

A Study on Socio-Demographic and Nutritional Status of Aged Tribal People Communities: A Review

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Abstract

The Indian subcontinent is dwelling to a significant tribal population termed as the "Adivasi," who have not been embraced by modern society. Approximately 104 million Indians are 60 years of age or more. With a population of 296.6 million by 2050, this group would represent 20% of the nation's overall population. The old tribes (ST) made about 12% of all tribes in West Bengal. Over half of West Bengal's tribal population, or 51.8%, are members of the Santali a tribal member group. Purulia, Bankura, West Medinipur, Bardhaman, and Hooghly are the districts in West Bengal where a significant number of Santals resides. In India, tribal people are the most marginalized community. They are disadvantaged in terms of their sociodemographic profile, diet, and overall health. A person begins to age naturally at birth and continues to do so steadily until they pass away. Tribal elderly people are more susceptible than non-tribal elders in terms of sociodemographics, diet, and overall health. Elderly

indigenous people are skilled at creating handcrafted bamboo and reed baskets and mats, despite the fact that they retire from a variety of activities. But in the present day, aged tribal members are additionally affected by a number of illnesses. The health and nutritional standards of aged tribal people are impacted by a lack of education, sanitary facilities, income, and unhealthy habits. Aged tribal people are increasingly suffering from a variety of non-communicable diseases and poor nutritional status. Tribal elders are living off of poor diets, as evidenced by their low intake of all nutrients and increased rate of undernutrition.

Introduction

The number of Indians aged 60 years and above is approximately 104 million. By 2050, this population would rise to 296.6 million, accounting for 20 percent of the country's total population. In West Bengal, the old tribes (ST) comprised 12% of all tribes (Basu *et al.*, 2018). In the twenty-first century, a significant public health concern remains promoting the quality of life for the elderly population while also preserving their health and encouraging social engagement (Soren *et al.*, 2022). In the current modern family structure, young generation judge the elderly as a burden, but in tribal societies, the same mentality is deeply ingrained in the thoughts of the younger members of the tribe. The senior tribal members in their families are placed in the direst circumstances as a result of unemployment, low-income levels, a lack of access to healthcare, and the infiltration of the nuclear family structure (Sethurajakumar and Venkatesh 2019). The nutritional risk is higher for the aged due to a variety of risk factors, including environmental, socioeconomic, psychological, and physiological. In a similar vein, as the global share of the elderly people rises, so too will the burden of chronic illnesses and disabilities.

An important factor in the aging process is nutrition. A healthier life is largely dependent on proper nutrition, and the nutritional status that is maintained during one's early years has an impact on one's later years (Padma Sri Lekha *et al.*, 2023). The burden of chronic illnesses and disabilities is expected to rise along with the global percentage of the

population that is becoming older. According to Gopalan (2000), chronic undernutrition is a major risk factor for the elderly in India, where the prevalence of chronic energy deficiency (CED) is 51% (Arlappa *et al.*, 2005; Woo 2000). Increasing age experience low Body Mass Index (BMI). It's interesting that nutritional elements, along with lifestyle choices like eating a good diet, exercising, and abstaining from harmful behaviours like smoking, may slow down the aging process (Malcomson and Mathers 2018; Singh and Chattopadhyay 2023).

Socio-demographical status

According to research, tribe elders often do not seem to be particularly happy with their lives because they are going through a variety of changes as they age, such as psychological, emotional, and physical changes. Urbanization and industrialization are associated with several issues like adaptation, disagreement between generations, and a declining status and function in the community, among others (Alam 2023).

Ageing

The natural process of aging occurs at the time a person is born and continues steadily until death. The general definition of aging is the result of numerous molecular and cellular damages accumulating up over time. In addition to the physiological changes, it is often linked to other life transitions like retiring and the death of relatives and close companions. Physical and mental functioning permanently declines as one ages. It raises the chance of morbidity and, ultimately, death (Gladyshev *et al.*, 2021; Harman 1992).

Each country has its own definition of old age. Elderly or senior citizens are those who are 60 years of age or older in developing nations like India. Three categories apply to them: young old, 60 to 69 years old; middle aged, 70 to 79 years old; and eldest old, 80 years and beyond (India 2022). People 60 years of age and older are referred to by several terms. When referring to someone 60 years of age and older in India, the terms “elderly,” “senior citizens,” and “old age” are frequently used (Rajan and Mishra 2020; Taylor 2011).

