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RESEARCH ARTICLE

HEALTHCARE DECISION-MAKING AUTONOMY AMONG RURAL INDONESIAN WOMEN: THE INTERPLAY OF CULTURAL, EDUCATIONAL, AND ECONOMIC FACTORS

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ABSTRACT

BACKGROUND

Autonomy in health decision-making is an important indicator of individual empowerment, especially for women in rural areas. Factors such as cultural norms, family dynamics, geographic access to health services, education level, health literacy, and economic status are thought to influence an individual's ability to determine his or her health measures independently. This study aims to analyze the influence of cultural norms, family dynamics, geographic access to health services, education level, health literacy, and economic status on health decision-making autonomy. This study uses a quantitative design with a cross-sectional approach.

METHODS

A total of 720 female respondents of productive age in three rural districts were selected by stratified random sampling. The instrument used is a structured questionnaire that has been validated. Data analysis was carried out multivariate using multiple linear regression using the SPSS program.

RESULTS

Results showed that all independent variables had a significant effect on health decision-making autonomy ($p < 0.05$). The variable of geographic access to health services had the greatest influence ($\beta = 0.41$, 95% CI= 0.30-0.42, p= <0.001), followed by family dynamics ($\beta = 0.22$, 95% CI= 0.17-0.30, p= <0.001), education level ($\beta = 0.14$, 95% CI= 0.41-1.30, p= <0.001), health literacy ($\beta = 0.12$, 95% CI= 0.04-0.14, p= <0.001), cultural norms ($\beta = 0.09$, 95% CI= 0.02-0.10, p=0.007), and economic status ($\beta = 0.08$, 95% CI=0.01-0.14, p=0.020).

CONCLUSION

Health decision-making autonomy is significantly influenced by social, economic, and cultural factors. Autonomy-enhancing interventions should consider a multidimensional approach that includes economic empowerment, education, health literacy, and socio-cultural change at the community level.

KEYWORDS

Autonomy, health decisions, cultural norms, geographic access, health literacy, economic status

INTRODUCTION

Autonomy in health decision-making is an important indicator in women's empowerment and overall health quality. Women's ability to make independent decisions about health care for themselves and their families not only determines access to and use of health services, but also impacts long-term health outcomes [1]. A study by Osamor and Grady (2018) shows that only 6% of women make their own decisions about their health care, while 61% of those decisions are made by husbands or partners without women's participation [2]. Therefore, a deep understanding of the factors that affect the autonomy of health decision-making is essential for designing effective policies and intervention programs [3]. In rural communities in Indonesia, strong patriarchal and traditional norms still dominate patterns of social interaction and gender role-sharing [4].

Family dynamics are also a crucial factor that affects women's autonomy in health decision-making. Patriarchal family structures and less open communication patterns can limit women's freedom to actively participate in decision-making [5,6]. Family involvement in health decisions can be a supporting factor if communication and understanding in the family go well, but on the contrary it can be an obstacle if there is a conflict of interest or dominance of one of the parties [7,8]. Access to health services is a real challenge in rural Indonesia. A study by Anggraini (2023) found that only 25% of Indonesia's population lives within a 1 km radius of health facilities, with a national average of 2.6 km. Long distances and inadequate infrastructure are major obstacles in the accessibility of health services in rural areas [9]. In addition, the lack of information and awareness about the types of healthcare services available exacerbates such access conditions [10]. These barriers not only impact the quantity of visits to health facilities, but also on the quality of health-related decision-making.

The level of health education and literacy has a significant influence on women's ability to understand, evaluate, and use health information effectively [11]. A study by Jassim (2023) reports that women with higher education tend to have better access to health services and are more active in making decisions related to their health [12]. Education plays an important role in empowering women to make more logical and information-based decisions when it comes to their health [13]. Women with good levels of health literacy tend to be more independent and confident in making decisions related to health care [14]. In addition to social and educational factors, family economic conditions are also the main determinants of women's health decision-making autonomy [15]. Research by Terefe et al. (2025) reveals that economic status is a major determinant in determining women's access to health services in low- and middle-income countries [16].

Although these factors have been widely identified, the reality on the ground shows that there is a significant gap between expectations and reality. Ideally, women in rural areas are expected to have high autonomy in health decision-making to achieve optimal health. However, in practice, many women still experience significant limitations due to conservative cultural norms, inequalities in family dynamics, unequal access to services, low levels of education and health literacy, and inadequate economic conditions [17]. This gap poses major challenges in efforts to empower women and strengthen health systems at the rural community level. Therefore, research that comprehensively examines the interaction of these factors is needed to identify the main obstacles and formulate targeted solutions.

