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Stigma, Health Literacy, and Treatment-Seeking Behavior among Caregivers of Toddlers with Stunting in Rural Areas

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ABSTRACT

Background: Stunting remains a major child-health problem because it may impair physical growth, cognitive development, and long-term health. In rural communities, caregivers may delay or avoid seeking professional care because of limited health literacy, social stigma, and local beliefs about child growth.
Objective: This study aimed to examine the relationship between stigma and health literacy with treatment-seeking behavior among caregivers of toddlers with stunting in the working area of Keling II Community Health Center, Jepara Regency.
Methods: This study used an analytic correlational design with a cross-sectional approach. The target population was caregivers of toddlers with stunting registered in six villages in the Keling II Community Health Center working area. A total of 100 caregivers were recruited using non-probability purposive sampling from a sampling frame of 133 eligible toddlers. Stigma was measured using a modified Stigma Scale for Chronic Illnesses-8, health literacy using the European Health Literacy Survey Questionnaire-16, and treatment-seeking behavior using the General Help-Seeking Questionnaire. Complete questionnaires were analyzed using chi-square tests and Spearman correlation.
Results: Most caregivers were women (83%), had junior-high-school education (39%), were housewives (52%), and had no personal income (51%). Most respondents reported moderate stigma (55%), problematic health literacy (55%), and a tendency to seek help (57%). Stigma was significantly associated with treatment-seeking behavior ($p<0.001$; $r=0.417$), and health literacy was also significantly associated with treatment-seeking behavior ($p<0.001$; $r=0.448$).
Conclusion: Stigma and health literacy are associated with treatment-seeking behavior among caregivers of toddlers with stunting. Community-based interventions should combine stigma reduction, caregiver-centered health education, and strengthened Posyandu cadre support to encourage timely screening and treatment in primary health-care facilities.

KEYWORDS
Health literacy, treatment-seeking behavior, stigma, stunting, caregivers

INTRODUCTION

Stunting is a chronic growth disorder in children under five years of age, commonly characterized by low height-for-age as a consequence of long-term nutritional deprivation and repeated exposure to adverse health and environmental conditions. Beyond physical growth, stunting may affect cognitive development, learning capacity, immune function, and future productivity. These consequences make stunting not only a nutritional problem but also a public health and social-development issue.

Globally, the World Health Organization reported that 148 million children under five were affected by stunting in 2022. In Indonesia, the 2023 Indonesian Health Survey reported that the prevalence of stunted and severely stunted toddlers was 21.5%. Central Java also continues to report a substantial burden of stunting, and Jepara Regency remains one of the areas requiring sustained prevention and treatment efforts. At Keling II Community Health Center, a preliminary report identified 133 toddlers with stunting across Bumiharjo, Gelang, Kaligarang, Keling, Kunir, and Tunahan villages. Local programs, including

supplementary feeding, growth re-measurement, hemoglobin screening, and referral collaboration, have been implemented; however, treatment uptake among caregivers remains a concern.

Treatment-seeking behavior refers to individual or family actions to obtain health information, screening, consultation, or treatment from formal or informal sources when a health problem is perceived. For stunting, timely treatment-seeking is essential because caregivers are expected to attend growth-monitoring services, follow nutritional counseling, complete referral procedures, and implement feeding and care recommendations at home. Delays in seeking care may worsen growth faltering and reduce the effectiveness of community-based stunting programs.

Two factors that may shape treatment-seeking behavior are stigma and health literacy. Stigma can occur when caregivers are blamed, labeled, or socially judged because their child is identified as stunted. In rural communities, where social interaction is close and public opinion is highly visible, stigma may create embarrassment, fear of gossip, and reluctance to attend Posyandu or health-center services. Conversely, adequate health literacy can help caregivers understand growth-monitoring results, recognize the importance of early intervention, and make informed decisions about seeking professional help.

Previous studies have shown that stigma may reduce intentions to seek professional help, while better health literacy is associated with stronger help-seeking intention and greater use of health services. Nevertheless, much of the available evidence comes from mental-health or general health contexts, and fewer studies have examined stigma, health literacy, and treatment-seeking behavior specifically among caregivers of toddlers with stunting in rural primary-care settings. This study addresses that gap by examining the relationship between stigma and health literacy with treatment-seeking behavior among caregivers of toddlers with stunting in the Keling II Community Health Center working area.

