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The Role of Health Literacy in Enhancing Healthcare Access Among Socioeconomically Disadvantaged Groups in Thane District

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Abstract:

This study investigates the role of health literacy in enhancing healthcare access among socioeconomically disadvantaged groups in Thane District, Maharashtra, India. Health literacy is a critical determinant of an individual's ability to make informed health decisions, yet it remains a significant barrier for marginalized populations, particularly in rural and underdeveloped areas. Using a survey-based methodology, data was collected from 400 participants to assess health literacy levels, identify barriers to healthcare access, and evaluate strategies to improve health literacy. The findings reveal that while participants exhibit moderate to high health literacy in understanding health information and communicating with healthcare providers, challenges persist in areas such as following medical instructions and navigating systemic barriers like cost, distance, and lack of awareness about services. Participants strongly support strategies such as simplifying written materials, expanding health education programs, and integrating health literacy into school curricula and community workshops. The study underscores the need for multi-faceted, culturally appropriate interventions to address health literacy gaps and improve healthcare utilization among disadvantaged populations. The study underscores the need for multi-faceted, culturally appropriate interventions tailored to different age groups to address health literacy gaps and improve healthcare utilization among disadvantaged populations. These insights offer actionable recommendations for policymakers and healthcare providers to reduce health disparities and promote equitable access to healthcare.

Keywords: Health Literacy, Healthcare Access, Socioeconomic Disparities, Thane District & Health Education Strategies

Introduction:

Health literacy plays a crucial role in enabling individuals to make informed decisions about their health and healthcare. It is the ability to understand, process, and apply health information to maintain and improve health. For socioeconomically disadvantaged populations, limited health literacy can create significant barriers to accessing and utilizing healthcare services, which can lead to poorer health outcomes. In India, where inequality in healthcare access is a persistent issue, understanding the role of health literacy becomes essential for improving health outcomes among marginalized communities. Socioeconomic barriers, such as low income, limited education, and lack of access to reliable information, disproportionately affect people in rural and underdeveloped regions.

Thane District, located in Maharashtra, India, is a mix of urban and rural populations, with significant socio-economic disparities. The region has experienced rapid urbanization, but many parts still face challenges related to healthcare access, particularly for marginalized groups such as lower-income families, tribals, and migrant populations. Studies have shown that rural

communities in India often face greater healthcare disparities due to factors such as limited infrastructure, lack of awareness, and insufficient health services (Barik, D., & Thorat, A. ,2015) (Player, Jacob ,2019). Despite the government's efforts, including initiatives like the National Rural Health Mission (NRHM) and the Ayushman Bharat scheme, healthcare access remains unequal, particularly for the poorest sectors. Socioeconomically disadvantaged groups in Thane District often lack the necessary health literacy to navigate the healthcare system, exacerbating their inability to access available services (International Health Policies.,2024).

Research Objectives:

This study aims to:

1. Assess the level of health literacy among socioeconomically disadvantaged groups in Thane District.
2. Identify the key barriers to healthcare access experienced by these groups.
3. Evaluate the relationship between health literacy and healthcare utilization patterns within these communities.
4. Provide recommendations for improving health literacy as a means to enhance healthcare access.

Review of Literature:

Health literacy is a critical determinant of health outcomes and healthcare access, particularly for socioeconomically disadvantaged populations. Over the years, various frameworks have been developed to understand the complex interplay between individual skills, external factors, and health outcomes. For instance, the Health Literacy Skills Framework (Squiers et al., 2012) highlights how skill development, influenced by cultural and familial contexts, translates into improved health outcomes. Similarly, public health frameworks like Healthy People and health promotion models emphasize the role of systemic interventions in addressing health literacy gaps (Baur, 2010). More recently, the e-Health Literacy Framework (eHLF) has identified seven domains—such as information processing, engagement, and digital accessibility—that are crucial for leveraging e-health services (Norgaard et al., 2015). These frameworks underscore the importance of integrating health literacy into policy-making and intervention design.