Despite the growing body of literature on women's healthcare decision-making autonomy, most studies have examined these determinants in isolation or within urban or nationally representative contexts. There remains limited evidence that simultaneously explores the interaction between geographic access, sociocultural norms, and individual-level capacities within rural settings, particularly in Indonesia. This study aims not only to examine the individual effects of cultural, educational, and economic factors, but also to provide a more integrated understanding of how these factors interact in shaping women's healthcare decision-making autonomy in rural communities. By focusing on a rural population with distinct structural and sociocultural characteristics, this study contributes to the existing literature by offering context-specific and multidimensional insights that may inform more targeted and culturally sensitive health interventions.

METHODS

STUDY DESIGN AND SETTING

The study employed a quantitative design with a cross-sectional approach to examine the relationship between cultural, educational, economic, and geographic access factors to health decision-making autonomy among women in rural Indonesia. The research was conducted in several villages in Malang, Kediri, and Sampang Regencies, East Java Province, Indonesia, representing rural communities with diverse socio-cultural and economic characteristics. These villages were selected using purposive sampling based on three key considerations. First, the selected villages represent typical rural communities where women's healthcare decision-making is potentially influenced by cultural norms, household hierarchies, and traditional gender roles. This makes them appropriate settings for examining the interplay of cultural, educational, and economic influences on women's autonomy. Second, regional health data from the respective local health offices indicated persistent disparities in maternal and reproductive health service utilization, suggesting potential limitations in women's health decision-making autonomy. Third, the villages share comparable sociodemographic patterns, including lower educational attainment, constrained economic resources, and limited geographic access to healthcare facilities. These shared characteristics support a more focused assessment of how contextual factors intersect to influence autonomy. By selecting villages that represent typical rural Indonesian contexts where structural and cultural constraints are most prominent, the inclusion of these sites strengthens the study's ability to capture the nuanced interplay of contextual factors influencing women's healthcare decision-making autonomy. Data collected during the period February to May 2025. Figure 1 is a map showing the locations of the study villages in Malang, Kediri, and Sampang Regencies, East Java Province, Indonesia.

FIGURE 1. GEOGRAPHIC LOCATION OF THE STUDY VILLAGES IN EAST JAVA PROVINCE, INDONESIA

POPULATION AND SAMPLE

The study population consisted of women of reproductive age (18–49 years) who lived in the selected villages and had experience in making decisions related to family health. The sample was obtained using a purposive sampling method with the following inclusion criteria: women aged 18–49 years, having experience in making personal or family health decisions, being willing and able to complete the questionnaire, and having resided in the village for at least six months prior to data collection. This residency requirement ensured that participants were sufficiently familiar with local socio-cultural norms, community dynamics, and geographic access to health services relevant to the study context.

STUDY INSTRUMENTS

This study uses an instrument in the form of a structured questionnaire that is prepared to measure dependent and independent variables. The instruments are arranged on a 5-point Likert scale, with a score range from 1 (Strongly Disagree) to 5 (Strongly Agree). The healthcare decision-making autonomy variable was measured using 10 statement

items that evaluated the extent to which women have control, initiative, and freedom in determining personal health actions. The cultural norms variable consists of 12 items that measure the influence of social norms, cultural values, and traditional beliefs on women's involvement in health decision-making. The family dynamics variable was measured through 12 statements that assessed the extent to which power structures, communication between family members, and emotional support in the family influenced women's health decisions. The variables of geographic access to health services were measured with 10 items covering the spatial, financial, informative, and cultural aspects of geographic access to health services. The health literacy variable is measured through 15 items that measure an individual's ability to acquire, understand, assess, and use relevant health information. Educational level is measured based on the last formal education level completed by respondents. Economic status is measured based on the respondent's monthly household income.