Education

One of the most vital elements of developing human resources is education. Literacy executes a vital part in a country's development, and without the involvement of all groups in such programs, this progress would not succeed. In the years following independence, India has not yet attained the necessary level of education. Their social, political, and economic backwardness, as well as their disadvantaged and impoverished populations, are the main causes of their educational backwardness (Chakraborty 2019). A higher risk of elder abuse is associated with a lack of formal education. This is significant for Indian society primarily because of the extremely low educational attainment of the elderly population, it is estimated that 73% of Indians over 60 years are illiterate. Education is involved of elements of human resource development. Scheduled Tribe traditionally is inhabitant of countryside and in close intimacy to forests and natural resources. According 2011 census, the literacy rate among tribes is 58.96% which is below the overall literacy of the country (74.04%). In West Bengal, the literacy rate among tribal is 57.97% that is below overall literacy of the state literacy 77.08% (Chakraborty 2019). Bir 2020 reported that educational status of ST elderly population was 0.38% in India (Bir 2020). Gurumoorthy and Thirumalraja 2015 also reported the lower level of educational status of elderly tribal people accounting 88% illiterate from Kodaikanal hill in Tamilnadu (Gurumoorthy and Thirumalraja 2015).

Economic condition

The demographic shift in developing nations is causing a rapid rise in the median age, size, and percentage of those the elderly population, as well as in widowhood and old age dependability. The elderly are experiencing more economic instability as a result of these demographic shifts, which are also changing society. Additionally, they are linked to an increase in individualism, mobility, and nuclear families. While everyone is impacted by these changes, the elderly are particularly at risk because of social isolation, declining health, increased illness load, retirement from the work, lower or no financial support, and growing family responsibilities.

There is a significant age gradient in both the financial crises and burden of ailments (Mohanty *et al.*, 2023).

Physical, economic, and psychological issues are more likely to have an impact on the socioeconomic status of elderly tribal people. Due to their economic situation and geographic location, they are impoverished and will lead miserable lives for the rest of their lives. The primary causes of the weak economy are the aging factor and the absence of alternative employment (Lakshmi and Muthuraj 2020). Gurumoorthy and Thirumalraja 2015 also reported the poor financial condition Kodaikanal hill in Tamilnadu. It was also documented that they were depended on family for financial supporting (Gurumoorthy and Thirumalraja 2015).

Housing condition

The house is more than just a heaven; it's also a place where kids may develop emotionally, physically, and socially with their families (Saha *et al.*, 2023; Wilson and Boehland 2005). Low housing status could be corresponding to poor socioeconomic status, poverty, a lack of facilities, a rural area, and so on (Islam *et al.*, 2015). Tribes are marginalized and reside the majority of the nation's unstable regions. About half of all walls are made of bamboo, with tin coming in as a distant second (about 26%). While almost all of the roofs are made of tin, others are made of bamboo, straw, asbestos, and concrete, and nearly all of the dwellings are wired to receive electrical current, statistically speaking. A hurricane lamp, lantern, or similar device must be used throughout the night ((Saha *et al.*, 2023).

Statudy from Kodaikanal hill in Tamilnadu reported that Only 20% of respondents lived in Pucca houses, which are composed of sand, stone, wood, and leaves, while the remaining 2% lived in concrete homes. 78% of tribal people live in huts or thatched dwellings in interior forest regions (Gurumoorthy and Thirumalraja 2015). As reported by Islam et al. (2015), 78.05 percent of the respondents lived in a temporary construction, with mixed (12.19%), permanent (7.93%), and hut (1.83%) following. A small percentage of the families (8.54%) had two dwellings, whereas the majority

(91.46%) had just one. The families only own one temporary structure home in this area (Islam *et al.*, 2015).

Family size

In order to comprehend the spatial demographic diversity of tribal families throughout the region, family size is an important factor. In accordance with 2011 Census information, there are 1156753 Scheduled Tribe households in West Bengal. Of them, 91.86 percent are in rural areas and just 8.14 percent are in urban areas. There are 5256142 people living in these types of families, and the bulk of them are undoubtedly from rural backgrounds. The state's average household size is 4.5 (Kumbhakar 2020).