Health literacy disparities are deeply intertwined with socioeconomic status (SES), which acts as a significant determinant of an individual’s ability to navigate health systems. Low SES, particularly limited education and income, contributes significantly to health literacy disparities, with education accounting for approximately 37% and income for 30% of these disparities (Fleary & Ettienne, 2019; Stormacq et al., 2018). Beyond individual-level factors, relational social status (e.g., civic engagement) and social resources (e.g., English proficiency) also influence health literacy levels (Rikard et al., 2016). Health literacy mediates the relationship between SES and health outcomes, including preventive behaviors and utilization of healthcare services (Stormacq et al., 2018). However, while health literacy is a key factor, it is not the sole contributor to health disparities. The interplay between social determinants, health literacy, and health inequities remains complex and requires nuanced approaches to address effectively (Schillinger, 2021).

Interventions aimed at improving health literacy among socioeconomically disadvantaged groups have shown promise in enhancing health-related outcomes. Effective strategies are typically theory-based, multi-faceted, and tailored to the unique challenges faced by marginalized communities. For example, culturally appropriate interventions that incorporate skills-building

components have demonstrated success in overcoming barriers such as financial insecurity and limited access to reliable health information (Stormacq et al., 2020). By improving health literacy or making health services more accessible to those with low health literacy, it may be possible to achieve greater equity in health outcomes (Stormacq et al., 2018).

From a socio-ecological perspective, health literacy operates at multiple levels—individual, community, and systemic—to influence health behaviors and outcomes. At the individual level, health literacy enables people to find, understand, and apply health information effectively (Sentell et al., 2020). At the community and population levels, collective health literacy is essential for addressing public health challenges and achieving health equity (Sentell et al., 2020). Healthcare systems also play a critical role in fostering health literacy through improved patient engagement and communication (McCormack et al., 2017). Integrating principles of socioecology and critical pedagogy into health promotion initiatives can empower individuals and communities to take charge of their health (Dawkins-Moultin et al., 2016). Educational settings, particularly health curricula for adolescents, offer another avenue for developing health literacy skills, emphasizing the importance of context in shaping health behaviors (Wharf Higgins et al., 2009).

Despite extensive research on health literacy, significant gaps remain, particularly for socioeconomically disadvantaged groups in regions like Thane District. Existing studies often focus on urban or high-income populations, leaving rural and marginalized communities underrepresented. Additionally, most research examines health literacy in isolation, neglecting systemic issues such as inadequate healthcare infrastructure, lack of awareness about services, and limited digital access, which disproportionately affect rural areas. There is also limited evidence on the effectiveness of health literacy interventions in resource-constrained settings like Thane. Furthermore, the intersectional challenges faced by marginalized groups—such as caste, gender, and migration status—are rarely addressed. This study aims to address these gaps by exploring the role of health literacy in improving healthcare access among disadvantaged populations in Thane District.

Hypothesis Statement:

Null Hypothesis (H_0): There is no significant difference in the mean scores of health literacy assessment, barriers to healthcare access, and strategies for improving health literacy among the four age groups.

Research Methodology:

This research explores the role of health literacy in enhancing healthcare access among socioeconomically disadvantaged groups in Thane District, Maharashtra, India. Health literacy is critical for making informed health decisions, yet limited health literacy disproportionately affects marginalized populations, particularly in rural and underdeveloped areas. Thane District, with its mix of urban and rural populations, faces significant healthcare disparities due to factors like low income, limited education, and inadequate infrastructure.

The study addresses the impact of health literacy on healthcare access, aiming to:

i. Assess health literacy levels.
ii. Identify barriers to healthcare access.
iii. Evaluate the relationship between health literacy and healthcare utilization.
iv. Provide recommendations to improve health literacy and access.

A survey-based methodology using structured questionnaires was adopted. The questionnaire included sections on demographics, health literacy assessment (using a 5-point Likert scale), barriers to healthcare access, and strategies to improve health literacy. Convenience sampling was used to select 400 participants from diverse backgrounds, ensuring representation across age, gender, income, and education levels. A Cronbach's alpha test was conducted to assess the internal consistency and reliability of the questionnaire. The results confirmed that the questionnaire was reliable, with a Cronbach's alpha value above the 0.7 threshold level, indicating strong internal consistency among the items. This ensured that the questionnaire effectively measured the intended constructs related to health literacy, barriers to healthcare access, and strategies for improvement.