The questionnaire used in this study was specifically developed based on a comprehensive review of previous literature on women's autonomy, health decision-making, and socio-cultural determinants in rural settings. Content validity was evaluated by three experts in public health, women's health, and community health nursing, who assessed each item for relevance, clarity, and cultural appropriateness. Revisions were made according to expert feedback to ensure that the instrument accurately reflected the contextual factors influencing women's healthcare decision-making autonomy. A pilot test was conducted with 30 women in a non-study village who shared similar sociodemographic characteristics with the target population. The pilot testing aimed to evaluate item comprehension, response clarity, and the overall usability of the questionnaire. Internal consistency reliability was assessed using Cronbach's alpha, which demonstrated strong reliability across the primary constructs, with alpha values of 0.88 for healthcare decision-making autonomy, 0.84 for cultural norms, 0.86 for family dynamics, 0.82 for geographic access to health services, and 0.89 for health literacy.

DATA COLLECTION

The data collection process in this study was carried out using a field survey approach with the assistance of a structured questionnaire. Data were collected over a period of 3 months in rural areas that had been designated as research locations based on criteria of limited geographic access to health services and sociocultural contexts where cultural norms are expected to influence family decision-making processes. However, cultural influence was not assumed solely based on rural residence, but was quantitatively assessed using a structured measurement of cultural norms within the study instrument. The selection of locations and participants was conducted using a purposive sampling method, taking into account the demographic representation of women of reproductive age (18–49 years). To ensure effectiveness and accuracy during data collection, the study involved specially trained field assistants or enumerators. Enumerators were recruited from local communities, each with a minimum high school educational background and the ability to communicate effectively in the local language, with six enumerators assigned to each district. During the interview process, the enumerators did not provide personal interpretations of the questions but instead read directly from the questionnaire and recorded respondents' answers according to the given instructions. After the data collection process was completed, all questionnaires were gathered and re-checked (data cleaning) to identify any incomplete, illogical, or duplicate responses. Valid data were then entered into SPSS software version 26 for further analysis using the multiple linear regression (multivariate) method.

DATA ANALYSIS

Descriptive analysis was conducted to describe the demographic characteristics of respondents and the score distribution of the research variables. To test the influence of independent variables (cultural norms, family dynamics, geographic access to health services, education level, health literacy, and economic status) on dependent variables (autonomy of health decision-making), multiple linear regression analysis was performed using SPSS software version 26. Multiple linear regression models were then estimated to determine the contribution of each independent variable simultaneously and partially to health decision-making autonomy. The regression coefficient (β) and significance value (p-value) are used to assess the strength and direction of the relationship between variables. Variables with a $p<$ value of 0.05 were considered to have a significant influence on health decision-making autonomy.

RESEARCH ETHICS

This research has received approval from the Research Ethics Committee of Bhakti Wiyata Kediri Institute of Health Sciences (Number: 37/FTMK/EP/I/2025). All respondents provided written informed consent. The data obtained were kept confidential, and all information collected was analyzed solely for research and publication purposes and was not shared, distributed, or used for administrative, commercial, or any other non-research activities.

RESULTS

TABLE 1. RESPONDENTS CHARACTERISTICS

Characteristics	n	%
Age		
<25	127	17.6
25-34	220	30.6
35-44	198	27.5
≥45	175	24.3
Status		
Single	114	15.8
Married	580	80.6
Divorced	26	3.6
Number of Children		
0	125	17.4
1-2	448	62.2
≥3	147	20.4
Education Level		
Junior High School	520	72.2
Senior High School	107	14.9
A 3-year Diploma	9	1.3
A 4-year Diploma	23	3.2
Bachelor Degree	22	3.1
Master's Degree	39	5.4
Occupation		
Housewife	283	39.3
Farmer	129	17.9
Private Employee	136	18.9
Self-employed	107	14.9
Civil Servant	65	9.0
Income		
< Regional Minimum Wage	540	75.0
≥ Regional Minimum Wage	180	25.0
Distance to Nearest Health Facility		
< 1 km	194	26.9
1-4 km	365	50.7
≥ 5 km	161	22.4
Type of Health Facility Usually Visited		
Health Center	312	43.3
Private Clinic	189	26.3
Hospital	219	30.4
Health Insurance Status		

Yes	573	79.6
No	147	20.4
Geographic Access to Health Services in the Last 6 Months		
Yes	608	84.4
No	112	15.6

A total of 720 women from rural areas participated in the study. Based on age distribution, the majority of respondents were in the age group of 25–34 years (30.6%). In terms of marital status, most of the respondents were married (80.6%). Regarding the number of children, the majority of respondents had 1–2 children (62.2%). Based on education level, most respondents only completed education up to the junior high school level (72.2%). In terms of employment, the majority of participants were employed across various sectors (60.7%). Most respondents (75.0%) had an income below the regional minimum wage (UMR). The distance of respondents' residence to the nearest health facility varied, with 50.7% being within 1–4 km. The most visited health facilities were health centers (43.3%). Most of the respondents had a membership status in health insurance (79.6%). In the last six months, as many as 84.4% of respondents were recorded to have accessed health services.

