taken from parents or guardians. Participants' names and other personal identifiers were not used in all sections of the manuscript, including supplementary information. No images or personal pictures were used in this manuscript or in the project.

Consent for publication

Not applicable to this manuscript.

Financial disclosure statement (Funding agency)

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Author contribution statement

Desalegn Emana: Conceived and designed the experiments.

Mulu Kitaba: Performed the experiments; Analyzed and interpreted the data.

Firaol Regea: Analyzed and interpreted the data.

Shalama Lekasa: Performed the experiments; Wrote the paper.

Data availability statement

Data will be made available on request.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.heliyon.2023.e16786>.

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