Type of Family

In society's standpoint, the family is considered as a basic unit. The family is trusted to be the main unit when discussing a social structure that is extensively proportioned. A family is an affiliation formed to support the biological justification for human existence (Marty and Appleby 1997). A family has been made up of a mother, father, and kids. These persons are considered to be part of a nuclear family. Joint family has a comparatively higher number of members. Every family member shares a kitchen and lives together. These families have been referred to as extended families. Despite its benefits and drawbacks, joint and extended families are currently progressively disappearing from society (Georgas *et al.*, 2001). YI *et al.*, (2017) reported that nuclear family (95.2%) was more compared to joint family (4.8%) in tribal families (YI *et al.*, 2017).

Occupation

When comparing societies, occupation provides a measure of the economic growth that individuals and families have achieved. It also reveals a person's or a family's social standing (Hauser and Warren 1997). Elderly tribal people are adept in making handmade bamboo and reed baskets and mats, but the younger generation prefers to work for non-tribals as labourers (Islam *et al.*, 2015). Various studies indicates that majority of the respondents largely depend

on agriculture, while many also earn a living by working as agricultural coolies (Islam *et al.*, 2015; Shetty and Nayar 2024). Agriculture, which incorporates farming and forestry in particular, has been essential to the rise of civilizations, and many Indigenous Peoples around the world hold great reverence for their ties to the land (Shetty and Nayar 2024). 90% percent of tribes live mostly in forested, hilly, and mountainous environments. The area of forest land has been steadily decreasing as a result of mining, industrialization, crop cultivation for agriculture, the establishment of national parks and wildlife reserves, as well as government and private sector-initiated hydroelectricity projects (Mehta and Singh 2021). Their local sources of income have been severely impacted by the loss of forest land, and they are now either uprooted or have to work extremely hard to make ends meet in their native location. They were forced to leave their home countries in quest of employment or a means of subsistence since there were not enough prospects for them there. In quest of employment, both men and women have begun to migrate to distant towns and metropolises (Mosse *et al.*, 2005). Ashifa (2022) reported that elderly Irula tribal people engage for their livelihoods in agricultural worker, casual laborers, plantation laborers, and industrial laborers in Tamilnadu (Ashifa 2022). The primary occupation, according to Islam *et al.* (2015), was farming (62.20%), which was followed by wage labor (18.90%), business (7.31%), service (4.88%), caste occupation (3.66%), and any other (3.05%) (Islam *et al.*, 2015).

Electricity and sanitary condition

Electricity and sanitation are crucial fundamental needs of people for decent living in the present era; the development and implementation of these facilities is critical for the socioeconomic improvement of these underprivileged sections of society (Kharwar *et al.*, 2021). According to a study by Haq *et al.* (2021), 98.46% of families in Andhra Pradesh utilize electricity as their primary source of lighting, while only 1.53% of all households use kerosene. This compares to 73.1% of all ST people in the 2011 Andhra Pradesh census who reported using electricity and 25.3% who used kerosene (Haq *et al.*, 2021)

Lack of sanitation facilities contribute to pollution, health issues for the public, security issues, and major crimes including rape and sexual assault against women who are particularly vulnerable (Kharwar *et al.*, 2021).

Type of Fuel used for Cooking

Cooking gas is desirable in regard with the environment. Due to health hazards, one should stay away from wood, coal, and kerosene (Lam *et al.*, 2012). According to Kalli *et al.* (2022), 43% of respondents have shifted to LPG for cooking, whereas roughly 57% of respondents still use conventional energy sources. Of the 43% of respondents who have embraced LPG, 26% use it as their main cooking fuel and 17% use it as a secondary source (Kalli *et al.*, 2022). The tribal population's underutilization of PMUY (Pradhan Mantri Ujjwala Yojana) was mostly caused by a lack of awareness, issues with documentation, and expensive costs (Patil *et al.*, 2021).