TABLE 2. DESCRIPTIVE STATISTICS OF VARIABLES

Variable	SD	Mean	Min	Max
Healthcare Decision-Making Autonomy	8.62	35.53	15	50
Cultural Norms	13.30	32.59	10	60
Family Dynamics	7.98	32.10	19	58
Geographic Access to Health Services	9.84	27.29	10	50
Educational Level	1.38	1.66	1	6
Health Literacy	11.17	35.58	5	75
Economic status	8.91	29.89	16	58

Table 2 summarizes the descriptive statistics of all variables. The mean score for healthcare decision-making autonomy was 35.53, indicating moderate variation. Cultural norms (Mean = 32.59) and family dynamics (Mean = 32.10) showed diverse beliefs and household roles. Geographic access to health services (Mean = 27.29) reflected disparities in service availability. The average educational level (Mean = 1.66 on a 1–6 scale) indicated low formal education. Health literacy (Mean = 35.58) varied widely, as did economic status (Mean = 29.89).

TABLE 3. ASSOCIATIONS BETWEEN SOCIOCULTURAL, EDUCATIONAL, ECONOMIC FACTORS AND HEALTHCARE DECISION-MAKING AUTONOMY

Variable		Healthcare Decision	Cultural Norms	Family Dynamics	Geographic access	Educational Level	Health Literacy	Economic status
Healthcare Decision	Pearson Correlation	1	-.022	.277**	.457**	.300**	.024	.164**
	p		.562	.000	.000	.000	.516	.000
Cultural Norms	Pearson Correlation	-.022	1	.061	-.258**	-.182**	.145**	-.130**
	p	.562		.102	.000	.000	.000	.000
Family Dinamics	Pearson Correlation	.277**	.061	1	.099**	.111**	-.053	.035
	p	.000	.102		.008	.003	.159	.344
Geographic access	Pearson Correlation	.457**	-.258**	.099**	1	.362**	-.123**	.162**
	p	.000	.000	.008		.000	.001	.000

Education Level	Pearson Correlation	.300**	-.182**	.111**	.362**	1	-.189**	.374**
	p	.000	.000	.003	.000		.000	.000
Health Literacy	Pearson Correlation	.024	.145**	-.053	-.123**	-.189**	1	-.250**
	p	.516	.000	.159	.001	.000		.000
Economic status	Pearson Correlation	.164**	-.130**	.035	.162**	.374**	-.250**	1
	p	.000	.000	.344	.000	.000	.000	
**. Correlation is significant at the 0.01 level (2-tailed).								

Table 3 presents the results of a bivariate correlation analysis between the variables of health decision-making autonomy and socio-cultural, educational, and economic factors. Results showed that health decision-making autonomy had a positive and significant correlation with the variables family dynamics ($r = 0.277$; $p < 0.01$), geographic access to health services ($r = 0.457$; $p < 0.01$), educational level ($r = 0.300$; $p < 0.01$), and economic status ($r = 0.164$; $p < 0.01$). This indicates that the better the family dynamics, geographic access to health services, education level, and economic status of the respondents, the higher their autonomy in health decision-making.

TABLE 4. MULTIVARIATE LINEAR REGRESSION ANALYSIS OF FACTORS INFLUENCING HEALTHCARE DECISION-MAKING AUTONOMY

Variables	Unstandardized coef. (B)	SE	Standardized coef. (β)	t	p	95% CI	
						Lower	Upper
Cultural Norms	0.06	0.02	0.09	2.70	0.007	0.02	0.10
Family Dynamics	0.24	0.03	0.22	6.92	<0.001	0.17	0.30
Geographic Access	0.36	0.03	0.41	11.93	<0.001	0.30	0.42
Educational Level	0.85	0.23	0.14	3.77	<0.001	0.41	1.30
Health Literacy	0.10	0.03	0.12	3.64	<0.001	0.04	0.14
Economic status	0.08	0.03	0.08	2.32	0.020	0.01	0.14

Table 4 presents the multivariate regression results showing that all tested variables significantly and positively influenced women's healthcare decision-making autonomy in rural areas. Geographic access to health services had the strongest effect ($\beta = 0.41$, $p < 0.001$), followed by family dynamics ($\beta = 0.22$), educational level ($\beta = 0.14$), and health literacy ($\beta = 0.12$). Cultural norms ($\beta = 0.09$, $p = 0.007$) and economic status ($\beta = 0.08$, $p = 0.020$) also showed significant associations.