METHODS

Study Design and Setting

This study used an analytic correlational design with a cross-sectional approach. Data were collected in January 2025 in the working area of Keling II Community Health Center, Jepara Regency, Central Java, Indonesia.

Population, Sampling, and Recruitment

The target population was all caregivers of toddlers with stunting who lived in the Keling II Community Health Center working area. The sampling frame was the community-health-center list of 133 toddlers with stunting distributed across six villages: Bumiharjo, Gelang, Kaligarang, Keling, Kunir, and Tunahan. The minimum sample was estimated from this finite population using a 5% margin of error, resulting in 100 respondents. Eligible caregivers were recruited using non-probability purposive sampling through Posyandu activities and, when needed, home visits coordinated with village health cadres. Caregivers were invited to participate after receiving an explanation of the study purpose, procedures, voluntary participation, and confidentiality.

Eligibility Criteria

The inclusion criteria were caregivers of toddlers with stunting, residence in the Keling II

Community Health Center working area, ability to communicate, and ability to read and write. Caregivers who did not complete the research procedures or were unable to cooperate during data collection were excluded.

Instruments

Respondent characteristics included age, sex, education, occupation, and income. Stigma was measured using a modified Stigma Scale for Chronic Illnesses-8 (SSCI-8), consisting of eight items with response options from never (1) to always (5). The reported reliability coefficient was 0.910. Health literacy was measured using a modified European Health Literacy Survey Questionnaire-16 (HLS-EU-Q16), consisting of 16 items with response options from very difficult (1) to very easy (4). The reported reliability coefficient was 0.850. Treatment-seeking behavior was measured using the General Help-Seeking Questionnaire (GHSQ), consisting of 10 items with response options from very unlikely (1) to very likely (7). The reported reliability coefficient was 0.911. Because the instruments were modified, item validity and reliability were rechecked before the main data collection. Questionnaires were reviewed at the time of collection, and only complete questionnaires were included in the final analysis.

Data Analysis

Data were analyzed using descriptive statistics and bivariate analysis. Categorical variables were summarized using frequencies and percentages, while age was summarized using mean and standard deviation. The relationships between stigma, health literacy, and treatment-seeking behavior were tested using chi-square analysis. Spearman correlation coefficients were reported to describe the strength and direction of ordinal associations. Statistical significance was set at $p<0.05$.

Ethical Considerations

This study received ethical approval from the Health Research Ethics Committee of Muhammadiyah Kudus University, with approval number 101/Z-7/KEPK/UMKU/XII/2024. Permission was obtained from the relevant health authorities and the Keling II Community Health Center. Participation was voluntary, and respondents provided informed consent before completing the questionnaire. Respondent identity and questionnaire data were kept confidential and used only for research purposes.

RESULTS AND DISCUSSION

Result

Respondent Characteristics

Table 1. Characteristics of caregivers of toddlers with stunting (n=100)

Characteristic	Category	f	%	Mean	SD
Age (years)	-	-	-	34.21	6.458
Sex	Male	17	17	-	-
	Female	83	83	-	-
Education	Elementary school/equivalent	23	23	-	-
	Junior high school/equivalent	39	39	-	-
	Senior high school/equivalent	31	31	-	-
	College/university	7	7	-	-
Occupation	Teacher	3	3	-	-
	Government employee	1	1	-	-
	Self-employed	8	8	-	-

Characteristic	Category	f	%	Mean	SD
	Housewife	52	52	-	-
	Factory worker	25	25	-	-
	Private-sector employee	4	4	-	-
	Other	7	7	-	-
Income	No personal income	51	51	-	-
	< Regional Minimum Wage (IDR 2,640,000)	11	11	-	-
	>= Regional Minimum Wage (IDR 2,640,000)	38	38	-	-

Note. Regional Minimum Wage refers to the 2025 Jepara Regency minimum wage

Table 1 shows that the mean age of caregivers was 34.21 years (SD=6.458). Most caregivers were female (83%), had junior-high-school/equivalent education (39%), worked as housewives (52%), and had no personal income (51%).

