

Grounded theory assessment of health needs in rural Mississippi Delta region, USA: Implications for health policy and management

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Abstract

Introduction: The Mississippi Delta is the most rural and economically disadvantaged area in the United States. Rural communities face challenges in accessing quality healthcare for chronic illnesses and diseases. Engaging community members in identifying and addressing community health issues that are necessary to address chronic diseases and other structural barriers is vital to assisting the community with needed resources. Therefore, the purpose of this study was to assess the health needs and barriers to services in a rural community, in Mississippi Delta, to improve health outcomes.

Methods: The study used a grounded theory qualitative design. A purposive sample of twenty residents participated in either face-to-face semi-structured in-depth interviews (n=5) or focus group discussions with key stakeholders (n=2). Data collection focused on the community's perceptions of health and the resources available to the community. The data from focus group discussions and interviews were transcribed using thematic analysis.

Results: Findings indicated that stakeholders and residents acknowledged many of the same chronic diseases as in the nation, barriers to access to care as being accentuated and governmental policies not being a priority for this region. Participants identified hypertension, diabetes, mental health, and cancer as the most prevalent diseases. Structural barriers included little access to quality foods and a lack of economic development. Affordable healthcare and smoke-free policies were identified as policies that were impacting community health.

Discussion: Participants' issues directly aligned with data regarding the health of the rural Mississippi Delta. Strategies to improve health outcomes in rural communities that emerged included: (1) improvement and practice of healthy habits, (2) provision of more healthcare facilities, (3) increase in access to quality of foods, and (4) increase in reliable transportation for the elderly population. To move research to action, it is necessary to engage community members directly and collaboratively in developing these strategies to address health disparities and other structural barriers that rural communities face regarding health and healthcare.

Take-home message: Resource-poor communities like the Mississippi Delta region can benefit from community participation advocacy, improving healthcare, increasing food security, and enhancing access to healthy lifestyles. Need assessment in such settings can be done through qualitative methods that entail focus group discussions and interviews followed by grounded theory data analysis.

Keywords: Access to care; healthcare; health needs; rural health; structural barriers.

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INTRODUCTION

The U.S. Census Bureau [1] reported that 11.4% of individuals living in the United States live in poverty. However, poverty is not evenly distributed across racial groups with poverty among African Americans at 19.5%, Hispanics at 17.0%, and Whites at only 8.2%. The uninsured population in the U.S. is 10.9% as of 2019 [2]. The African American community contributes to 66% of this uninsured population, with 14.1% of Mississippians being uninsured [2]. Access to health care needs plays a significant role in reducing health inequalities and optimizing better health outcomes [3]. Mississippi's high level of poverty (20%), chronic diseases, and uninsured rates, along with low levels of access to care contribute to areas of the state that experience extreme health inequities [2]. Connell et al. [4] indicated that lack of transportation, unemployment, the uninsured, and lack of access to care are some structural barriers mentioned among their participants. Assessing health needs to better understand communities through a communal voice plays a pivotal role in public health. According to *Healthy People 2030*, the health and well-being of individuals are significant in sustaining communities [5].

The Mississippi Delta, often referred to as The Delta, is a cultural concept and a physical region between the Yazoo and Mississippi rivers in the northwestern part of Mississippi, USA. Mississippi ranks 49th in healthcare access and is at the bottom of the ladder in almost every major health outcome and health factor in the United States [6,7]. The Mississippi Delta is a rural community that has been identified as one of the most socioeconomically disadvantaged areas in the nation for decades [8]. Specifically, this study was conducted in Itta Bena, Mississippi, with approximately 1,800 residents [9]. As a rural community, Itta Bena faces challenges in providing access to quality healthcare for chronic illnesses and diseases. Since limited research has been conducted to assess the health needs of a small town in the Mississippi Delta, this study aims to understand the community's health issues through community engagement. Demographic data from secondary sources, such as Mississippi City's data, the U.S. Census Bureau, and the Center for Disease Control and Prevention, are instrumental in providing data for the Mississippi Delta [10-12]. The specific aims are to understand the community's health needs and access to care, identify their strengths and health priorities, and identify and address the barriers to a healthy community. The following qualitative research questions were addressed: Why is the Mississippi Delta region disadvantaged? How to bring about change in the Mississippi Delta community to improve their health factors? How to influence the Mississippi Delta community's assets and resources that could be leveraged to improve health and social equity?