DISCUSSION

This study highlights the importance of sociocultural context in shaping women's autonomy in health decision-making. Cultural norms had a significant influence on health decision-making autonomy among women. This data indicates that social values, customs, and collective beliefs prevailing in communities can encourage or hinder women in making decisions related to their personal health. Based on the Health Belief Model (HBM), an individual's perception of health risks, the benefits of medical measures, and psychological and social barriers to accessing health services is greatly influenced by the cultural context in which the individual lives [18]. In addition, social norms and values including patriarchal culture, maternal values, and power structures in the household are very strong non-medical determinants in influencing health outcomes and access to health services [19]. These findings are consistent with previous studies by Olwanda et al. (2024), which emphasize the role of cultural norms as key determinants of women's autonomy, while also

suggesting that cultural norms may not function solely as barriers but can act as enabling factors depending on how they are interpreted within the community context [20].

This study also emphasizes the role of intra-household relationships in shaping women's decision-making autonomy. Family dynamics contributed significantly to the autonomy of health decision-making. The coefficient value indicates that the relationship between family members, the power structure in the household, and the way of joint decision-making in the family have a strong influence on the extent to which individuals, especially women, have independence in determining the health measures to be taken [21]. Families that are collaborative, supportive, and open to dialogue allow for the active participation of other family members, including women, in health-related decision-making. It reinforces an individual's involvement and sense of responsibility for his or her own health [22]. Family dynamics influence health decisions through interconnected household relationships [23]. In this context, health decisions are not only individual, but are the result of complex interactions between family members [24]. These findings are in line with prior research by Rizkianti et al. (2020), highlighting the importance of family support in shaping women's health decision-making autonomy [6]. The empowerment of the family as the smallest social unit is therefore essential.

This study further demonstrates the critical role of structural factors, particularly geographic access to health services, in shaping autonomy. Geographic access to health services was identified as the strongest predictor of health decision-making autonomy. This means that the easier it is for individuals to access facilities, health workers, medical information, and affordable service costs, the higher the likelihood of individuals engaging in health-related decision-making. When services are geographically accessible, individuals may be more likely to engage in health-related decision-making. However, this relationship should be interpreted with caution, as geographic availability does not necessarily equate to effective access, nor does it inherently facilitate independent decision-making. A range of additional factors, including sociocultural norms, financial constraints, health literacy, and intra-household power dynamics, may also significantly influence these outcomes [25,26]. This finding aligns with previous studies on healthcare access, yet it also highlights that access is a multidimensional concept that extends beyond spatial proximity alone. Based on these findings, geographic access to health services is not only a technical issue, but also closely related to aspects of human rights, social justice, and individual empowerment. Autonomy in health decision-making is difficult to achieve when individuals are constantly hampered by unresponsive, unaffordable, and unfriendly systems. Therefore, there needs to be a transformation in the healthcare system to ensure equitable availability, affordability, and geographic access to services.

This study also underscores the importance of educational attainment in enhancing women's autonomy. Education level had a positive and significant relationship with health decision-making autonomy. This suggests that individuals with higher education tend to have a greater ability to make health decisions independently. Education plays an important role in shaping a person's cognitive capacity, including in terms of understanding health information, considering different service options, and assessing the risks and benefits of certain medical procedures. The higher a person's level of education, the higher their ability to access, understand, evaluate, and use health information effectively to make informed decisions [27]. Education increases self-efficacy, or self-confidence that a person is able to control and make decisions over his or her own health [28]. The knowledge gained from formal education enables individuals to develop better outcome expectation and self-regulation in health decision-making.