Result & Findings:

Descriptive analysis:

Table 1.1: Demographic characteristics of survey respondents

Variable	Category	Counts	% of Total
Age	26–35	89	22.30%
	36–45	100	25.00%
	46–55	120	30.00%
	Above 55	91	22.80%
Gender	Female	233	58.30%
	Male	167	41.80%
Monthly Household Income	Less than ₹10,000	23	5.80%
	₹10,001–₹25,000	36	9.00%
	₹25,001–₹50,000	155	38.80%
	More than ₹50,000	186	46.50%
Level of Education	College/University	47	11.80%
	Higher Secondary	139	34.80%
	No Formal Education	23	5.80%
	Primary School	36	9.00%
	Secondary School	155	38.80%
Urban or Rural Residence	Rural	149	37.30%
	Urban	250	62.70%

Source: Interpreted by researcher based on primary data

The demographic analysis of the sample reveals key insights into the composition of the study population. The age distribution is fairly balanced, with the majority falling within the 46–55 age group (30.0%), followed closely by the 36–45 age group (25.0%). Gender representation is skewed towards females, who account for 58.3% of respondents, compared to 41.8% males. In terms of income, a significant proportion of respondents earn more than ₹50,000 per month (46.5%), while only 5.8% earn less than ₹10,000, indicating a relatively wide economic range within the sample. Education levels show that most participants have completed secondary school (38.8%) or higher secondary education (34.8%), with only 5.8% reporting no formal education. Regarding residence, the majority live in urban areas (62.7%), reflecting the mixed urban-rural nature of Thane District. Overall, the data highlights a diverse sample, with notable variations in income, education, and urban-rural residency, providing a robust basis for analyzing health literacy and healthcare access among socioeconomically disadvantaged groups.

Table 1.2: Health literacy assessment

Health literacy assessment	Mean	SD	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)
I am confident in understanding health information provided by doctors or healthcare workers.	3.96	0.94	2	4.5	20.5	41.3	31.8
I can easily understand written health materials (e.g., pamphlets, prescriptions).	3.9	0.865	1	5.3	21.3	48	24.5
I regularly search for health-related information (e.g., online, from friends/family).	4.04	0.844	1.5	2.3	18	47.5	30.8
I feel comfortable asking healthcare providers questions about my health.	3.98	0.911	1.5	4.8	19.3	43.5	31
I can follow instructions for taking medications or following treatment plans.	3.63	0.964	2.5	8.8	30	40.3	18.5

Source: Interpreted by researcher based on primary data

The health literacy assessment results reveal that participants generally exhibit a moderate to high level of confidence and competence in understanding and managing health-related information. Most participants feel confident in understanding health information provided by doctors or healthcare workers, with 73.1% agreeing or strongly agreeing with this statement. Similarly, a large majority (72.5%) find it easy to understand written health materials, such as pamphlets and prescriptions, with nearly half of the respondents (48%) agreeing they can easily comprehend such materials. Participants also demonstrate proactive behavior in seeking health-related information, as 78.3% report regularly searching for health information online or from friends and family. Additionally, a strong majority (74.5%) feel comfortable asking healthcare providers questions about their health, reflecting effective communication skills in healthcare settings. However, when it comes to following instructions for taking medications or adhering to treatment plans, the results show more variability, with 58.8% reporting they can follow instructions, while a significant proportion (38.8%) remain neutral or express difficulty. This suggests that while participants have good overall health literacy, challenges remain in implementing specific aspects of treatment. Targeted efforts to improve understanding and adherence to medical instructions could further enhance health literacy outcomes.

Table 1.3: Barriers to healthcare assessment

Barriers to healthcare access	Mean	SD	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)
The cost of healthcare services prevents me from accessing them.	3.89	0.912	0.8	6.5	23.8	41.3	27.8
The distance to healthcare facilities is a barrier for me.	4.06	0.849	0.3	4.3	19	42.5	34

I lack awareness about available healthcare services.	3.94	0.887	-	6.3	23.5	40	30.3
Long waiting times discourage me from seeking healthcare.	3.94	0.899	1	5	22.5	42	29.5
Language or communication barriers make it difficult for me to access healthcare.	3.97	0.865	0.8	4	22.3	43.3	29.8
I avoid seeking healthcare because I do not understand the process.	3.93	0.86	1	4.3	21.8	46.5	26.5
I visit healthcare facilities regularly for check-ups or treatments.	3.78	1.092	5.5	5.8	22.5	37.5	28.7