METHODS

Study design and procedure

This study utilized a qualitative grounded theory design consisting of focus group discussions (FGDs) and face-to-face semi-structured in-depth interviews. This study's theoretical

framework that guided the study design was grounded theory. Grounded theory was used in this study as it exemplifies a method of experience built on factual data. This theory provides a perspective of the participant's perception, beliefs, and knowledge under examination [13]. Additionally, according to Smith [14], grounded theory helps to build an approach that explains the community being studied. The primary researcher developed qualitative interview questions tailored to the community which were adopted from the Henry Ford Health System [15] questionnaire. Semi-structured interviews were conducted as per the protocol. The protocol and questions were validated for content validity by a panel of experts (n=6) in behavioral and environmental health, and health policy and management.

Study participants and sampling

Participants for this study were selected through purposive snowball sampling until data saturation occurred. A final total of 20 participants were included in the study. The inclusion criteria consisted of being a resident of the community for at least 10 years and being an adult (≥ 18 years). We used an exploratory research approach to recruit participants in a small rural town in the Mississippi Delta to assess community health issues related to chronic diseases. Recruitment was conducted through the posting of flyers and by word of mouth. Flyers approved by the Institutional Review Board (IRB) were posted in the community at faith-based organizations and the community center, and the primary researcher contacted key stakeholders by phone to set up appointments for interviews. The qualitative methodology included two focus groups. The interviews and focus groups were conducted by a researcher who previously lived in the Mississippi Delta. The qualitative methodology included two focus groups. Only one researcher is originally from the Mississippi Delta but has not resided there in over 30 years. However, as a previous resident of the Mississippi Delta there were several challenges to accessing quality healthcare which led to different types of chronic illnesses and diseases. Community residents lacked transportation, a healthcare facility in the community, and a safe space to exercise with no sidewalks, bike trails, or walking trails. These challenges led this researcher to return to the Mississippi Delta to assess the health needs of this community in the Mississippi Delta. One focus group consisted of nine participants and the other focus group consisted of six participants (n=15). In addition, five face-to-face semi-structured in-depth interviews with key stakeholders were conducted. Thus, the total sample was 20 participants. The stakeholders' interviews included key decision-makers in the community: the mayor, an alderman, a fireman, an assistant principal, and a city councilman. The focus group participants were comprised of males and females from the community. The purpose of using individual interviews was to meet with key stakeholders to gain an understanding of the phenomena of the respondent's feelings toward their respective communities. The focus groups added a more in-depth focus from several different perspectives of participants. Mwitwa [16] indicates that data saturation is met when participants repeat the same information during interviews and focus group sessions. Therefore, in this study, focus groups involved several community members that replicates the same information regarding health needs and chronic diseases.

Study instruments

The stakeholders' interview and focus group discussion utilized the same set of questions. Data collection focused on the community member's perceptions of the health of community members, community healthcare needs, and resources available to the community. As mentioned earlier, the questions were tested for content validity, reliability and comprehensive by a panel of experts in health policy and management and behavioral health promotion and health education. The study instruments were based on the methodology described by Sharma & Petosa [17]. Instrumentation included a panel of subject experts, target population experts, and qualitative methodology experts. Their feedback was incorporated over two rounds until consensus was reached.

Data analysis

The interviews were recorded and transcribed based on the tenets of grounded theory and then independently coded by two researchers (Y.B. and A.O.) who drew a list of main codes derived

from direct interpretations of the participant's statements. The themes were developed inductively by combining main codes with similar content areas. Data were analyzed to determine themes from focus groups and face-to-face interviews. The data from the focus groups and interviews were transcribed using thematic analysis. The researchers used Excel to type the questions and the participants answers to the questions. Words and common phrases were then identified and then coded into single phrases or common words. Researchers were then able to emerge themes from common words and phrases. The data were compared to ensure a triangulated and coherent assessment approach to attain credibility [18]. A study conducted by Connell et al. [4] indicated how structural and interpersonal barriers plagued the Mississippi Delta such as medical disparities, racism, distrust, uninsured, and poverty. This study adds to the body of knowledge by highlighting other structural barriers in the Mississippi Delta such as access to quality foods, affordable healthcare, and a lack of economic development. By utilizing this same method as other researchers and pointing out other barriers help to show a triangulation of the study [19].