Bad habits

Excessive alcohol consumption and tobacco smoking have detrimental effects on the environment, society, economy, and worldwide health. Over 7 million individuals globally pass away from tobacco smoking each year with low- or middle-income nations accounting for more than 80% of mortality. Tobacco users eliminate 15 years of life on average (Hsu *et al.*, 2018). Cancer, cardiovascular disease, diabetes mellitus, and lung disease are among the tobacco-related causes of death that claim the lives of up to 50% of smokers (Sakthisankaran *et al.*, 2024). Diseases brought on by tobacco smoking also make people poorer by driving up the cost of healthcare for both individuals and families. Tobacco uses also has a significant negative economic impact on the world economy (Hsu *et al.*, 2018).

Multiple studies indicated that alcohol and smoking were frequent among tribal people, and that these behaviours were linked to a high incidence of medical conditions, early death, and problems with nutrition (Sadath *et al.*, 2019). Tobacco usage also ranks as one of the most serious threats to public health. The extensive use of different kinds of tobacco is an issue of worry in nations with low or middle incomes. According

to evidence, almost 1.3 billion individuals worldwide use tobacco, with 80% living in low or middle incomes nations, which have the greatest tobacco-related illness and death levels. India is the next-largest of tobacco products among low or middle incomes nations and continues to be a major producer (Murmu *et al.*, 2023). According to a study by Murmu *et al.* (2023), elderly tribal people aged 60–74 years addicted to smoking, smokeless tobaccos, and any tobacco were 19.6%, 30.07%, and 46.7%, respectively (Murmu *et al.*, 2023). Gupta *et al.*, (2018) found that a lot of elderly people (70.9%) aged 60-65 years addicted to tobaccos in Mandla city of Madhya Pradesh (Gupta *et al.*, 2018).

Nutritional Status

Every community's health requirement and issue are shaped by the interplay of multiple socioeconomic and political forces. Numerous research has been conducted on tribes, their cultures, and the effects of acculturation on tribal societies. Since 1947, the opening of Primary Health Centres (PHCs) in tribal-dominated regions has been a key aspect of the country's many tribal development projects aimed at providing essential primary health care to the tribal people. When compared to their others in the rural and urban areas, tribal elders are generally the most disadvantaged due to both their physiological aging and the distinct regions in which they dwell. Prevalence of obesity among tribal elderly people was low. Sinha *et al.*, (2023) recorded that prevalence of obesity was observed 13.28% (Sinha *et al.*, 2023).

According to Arlappa *et al.* (2005), both males and females consumed less of all nutrients than what was recommended by the Recommended Dietary Intakes (RDI). For both boys and girls, the mean weights and heights declined noticeably with age. Compared to males (61.8%), females had a comparatively greater prevalence of Chronic Energy Deficiency (CED = BMI < 18.5) (65.4%). Elderly residents of landless and kutchha households had a considerably greater prevalence of CED than other populations. Due to their limited diets, the elderly indigenous population exhibits low nutritional intakes and a greater incidence of undernutrition. When compared to their rural counterparts, a notably greater percentage of elderly

indigenous people suffer from undernourishment (Arlappa *et al.*, 2005).

Health status

The elderly of tribes are sources of changing cultural legacy. However, the majority of these tribal elders lead poor lives and neglect all forms of its development. They experience a range of illnesses, including diarrhea, cholera, malaria, kala-azar, black water fever, intestinal disorders brought on by unhygienic surroundings, skin disorders brought on by soiled clothing, sexually transmitted infections brought on by cross-cultural interaction, and intoxicating liquors, drinks, and medicines (Jain *et al.*, 2015; Nair and Et 2019). For them to live longer and have better physical and mental health, universal health coverage is necessary. The Scheduled Tribal communities are exhibiting the effects of an aging population (Majumdar *et al.*, 2020). Lack of healthcare facilities, trained healthcare professionals, and transportation infrastructure further exacerbate their healthcare access challenges. Efforts are being made by the Indian government and various organizations to address these health challenges among tribal communities (Saha *et al.*, 2023).