Health literacy showed a significant positive relationship with decision-making autonomy in health services. This means that the higher the level of health literacy a person, the higher his ability to make health-related decisions independently. Health literacy reflects an individual's ability to acquire, understand, and use health information to make informed decisions. In the context of this study, individuals with good health literacy are able to recognize their own medical needs, evaluate treatment options, and communicate effectively with health care providers. High health literacy strengthens one's competence in understanding the risks and benefits of medical measures, which in turn increases feelings of autonomy in making decisions [29]. A person who feels able to understand medical instructions and health information is more likely to make their own decisions than to rely on others [30]. While these findings support previous research, this study further highlights that the impact of health literacy may be constrained or facilitated by social and cultural contexts, reinforcing the importance of integrating individual and contextual approaches. These findings confirm that health

literacy is an important prerequisite for fostering autonomy in health decision-making, especially in culturally and socially complex societies.

The interplay between education, health literacy, and social values reflects a dynamic tension that strongly shapes women's autonomy in health decision-making [31]. Although higher education and advanced health literacy enhance women's cognitive ability to interpret medical information, these capabilities may still be constrained by deeply rooted social norms, customary expectations, and patriarchal structures within the community. In many rural settings, even well-educated women may hesitate to make independent health decisions due to family expectations or cultural prescriptions regarding gender roles [32]. Conversely, strong cultural conformity may limit opportunities for women to apply their health literacy skills in real-life decision-making situations. This interaction shows that cognitive empowerment alone is insufficient unless accompanied by supportive social environments that allow women to exercise the autonomy gained through education and health literacy.

Economic status had a positive and significant relationship with health decision-making autonomy. This suggests that individuals with higher economic status tend to have a greater degree of independence in making decisions related to their health. Individuals with higher incomes are more likely to access quality health services within their geographic reach, choose a service provider, and obtain adequate health information. Higher economic status reduces financial barriers, so individuals are freer and more confident in choosing health options according to their needs [33]. These findings are consistent with prior studies suggesting that economic status interacts with other determinants, such as access, education, and cultural norms, indicating that financial capacity alone may not fully determine autonomy [34].

This study provides an important contribution to the existing body of knowledge by demonstrating that women's healthcare decision-making autonomy is shaped by the interaction of structural, sociocultural, and individual-level factors, rather than by single determinants alone. While previous studies have often emphasized either access, education, or cultural norms independently, this study highlights how these dimensions operate simultaneously within rural contexts. The identification of geographic access as the strongest predictor, alongside the moderating role of sociocultural and familial influences, offers new insights into how autonomy is constructed in resource-limited settings. These findings underscore the need for integrated interventions that move beyond improving service availability to also addressing underlying social and cultural constraints.

CONCLUSION

This study shows that the autonomy of health decision-making in women in rural areas is significantly influenced by various socio-cultural, educational, and economic factors. The results of multivariate linear regression analysis indicated that all the variables tested, namely geographic access to health services, family dynamics, education level, health literacy, cultural norms, and economic status contributed positively and significantly to increasing women's autonomy in making health-related decisions.

LIMITATIONS

While this study offers valuable insights into the sociocultural, educational, and economic determinants of healthcare decision-making autonomy among women in rural Indonesia, several limitations should be acknowledged. First, this study focused on women residing in rural areas characterized by limited geographic access to health services and specific sociocultural contexts. While this approach allows for a more context-specific analysis, it may limit the generalizability of the findings to populations with different geographic or sociocultural conditions. Although the sample size was relatively large and included three diverse rural districts in East Java, the findings may not fully represent other rural or urban populations with differing structural and cultural characteristics. Some aspects of cultural influence may not have been directly observed but instead inferred from contextual characteristics, which may introduce measurement limitations. Future studies are recommended to incorporate qualitative or mixed method approaches to better explore how cultural norms shape decision-making processes in greater depth. This study did not include several potentially relevant variables, such as the quality of healthcare services, spousal communication patterns, and prior healthcare experiences, which may

also influence women's decision-making autonomy. The cross-sectional design of this study additionally limits the ability to establish causal relationships between variables. Future research is encouraged to address these limitations by incorporating broader contextual factors and longitudinal or mixed method designs for a more comprehensive understanding.

RECOMMENDATIONS

Based on the findings of this study, there are several strategic recommendations that can be considered by policy makers, health practitioners, and community empowerment institutions to increase the autonomy of health decision-making among rural women, including the government and health care providers need to expand the coverage and affordability of health facilities, especially in rural areas to ensure women have easy geographic access to health services. quality, as well as family education and counselling programs should be integrated into community health interventions, emphasizing the importance of family support in supporting women's independence in health decision-making.