Ethical aspects

This study was approved by the Institutional Review Board (IRB Protocol #0105-19, January 15, 2019) at Jackson State University. The participants signed an informed consent form after a detailed explanation of the research process and confidentiality.

RESULTS

Table 1 shows the community demographics according to the city-data report of 2019. The total population of the community was 1,809 residents, consisting of 41.7% males and 58.3% females. The median age of residents was 38.3 years, with an estimated median household income of \$22,416. The estimated median house value was \$59,468. Most residents were African American (90.6%), 7.5% were Whites, while Hispanics and mixed races accounted for 1.1%. The unemployment rate among the Mississippi Delta population was 10.4%, and 49.23% of the community lived below the poverty level.

Table 1. Community Demographics (2019).

Category	Number
Population	1,809
Males	754
Females	1,055
Median Age of Residents	38.6 years
Estimated Median Household Income	\$17,481
Estimated Median House Value	\$59,468
Demographics Population	
African Americans	90.6%
Whites alone	7.5%
Hispanics	1.1%
Mixed (2 or more races)	1.1%
Unemployment Rate	10.4%
Residents below the poverty level	49.3%

Source: <http://www.city-data.com/city/Itta-Bena-Mississippi>

The demographic characteristics of the study sample are shown in Table 2. All the participants were African Americans, with 58% being males (n=11) and 42% (n=9) females. Half of the participants were between 40 and 49 years old, while only 10% were below 40 years. Most of the participants (85%) were above the population median age of 38.3 years. About 40% of participants earned an annual income of \$30,000 or more, which is well above the median household income of \$22,416, at least 25% of participants earned less than \$20,000. The majority of the participants (55%) had at least a four-year college degree with a minimum of high school/GED, and 40% were master's degree holders. Married participants represented 35% of all participants, with 45% reportedly never married and 10% divorced. The remaining 2% were either separated or widowed.

Table 2. Characteristics of the Study Sample.

Variables	Residents (n=20)
Gender	
Male	11 (55%)
Female	9 (45%)
Race/Ethnicity	
African American	20 (100%)
Age of Participants	
Below 40 years	2 (10.0%)
40 to 49 years	10 (50.0%)
50 years and older	7 (35%)
Did not report	1 (5%)
Income of Participants	
Less than \$10,000	1 (5%)
\$10,000 - \$19,000	4 (20%)
\$20,000 - \$29,000	6 (30%)
\$30,000 - \$39,000	1 (5%)
\$40,000 or above	7 (35%)
Did not report	1 (5%)
Level of Education	
High School/GED	3 (15%)
Some college or vocational school	3 (15%)
Four-Year College Degree	5 (25%)
Master’s degree	8 (40%)
Other (did not specify other)	1 (5%)
Marital Status	
Never Married	9 (45%)
Married	7 (35%)
Widowed	1 (5%)
Divorced	2 (10%)
Separated	1 (5%)
Number of Years Lived in Community	
21 years or more	19 (95%) (1{5%} did not report)

A summary of the broad themes is shown in Table 3. The main codes in each theme are shown with direct quotes as examples. These main themes were common across focus groups and stakeholders and included specific topics such as a healthy community, access to healthcare/ health providers, access to quality food, transportation, chronic diseases, community assets, and barriers to a healthy community.

Table 3. Themes, Codes, and Examples.