Source: Interpreted by researcher based on primary data

The results from Table 1.3 indicate that participants perceive several barriers to accessing healthcare services, though the severity of these barriers varies across different factors. The cost of healthcare services is a significant concern for many, with a mean score of 3.89 and nearly 70% of respondents agreeing or strongly agreeing that cost prevents them from accessing care. Similarly, the distance to healthcare facilities is another notable barrier, as reflected by a mean score of 4.06 and 76.5% of respondents agreeing or strongly agreeing with this statement. Lack of awareness about available services also poses a challenge, with 70.3% of respondents expressing some level of agreement. Long waiting times are another deterrent, with 71.5% of participants agreeing or strongly agreeing that delays discourage them from seeking care. Language or communication barriers are less prominent but still relevant, with 73.1% of respondents acknowledging their impact. Additionally, a lack of understanding of the healthcare process deters some individuals, as indicated by 73% of respondents agreeing or strongly agreeing with this statement. On a more positive note, the frequency of healthcare visits shows mixed results, with a mean score of 3.78 and 66.2% of respondents agreeing or strongly agreeing that they regularly visit healthcare facilities for check-ups or treatments. Overall, the findings highlight that cost, distance, and waiting times are the most significant barriers to healthcare access, while issues like language barriers and lack of awareness are less pervasive but still impactful. Addressing these barriers could improve healthcare accessibility and utilization among the population.

Table 1.4: Strategies for Improving Health Literacy

Strategies for Improving Health Literacy	Mean	SD	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)
Health education programs should be more widely available. (SKL1)	3.73	1.09	5.8	6	23.5	38.8	26
Healthcare providers should use simpler language. (SKL2)	3.65	1.1	5.8	8.5	23.8	39	23
Written materials should be easier to understand. (SKL3)	3.85	1.17	6	8.3	15.5	34.8	35.5
More visual aids (e.g., diagrams, videos) should be used. (SKL4)	3.57	1.13	7	7	31	31.8	23.3
Health information should be	3.56	1.17	7.8	9.8	24.5	35.3	22.8

provided in multiple languages. (SKL5)							
Interactive tools (e.g., apps, quizzes) would help improve understanding. (SKL6)	3.57	1.21	9.3	8	24.3	33.8	24.8
Community workshops on health topics are beneficial. (SKL7)	3.72	1.01	3.5	7.8	24.5	41.5	22.8
Online platforms with reliable health information are needed. (SKL8)	3.57	1.21	9.3	8	24.3	33.8	24.8
Health literacy should be taught in schools. (SKL9)	3.72	1.01	3.5	7.8	24.5	41.5	22.8

Source: Interpreted by researcher based on primary data

The results from Table 4 highlight several strategies that are widely supported by participants as effective means to improve health literacy. The strategy with the highest level of agreement is making written materials easier to understand, with a mean score of 3.85 and 70.3% of respondents agreeing or strongly agreeing. This underscores the importance of simplifying written health information to enhance comprehension. Similarly, there is strong support for community workshops on health topics and the idea that health literacy should be taught in schools, both with mean scores of 3.72 and 64.3% agreement. These findings suggest that educational initiatives, whether community-based or integrated into school curricula, are viewed as valuable tools for improving health literacy. Participants also widely endorsed the need for health education programs to be more widely available (mean = 3.73, 64.8% agreement) and for healthcare providers to use simpler language (mean = 3.65, 62% agreement). While other strategies, such as using more visual aids (mean = 3.57), providing information in multiple languages (mean = 3.56), and developing interactive tools (mean = 3.57), received moderate support, they still reflect significant agreement among participants (ranging from 55.1% to 58.1%). Notably, these strategies address diverse needs, including visual learning preferences, multilingual populations, and interactive engagement. Overall, the findings emphasize the importance of simplifying health information, expanding access to educational resources, and leveraging innovative tools to enhance health literacy across different populations. Implementing these strategies could help bridge gaps in understanding and empower individuals to make informed health decisions.