AUTHORSHIP

The author confirms that this manuscript represents original work conceived, designed, executed, and interpreted solely by the undersigned. The author was fully responsible for the development of the research idea, data collection, analysis, and manuscript preparation. The final version of the manuscript has been reviewed and approved by the sole author.

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CONFLICTS OF INTEREST

The author declare that there is no conflict of interest.

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References

1. Idris IB, Hamis AA, Bukhori ABM, Hoong DCC, Yusop H, Shaharuddin MAA, et al. Women's autonomy in healthcare decision making: a systematic review. BMC Womens Health [Internet]. 2023;23(1):1–10. Available from: https://doi.org/10.1186/s12905-023-02792-4
2. Osamor P, Grady C. Decision making autonomy: emperical evidence from Nigeria. J Biosoc Sci. 2018;50(1):70–85.
3. Fagan AGP, Fagan GP. Understanding the Influence of Cultural Norms on Diagnosis and Treatment : The Crucial Role of Ethnographic Research in Biopharmaceutical Development. Intergov Res Policy J. 2023;1(2):1–18.
4. Unicef. Global Annual Results Report 2022. 2022. 1-60 p.
5. Lwamba E, Shisler S, Ridlehoover W, Kupfer M, Tshabalala N, Nduku P, et al. Strengthening women's empowerment and gender equality in fragile contexts towards peaceful and inclusive societies: A systematic review and meta-analysis. Campbell Syst Rev. 2022;18(1):1–12.
6. Rizkianti A, Afifah T, Saptarini I, Rakhmadi MF. Women's decision-making autonomy in the household and the use of maternal health services: An Indonesian case study. Midwifery. 2020;90(1):1–9.
7. Herwansyah H, Czabanowska K, Kalaitzi S, Schröder-Bäck P. Understanding Interpersonal Influences on Maternal Health Service Utilization at Community Health Centers: A Mixed-Methods Study in Indonesia. Healthc. 2025;13(1):1–12.

8. Kishino M, Ellis-Smith C, Afolabi O, Koffman J. Family involvement in advance care planning for people living with advanced cancer: A systematic mixed-methods review. Palliat Med. 2022;36(3):462–77.
9. Anggraini N. Healthcare Access and Utilization in Rural Communities of Indonesia. J Community Heal Provis. 2023;3(1):14–9.
10. Jindal M, Chaiyachati KH, Fung V, Manson SM, Mortensen K. Eliminating health care inequities through strengthening access to care. Health Serv Res. 2023;58(S3):300–10.
11. Chen X, Hay JL, Waters EA, Kiviniemi MT, Biddle C, Schofield E, et al. Health Literacy and Use and Trust in Health Information. J Health Commun. 2018;23(8):724–34.
12. Jassim G. Introducing women's health in the higher education curriculum: An innovative experience in advancing women's health. MedEdPublish. 2018;7(1):1–8.
13. Yunitawati D, Latifah L, Suryaputri IY, Laksono AD. A Higher Maternal Education Level Could Be a Critical Factor in the Exceeded Cesarean Section Delivery in Indonesia. Iran J Public Health. 2024;53(1):219–27.
14. Sentell T, Agner J, Pitt R, Davis J, Guo M, McFarlane E. Considering health literacy, health decision making, and health communication in the social networks of vulnerable new mothers in Hawaii: A pilot feasibility study. Int J Environ Res Public Health. 2020;17(7):9–12.
15. Bitew DA, Getahun AB, Gedef GM, Andualem F, Getnet M. Determinants of household decision making autonomy among rural married women based on Ethiopian demography health survey: a multilevel analysis. BMC Womens Health. 2024;24(1):1–9.
16. Terefe B, Workneh BS, Zeleke GA, Mekonen EG, Zegeye AF, Aemro A, et al. Uncovering women's healthcare access challenges in low- and middle-income countries using mixed effects modelling approach: Insights for achieving the Sustainable Development Goals. PLoS One [Internet]. 2025;20(1):1–21. Available from: http://dx.doi.org/10.1371/journal.pone.0314309
17. Iqbal A, Hassan S, Mahmood H, Tanveer M. Gender equality, education, economic growth and religious tensions nexus in developing countries: A spatial analysis approach. Heliyon. 2022;8(11):1–8.
18. Kam BS, Lee SY. Integrating the health belief model into health education programs in a clinical setting. World J Clin cases [Internet]. 2024;12(33):6660–3. Available from: http://www.ncbi.nlm.nih.gov/pubmed/39600476%0Ahttp://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=PMC11514333
19. Cislaghi B, Heise L. Gender norms and social norms: differences, similarities and why they matter in prevention science. Sociol Heal Illn. 2020;42(2):407–22.
20. Olwanda E, Opondo K, Oluoch D, Croke K, Maluni J, Jepkosgei J, et al. Women's autonomy and maternal health decision making in Kenya: implications for service delivery reform - a qualitative study. BMC Womens Health [Internet]. 2024;24(1):1–11. Available from: https://doi.org/10.1186/s12905-024-02965-9
21. Maral P, Kumar V. Family structure and decision-making power among working and non-working women. IAHRW Int J Soc Sci [Internet]. 2017;5(4):574–80. Available from: https://www.researchgate.net/profile/Priyaranjan_Mrl2/publication/322617455_Family_structure_and_decision_making_power_among_working_and_non-working_women/links/5a62e1f9aca272a15819eb11/Family-structure-and-decision-making-power-among-working-and-non-work
22. Mathur S, Kirk K, Dadi C, Dougherty L. Women's involvement in decision-making and association with reproductive health behaviors: findings from a cross-sectional survey in Niger. BMC Womens Health. 2024;24(1):1–11.
23. Savell SM, Saini R, Ramos M, Wilson MN, Lemery-Chalfant K, Shaw DS. Family processes and structure: Longitudinal influences on adolescent disruptive and internalizing behaviors. Fam Relat. 2023;72(1):361–82.
24. Barnes MD, Hanson CL, Novilla LB, Magnusson BM, Crandall AAC, Bradford G. Family-Centered Health Promotion: Perspectives for Engaging Families and Achieving Better Health Outcomes. Inq (United States). 2020;57:0–5.
25. Huang Y, Wang T, Wang H, Zeng Y, Xie L. Health beliefs mediates the association between the number of non-communicable diseases and preventive behaviors in middle-aged and older adults in southern China. Aging Clin Exp Res [Internet]. 2025;37(1):10–2. Available from: https://doi.org/10.1007/s40520-025-02939-3
26. McCartney G, Popham F, McMaster R, Cumbers A. Defining health and health inequalities. Public Health. 2019;172(1):1–14.