Themes	Codes	Examples
Healthy Community	Health habits	"We encourage people to walk. Not only with the walking club once a month, but by themselves, we encourage people to bike or do whatever is necessary to just get moving and that is so very important."
	Smoke-free policy	"A healthy community looks like people who have practiced healthy habits, people who are non-smokers and we are a smoke-free community."
	Clean community/ environment	"Clean environment where the streets are clean and has sidewalks. Lawns are taken care of, and paper picked up...just clean."
	Recreational facilities/ activities	"'Go to work' this is their activity." "A recreational center would be great but there is nothing for the adults." "For the youth, there is football and baseball which cuts off at a certain age group."
	Well people/ healthy people	"We've had lots of people in the community to find out that they either have high blood pressure, they are diabetic, or they have cholesterol it's out of whack..."
Access to Healthcare/ Provider	Health clinics in the community	"The Itta Bena Health Clinic and they do everything from pap smear to diabetes ...you know they do everything. They do everything except for X-rays. "They provide primary care services."
	Health providers in the community	"There is a Nurse Practitioner in the clinic downtown."
	Primary care/ Basic needs	"We have a clinic, and it provides basic healthcare services; however, if there is anything major you would have to go to another primary care facility such as a hospital. Minor care issues they take care of that."
Access to Quality Food	Availability of grocery stores	"Itta Bena does not have a grocery store here. It's been closed for over seven years now."
	Availability of convenient stores	"There is a Chinese...LT Market sells most items you can get out of the stores."
	Availability of restaurants/ fast foods	"There are several fast foods in the community; Double Quick, Capricorn, Larry's Fish House, The Grub Shack, and the Chinese Store. There is a new store...Quick & Easy."
	Availability of farmers' market	"We are working on that. We have several people here in the community who does have gardens throughout the community,

		and we are encouraging them to try to come together to have a farmers' market."
	Availability of community gardens	"There is a community garden down beside one of the houses in the community."
Transportation	Limited transportation	"Transportation is a huge problem, a huge problem. But one of the things that the city did, they did have an agreement with Mass Transit at one point to transport citizens free of charge to Greenwood to the grocery stores and other stores over there. But it didn't work."
	Transportation for the elderly	"We have public transportation for those with Medicaid. They come to pick them up to take them to Jackson."
	Transportation collaboration with local university	It's also transportation that Mass Transit on the campus, they also provide to the senior citizens here in Itta Bena. They have a food program that feed them lunch in the daytime and that transit do go out in the community and pick them up and take them for their food and then take them back home
Chronic Diseases	Common diseases	"The common diseases in our community are Hypertension, diabetes (this contributes to obesity which is a major problem), and some forms of cancer have been prevalent in our community."
	Chronic Disease prevalence	"The most prevalent is going to be hypertension, I think. I think the reason why is because of our diets in our community from the standpoint of the opportunity to eat healthy for some people. "It is almost like three out of five people have diabetes. It is that prevalent to me; that surrounds me."
	Suggested interventions	"We need to do more with the adults so they can get more physically active, a gym or recreational facility there in the community would be a great asset, I think." "...educate our residents of the importance of eating healthy." "... making healthcare affordable to the residents, making it accessible to the residents."
Community assets	Community organizations	"We have a health ministry at our church where we have set up a policy and it is called "No Fried Food Policy"
	Community efforts	"We have community gardeners, and the garden is planted and it's open to the community"
	Partnerships	"We are working with college students who would come to the Center and give some

		very simple exercise classes for the adults and senior citizens at the site.”
	Natural resources	“We have access to two lakes. Itta Bena sits between two lakes (I love them). I go fish from the bank or the pier.”
Barriers to a healthy community	Poor education	“One is education. I think a lot of the kids we serve have parents who may have dropped out of school and therefore lack motivation”
	Poverty	“We are in a poverty-stricken area. People cannot afford the best type of food or the healthy type of food.”
	Transportation	“Transportation is a huge problem, a huge problem.” “Since we don’t have a grocery store here in Itta Bena, especially the senior citizens have to pay \$10 or \$15 to go to Greenwood in order to get the types of foods that they need.”

DISCUSSION

Our research utilized a qualitative grounded theory methodology for health needs assessment to explore barriers to a healthy rural community to establish a baseline for further research and policy and program development. This is an effort to also empower communities to implement successful and viable programs for better health outcomes by recording their participatory voices. From the responses of the participants recorded and transcribed, the following themes were developed and analyzed: chronic diseases, healthy community, access to healthcare providers, access to quality foods, transportation, community assets, and barriers to a healthy community.

Study participants identified chronic disease as a contributor to negative health outcomes in the community. Although chronic diseases are usually more common in older adults with a higher prevalence in populations with limited access to quality health care, the Itta Bena community’s mean population age of 38 years has a surprisingly high prevalence of chronic diseases. According to the focus groups, the common chronic diseases are heart disease, diabetes, cancer, and mental health. The respondents believed that as many as 3 out of 5 adult residents (60%) of the community were suffering from at least one chronic disease and about 50% from two or more diseases. This is much higher than the national prevalence of 51.8% of adults with at least one chronic disease and 27.2% with numerous chronic conditions [20]. These percentages indicate that the community is unhealthy and suffers from a host of chronic diseases.