Stigma, Health Literacy, and Treatment-Seeking Behavior

Table 2. Distribution of stigma, health literacy, and treatment-seeking behavior (n=100)

Variable	Category	f	%
Stigma	High stigma	34	34
	Moderate stigma	55	55
	Low stigma	11	11
Health literacy	Insufficient literacy	26	26
	Problematic literacy	55	55
	Good literacy	19	19
Treatment-seeking behavior	Not seeking help	17	17
	Depends on the situation	26	26
	Seeking help	57	57

Table 2 indicates that most caregivers reported moderate stigma (55%) and problematic health literacy (55%). More than half of respondents were categorized as seeking help (57%).

Relationship between Stigma and Treatment-Seeking Behavior

Table 3. Relationship between stigma and treatment-seeking behavior among caregivers of toddlers with stunting

Stigma	Not seeking help n (%)	Depends on situation n (%)	Seeking help n (%)	Total n (%)	p-value	r
Low	8 (42.1)	6 (31.6)	5 (26.3)	19 (100)	<0.001	0.417
Moderate	8 (14.5)	17 (30.9)	30 (54.5)	55 (100)		
High	1 (3.8)	3 (11.5)	22 (84.6)	26 (100)		
Total	17 (17.0)	26 (26.0)	57 (57.0)	100 (100)		

Note. The p-value was obtained using chi-square analysis. The correlation coefficient was interpreted as a Spearman correlation for ordinal data. Authors should verify the category coding because the table totals differ from the univariate stigma distribution reported in Table 2.

Table 3 shows a statistically significant association between stigma and treatment-seeking behavior ($p<0.001$; $r=0.417$). Based on the table as currently coded, the association is moderate and positive. This direction should be interpreted cautiously because the cross-sectional design cannot establish causality, and the stigma-category coding should be verified against the original dataset before publication.

Relationship between Health Literacy and Treatment-Seeking Behavior

Table 4. Relationship between health literacy and treatment-seeking behavior among caregivers of toddlers with stunting

Health literacy	Not seeking help n (%)	Depends on situation n (%)	Seeking help n (%)	Total n (%)	p-value	r
Insufficient	13 (50.0)	8 (30.8)	5 (19.2)	26 (100)	<0.001	0.448
Problematic	4 (7.3)	12 (21.8)	39 (70.9)	55 (100)		
Good	0 (0.0)	6 (31.6)	13 (68.4)	19 (100)		
Total	17 (17.0)	26 (26.0)	57 (57.0)	100 (100)		

Note. The p-value was obtained using chi-square analysis. The correlation coefficient was interpreted as a Spearman correlation for ordinal data.

Table 4 shows that treatment-seeking behavior differed significantly by health-literacy category ($p<0.001$; $r=0.448$). Respondents with problematic or good health literacy were more frequently categorized as seeking help than respondents with insufficient health literacy. The correlation indicates a moderate positive association.

Discussion

Caregiver Characteristics and Rural Context

The majority of caregivers in this study were women, particularly mothers or female family members, which reflects the common caregiving pattern in Indonesian households. The predominance of caregivers with junior-high-school education and no personal income suggests that socioeconomic and educational conditions may influence how families understand stunting information, interact with health workers, and decide whether to seek care. Lower education and limited income may restrict access to reliable health information, nutritious food, transportation, and follow-up services, thereby increasing vulnerability to delayed treatment-seeking.

Stigma and Treatment-Seeking Behavior

Stigma was significantly associated with treatment-seeking behavior. Stigma may influence caregiver decisions through embarrassment, fear of being blamed for poor parenting, and concern that the child will be labeled negatively by neighbors or relatives. These experiences may be stronger in rural settings because social relationships are close, and health-related labels can spread quickly through community interaction. However, the direction of the association in the current table should be checked carefully. The statistical table suggests a positive ordinal association, whereas the theoretical expectation and several previous studies indicate that stigma tends to reduce formal help-seeking. This discrepancy may reflect reverse coding, category-label error, or data-entry inconsistency and should be resolved before final submission.