27. Rashwan ZI, Khalil HA, Khonji LM, Narayanan G, Altheeb MK, Pradeep R, et al. Effect of empowerment-based interventions on self-efficacy and self-care capacity among patients with sickle cell disease: A randomized controlled trial. Int J Nurs Sci [Internet]. 2025;12(1):42–50. Available from: https://doi.org/10.1016/j.ijnss.2024.12.011
28. Sebastian AT, Rajkumar E, Tejaswini P, Lakshmi R, Romate J. Applying social cognitive theory to predict physical activity and dietary behavior among patients with type-2 diabetes. Heal Psychol Res. 2021;9(1):1–9.
29. Smith Y, Garcia-Torres R, Coughlin SS, Ling J, Marin T, Su S, et al. Effectiveness of social cognitive theory-based interventions for glycemic control in adults with type 2 diabetes mellitus: Protocol for a systematic review and meta-analysis. JMIR Res Protoc. 2020;9(9):1–11.
30. Galletta M, Piazza MF, Meloni SL, Chessa E, Piras I, Arnetz JE, et al. Patient Involvement in Shared Decision-Making: Do Patients Rate Physicians and Nurses Differently? Int J Environ Res Public Health. 2022;19(21):1–13.
31. Alfian SD, Griselda M, Pratama MAA, Alshehri S, Abdulah R. Factors associated with decision-making autonomy in healthcare utilization among married women from the Indonesia demographic health survey 2017. Sci Rep. 2025 Mar;15(1):9770.
32. Woldegerima S, Fritsma T, Henning-Smith C, Rosenberg M, Olson APJ. Gender differences in factors associated with rural health care practice in Minnesota. J Rural Heal Off J Am Rural Heal Assoc Natl Rural Heal Care Assoc. 2025 Mar;41(2):e12883.
33. Hu X, Wang T, Huang D, Wang Y, Li Q. Impact of social class on health: The mediating role of health self-management. PLoS One [Internet]. 2021;16(7 July):1–12. Available from: http://dx.doi.org/10.1371/journal.pone.0254692
34. Barakat C, Konstantinidis T. A Review of the Relationship between Socioeconomic Status Change and Health. Int J Environ Res Public Health. 2023;20(13):1–13.