Study participants discussed that a healthy community is viewed as individuals having healthy habits, a smoke-free community, a clean community, access to transportation, access to adequate food sources, and a recreation center. The elements identified by the study participants align with what Ashby et. al [21] identified as “a healthy community is one in which all residents have access to a quality education, safe and healthy homes, adequate employment, transportation, physical activity, and nutrition, in addition to quality health care” (p.1). On the contrary, an unhealthy community impacts the lives and well-being of its residents and predisposes them to diseases, such as diabetes, cancer, and cardiovascular disease. Most of these components of a healthy community are lacking in the Mississippi Delta and when available, are grossly inadequate. The Mississippi Delta lags in a lack of healthcare resources. A combination of environmental and socioeconomic factors, as well as negative health habits and poor lifestyle choices contribute to the perennial classification of rural communities as disadvantaged communities.

Another factor identified as contributing to poor health indicators in the community was the scarcity of opportunities for regular physical activity and the lack of access to recreational facilities. Regular physical activity is essential for a healthy life. It has physical, mental, and psychological benefits. Living an active life reduces anxiety and helps one to feel and function better. In contrast, a sedentary lifestyle is a risk factor for overweight and obesity and affects physical and cognitive development in children [22]. The availability and proximity of recreational facilities such as trails, parks, and a recreational center encourage community residents to participate in physical activities. Studies show that engaging in an average of 150 minutes of moderate-intensity aerobic activity weekly can considerably reduce the risk of cardiovascular diseases, obesity, type 2 diabetes, and some cancers while strengthening the muscles and bones [23]. Participants in this study indicated that a recreational center would be a great asset for adults.

Another theme identified in participants' responses was the paucity of health facilities as well as healthcare providers. The Mississippi Delta has been classified as a medically underserved area for decades [24], and this study found that the Itta Bena community has only one satellite clinic that offers basic healthcare services such as preventive and emergency care. There is only one nurse practitioner that serves the school and the entire community. Major health issues are referred to the hospital in the neighbouring community, which is approximately 12 miles away. As access to care is a determinant of health, well-being, quality of life, and life expectancy, adequate access helps in the early detection and prompt treatment of health conditions thereby reducing the burden of disease and mortality in the community. Apart from the availability of health services, affordability also affects access. Individuals without health insurance are less likely to access primary care providers and are more likely to skip routine medical care due to cost. The lack of access to adequate health care may lead to increased risk and severity of disabling and chronic health conditions.

This study found that a major contributor to the poor health outcomes of the Delta community is the lack of access to quality food. The respondents in this study all reported that there is no grocery store or farmer's market in the community, and there is only one convenience store and several fast-food restaurants. The proximity to fast-food restaurants limits choices and encourages unhealthy eating. Access to healthier and nutritious foods and beverages can be improved by encouraging the placement of stores and restaurants that promote fresh and healthy foods near residents and by improving transportation so people can access healthier food sources like farmer's markets. The state of Mississippi has been identified over the years as the most food-insecure state in the United States of America. The Mississippi Delta has also been classified as a food desert for decades. Responses provided by study participants suggest that community residents recognize the scarcity of healthy food as a significant barrier to community health.

Along with food insecurities, transportation was identified as a major problem that impedes access to health services, food sources, and social amenities and impacts the community's quality of life and health outcomes. Limited transportation options for the Mississippi Delta communities greatly contribute to the poor socio-economic standards of the communities. In this study, participants indicated that transportation to the nearest town, Greenwood which is approximately 12 miles, is sometimes difficult to get for older adults. Older adults sometimes must pay others in the community to go to Greenwood to shop for food or other goods or to visit a healthcare provider. Also, older adults must have Medicare or Medicaid to utilize public Transit service to visit a doctor for appointments or to go to a hospital or healthcare facility in Jackson, MS, which is approximately 102 miles away; otherwise, they are searching for someone else to take them. A good transportation network will improve the accessibility to healthcare facilities as well as good sources of quality food and other social services that impact the quality of life. It is an essential component of a healthy community.