Hypothesis testing:

Null Hypothesis (H_0): There is no significant difference in the mean scores of health literacy assessment, barriers to healthcare access, and strategies for improving health literacy among the four age groups (26-35, 36-45, 46-55, and Above 55).

Table 1.5: One-Way ANOVA

One-Way ANOVA (Welch's):				
	F	df1	df2	p
Health Literacy Assessment	2.94	3	216	0.034
Barriers to Healthcare Access	2.98	3	215	0.032
Strategies for Improving Health Literacy	2.75	3	216	0.044
Group Descriptive:				

	Age	N	Mean	SD	SE
Health Literacy Assessment	26-35	89	19.3	3.18	0.337
	36-45	100	19.8	3.15	0.315
	46-55	120	19	3.54	0.323
	55+	91	20.3	3.38	0.355
Barriers to Healthcare Access	26-35	89	27.4	4.63	0.491
	36-45	100	28.5	4.08	0.408
	46-55	120	27.1	4.71	0.43
	55+	91	28.6	4.33	0.454
Strategies for Improving Health Literacy	26-35	89	32.8	7.25	0.769
	36-45	100	33.6	7.62	0.762
	46-55	120	32.2	8.02	0.732
	55+	91	35.1	7.25	0.76

Source: Interpreted by researcher based on primary data

The One-Way ANOVA (Welch's) was conducted to compare the means of different age groups across three dependent variables: Health Literacy Assessment, Barriers to Healthcare Access, and Strategies for Improving Health Literacy. The results indicate statistically significant differences between the age groups for all three variables. For Health Literacy Assessment, the F-statistic is 2.94 with degrees of freedom (df1 = 3, df2 = 216), yielding a p-value of 0.034. Similarly, for Barriers to Healthcare Access, the F-statistic is 2.98 (df1 = 3, df2 = 215) with a p-value of 0.032, and for Strategies for Improving Health Literacy, the F-statistic is 2.75 (df1 = 3, df2 = 216) with a p-value of 0.044. Since all p-values are below the conventional threshold of 0.05, we reject the null hypothesis for each variable, concluding that there are significant differences in mean scores among the age groups.

Examining the group descriptives, the mean scores for Health Literacy Assessment range from 19.0 (46-55 age group) to 20.3 (55+ age group), suggesting variability in health literacy levels across age groups. For Barriers to Healthcare Access, the means vary from 27.1 (46-55 age group) to 28.6 (55+ age group), indicating potential disparities in perceived barriers. Finally, for Strategies for Improving Health Literacy, the means range from 32.2 (46-55 age group) to 35.1 (55+ age group), highlighting differences in attitudes or preferences toward strategies for improving health literacy. These findings underscore the importance of tailoring interventions to specific age groups to address health literacy, reduce barriers, and promote effective strategies.

Conclusion:

The study underscores the critical role of health literacy in enhancing healthcare access among socioeconomically disadvantaged groups in Thane District, Maharashtra, India. The findings reveal that while participants exhibit moderate to high levels of confidence in understanding and managing health-related information, significant challenges remain in areas such as following medical instructions and navigating systemic barriers to healthcare access. Key barriers identified include the cost of healthcare services, distance to facilities, lack of awareness about available services, long waiting times, and communication difficulties. These barriers disproportionately affect marginalized populations, exacerbating existing healthcare disparities.

The results also highlight strong support for strategies aimed at improving health literacy, particularly simplifying written materials, expanding health education programs, and integrating health literacy into school curricula and community workshops. Participants further endorsed the use of simpler language by healthcare providers, visual aids, multilingual resources, and interactive tools as effective means to enhance understanding and engagement with health information. These findings emphasize the need for multi-faceted, culturally appropriate interventions tailored to the unique challenges faced by disadvantaged communities.

This research contributes to addressing gaps in understanding how health literacy influences healthcare access in resource-constrained settings like Thane District. By identifying barriers and proposing actionable strategies, the study offers valuable insights for policymakers, healthcare providers, and community organizations. Implementing these recommendations could help bridge gaps in health literacy, improve healthcare utilization, and ultimately reduce health inequities among socioeconomically disadvantaged populations. Future efforts should focus on integrating health literacy into broader public health initiatives and ensuring equitable access to healthcare services for all.

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