Previous studies on public stigma and formal help-seeking generally show that stigma can discourage individuals from accessing professional assistance. Although much of this evidence comes from mental-health or tuberculosis contexts, the underlying mechanism is relevant to stunting: social judgment can produce shame, withdrawal, and delayed service use. For caregivers of toddlers with stunting, anti-stigma communication should therefore avoid blaming parents and instead frame stunting as a preventable and treatable growth condition requiring shared family, community, and health-system support.

Health Literacy and Treatment-Seeking Behavior

Health literacy was significantly associated with treatment-seeking behavior. Caregivers with better health literacy are more likely to understand growth-monitoring results, recognize the importance of routine Posyandu attendance, evaluate health messages, and seek professional assistance when a child is identified as having growth faltering. In contrast, insufficient health literacy may lead caregivers to underestimate stunting, consider short stature as hereditary or normal, or delay treatment until visible complications occur.

These findings are consistent with previous studies showing that health literacy supports symptom recognition, informed decision-making, and professional help-seeking. In the context of stunting,

health literacy should not be limited to knowledge of nutrition. Caregivers also need practical skills: interpreting the growth chart, understanding referral instructions, preparing affordable nutritious food, distinguishing misinformation from evidence-based advice, and communicating concerns with cadres, nurses, midwives, and nutrition officers.

Implications for Nursing and Community Health Practice

The findings have several implications for nursing and primary health-care practice. First, nurses and Posyandu cadres should provide caregiver-centered education using simple language, local examples, and repeated counseling rather than one-time information delivery. Second, stigma-reduction messages should be integrated into stunting programs so that caregivers are not blamed or embarrassed when attending services. Third, community-health workers should proactively follow up caregivers with insufficient health literacy or inconsistent attendance. Fourth, digital media or mobile-health applications may be useful, but they should be adapted to caregivers with low literacy and limited digital access. A combination of interpersonal counseling, cadre home visits, and simple digital reminders may be more feasible in rural settings than technology-only interventions.

Research Limitations

This study has several limitations. First, the cross-sectional design only allows interpretation of associations and cannot determine causal relationships between stigma, health literacy, and treatment-seeking behavior. Second, all variables were measured using self-report questionnaires, so responses may be affected by social desirability bias, especially because stigma and limited health literacy are sensitive issues. Third, although eligible respondents were selected from a defined community-health-center list, the use of non-probability sampling limits the generalizability of the findings beyond the Keling II Community Health Center working area. Fourth, some caregivers required assistance to understand questionnaire items, which may have introduced interviewer-assistance bias. Fifth, rainfall and access barriers during data collection may have affected respondent availability and recruitment. Future studies should use larger probability-based samples, longitudinal designs, and qualitative interviews to explore how stigma and health literacy shape treatment-seeking decisions over time.

CONCLUSION AND RECOMMENDATIONS

This study found significant associations between stigma and treatment-seeking behavior and between health literacy and treatment-seeking behavior among caregivers of toddlers with stunting in the Keling II Community Health Center working area. Health literacy showed a moderate positive association with treatment-seeking behavior. The stigma result requires verification of category coding before publication because the table direction differs from the expected theoretical interpretation. Overall, the findings indicate that caregiver behavior in seeking stunting-related care is shaped not only by access to services but also by social and informational factors.

Health workers should strengthen routine education on stunting through clear, non-blaming, and culturally appropriate communication. Posyandu

cadres should be trained to identify caregivers who are reluctant to seek care, provide basic counseling, and support referral adherence. Local policymakers should ensure that stunting programs include stigma-reduction strategies, family engagement, and follow-up mechanisms for caregivers with limited health literacy. Future researchers are encouraged to use mixed-methods designs, expand the sample size and study area, verify instrument adaptation procedures, and test the effectiveness of digital or community-based interventions to improve treatment-seeking behavior among caregivers of toddlers with stunting.

Ethics Approval and Consent to Participate

This study was approved by the Health Research Ethics Committee of Muhammadiyah Kudus University, with approval number 101/Z-7/KEPK/UMKU/XII/2024. Respondents participated voluntarily after receiving study information and providing informed consent.

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