The prevailing conditions in rural communities such as poor nutrition, physical inactivity, low income, and educational levels, poor housing, and lifestyle choices all combine to exacerbate chronic disease prevalence. The lack of adequate health care services in the community may be a contributing factor to the high prevalence of chronic disease conditions. Though chronic diseases are

not curable, the burden of the conditions can be reduced with proper management and improved access to care.

Despite the daunting challenges of rural communities, some community resources can be leveraged to improve individuals' standards and quality of life. The most abundant resource of any community is the individual residents who can be trained and empowered to utilize their abilities to improve and transform their community. With a population of about 2,000 people and a median age of 38 years, the majority of the residents are within the active productive age range. Some other assets identified in this community are natural resources such as arable lands for farming and the two lakes (for fishing and irrigation) bordering the community, community gardens, nature trails, a community center, church organizations, a library, and schools.

The health of a community is an aggregate of environmental factors and individual dispositions such as access to quality health care and socioeconomic factors. An unhealthy community is characterized by chronic diseases, including diabetes, cancers, and cardiovascular diseases. The common barriers to a healthy community are poverty, lack of access to quality and affordable health care, poor nutrition due to lack of sources of quality nutritional food products, unsafe and unhealthy housing, lack of transportation, and physical inactivity. Community engagements that address these public health issues can improve health outcomes, reduce health disparities among the residents, and bridge the gaps between the community and the rest of the state and country. To remove the barriers and build sustainable, healthy communities, a multi-sectoral collaboration between residents, community-based organizations, and governments at different levels.

Strengths of the study

This study adds to the scarce body of literature that portrays the ground realities of healthcare in the Mississippi Delta region, one of the poorest regions in the USA. Our study demonstrates trustworthiness as we adhered to the written protocols for conducting the focus group discussions and semi-structured interviews. We further documented actual quotes from the participants. We have also attempted to demonstrate coherence by presenting our findings related to data. We believe our study is also transferable to some extent as we believe the findings would be somewhat like other communities in the Mississippi Delta region. Our study is also dependable as we have been explicit with our narration. Finally, our study shows confirmability as we have tried our best to be neutral in our approach.

Challenges and limitations

The use of focus groups and stakeholder interviews limits the community's participation and therefore may not adequately address or accommodate all the community's needs. While in a qualitative paradigm, generalizability is not attempted, the nature of our study necessitated the use of purposive sampling which introduces an inherent bias and affects the generalizability of the results. The sample size was relatively small, but we looked for data saturation which would make findings from our qualitative study adequate. The results from focus group interviews may not be reliable as the participant's opinions may not represent the views of the larger community. The results may also be biased due to the unintentional influence as group members may not want to disappoint the moderator or the perception of other members. Additional research may be required to cross-check the results of focus group discussions.

Implications for policymakers and recommendations

Effective community engagement for development requires consultations, communication, and collaboration [25]. The Itta Bena community's Board of Alderman should advocate for the community's needs by actively collaborating with the business community, community-based organizations, faith-based organizations, non-profit organizations, schools, and government authorities. Community-based research to action requires engaging the community in developing strategies for reducing barriers to accessing healthcare and addressing health disparities [26]. Some recommended strategies for improving health outcomes in rural communities include providing more healthcare facilities in the rural communities, increasing access to quality healthy food,

encouraging healthy habits and lifestyles of the community residents, and improving the transportation system for the rural communities.

CONCLUSION

Community engagement strategies can help in advancing the general well-being of the population and can also be useful in reducing inequalities in health outcomes as well as socio-economic disparities. These goals can be achieved by addressing the basic needs of the community such as access to healthcare, and access to resources for physical activity. This community collaborative study accessed information by engaging the community members and stakeholders in wide-ranging discussions to improve the knowledge and understanding of community engagement as a tool for advancing community development, advocacy, and policy recommendations.

The stakeholders and focus group discussions acknowledged many of the same chronic diseases, barriers and limited access to care, and proximity to the sources of quality food as priority issues. Government policies that create or enhance affordable healthcare, a safe and healthy environment, and the socioeconomic status of individuals will positively impact community health. The findings of this study can be a tool for evaluating the current strategies in community needs assessment and community engagement for action. It can also provide information for advocates of rural community improvements and policy change to reduce health disparities.

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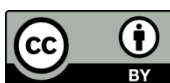
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