Food habit

Any society's overall way of life is influenced by its beliefs, rituals, and customs. Eating is a highly social activity and an object of culture that reflects the complex process of sociocultural difference in the formation of eating patterns. Food is essential for physical, mental and social well-being. Due to their isolated lifestyles, eating habits, dietary practices, and a view about food, the dietary habits of the tribes of India may vary (Bisai *et al.*, 2023). Bandana, (2012) noted that every tribal population consumes pork, cow, and ox meat (Bandana 2012). Das, (2015) also observed that they had developed a practice of consuming land crabs, prawns, and snails (Das 2015). Rice and millets as a main staple food had been reported by various study (Moyra and Hazra 2022; Subramanyam and Rao 2023). They intake a variety of unusual foods, such as grains, small seeds, roots and tubers, and greens. In addition to the typical non-vegetarian fare, wild boars, rabbits, rats, and

porcupines were utilized. Dietary diversity according to the seasons was crucial. Their eating schedule was erratic and repetitive (Chandrasekhar and Chitra 1990). Similarly Sinha and Larka (2005) highlighted the inclusion of unconventional foods such as green leaves, wild dogs, deer, greyquail (Sinha and Lakra 2005). The elder tribal people are surviving on inadequate diets, as indicated by their poor consumption of all nutrients and rising prevalence of undernutrition. They eat more green leafy vegetables, grains, and millets, but along with that eat very little fruit, fish, nuts, and oil seeds, and other flesh items (Arlappa *et al.*, 2005). The RDAs advised for Indians were not met by the median intakes of any of the nutrients (Arlappa *et al.*, 2003). According to Easwaram and Poorani (1991), the day's menu was decided upon based on the food items that were in season rather than in advance. Every day, they received three meals. They cooked twice a day, in the morning and at night. Breakfast was prepared in the morning, while lunch was prepared later. After sunset, food was prepared for the night. Main course options included millets, beans, tapioca, potatoes, lady fingers, brinjal, and various gourd species. There was no milk or milk products consumed (Easwaran and Poorani 1991; Thimmayamma *et al.*, 1982).

According to research done in 1991 by Thakur *et al.*, the primary foods consumed by the Khona, Gadaba, and porja tribes in the state of Himachal Pradesh were rice and rice product, ragi and Jowar and their product, bajara, and wheat and wheat product. There was no expenditure on fruits, milk, and dairy goods, nor on green leafy vegetables. They were more concerned with the quantity of food than its quality, and their diet was boring and uninteresting. For breakfast, it was usually cereals and either fermented or unfermented gruel; for dinner, it was rice with vegetables and dal (Thakur *et al.*, 1991).

Morbidity Pattern

The aging process, which results in an overall decrease in health, is an obstacle and a challenge for the aged. Seneca once said, "Old age is an incurable disease." Sir James Sterling Ross once remarked, quite correctly: "You do not heal old

age; you protect, promote, and extend it.” (Rodríguez-Rodero *et al.*, 2011) With aging comes a higher chance of illness, incapacity, reduced functioning, and ultimately death. Every person, family, community, and society are impacted. In the twenty-first century, a significant public health concern remains enhancing the quality of life for the elderly while both preserving their health and encouraging social engagement (Soren *et al.*, 2022).

Since tribal health also experiences a dramatic shift in lifestyle, which puts them at higher risk of NCD multimorbidity, NCD multimorbidity is as relevant to tribal health as it is to the general population (Barik and Thorat 2015). A higher prevalence (49.24%) of multimorbidity was observed among elderly tribal people (Sinha *et al.*, 2023). One in every two elderly individual suffers from at least one chronic disease and are on lifelong medicine (Ashifa 2022). According to Gurumoorthy and Thirumalraja’s 2015 report, the majority of respondents suffer from physical issues such as joint pain, persistent headaches, persistent constipation, gastrointestinal problems, vision loss, and loss of hearing. Among older tribal people, malnourishment and infectious diseases like malaria and tuberculosis are also prevalent (Gurumoorthy and Thirumalraja 2015). Lack of opportunity, lack of education, awareness of disease causes, rude environment, poor hygiene, a lack of safe drinking water, and erroneous opinions, among other things, aggravate their misery (Sethurajakumar and Venkatesh 2019). Ablo and Yekple, (2016) reported that lack of drainage facility in their houses causes the various health issues (Ablo and Yekple 2018).

Hypertension

Hypertension is one of the primary non-communicable diseases (NCDs) (Tripathi *et al.*, 2020) and a major cause of illness and disability worldwide. High blood pressure, or hypertension, is mostly responsible for the significant increase in cardiovascular fatalities, diabetes type 2, heart disease, and renal illness. This condition is impacted by a variety of factors. Age is an additional component that influences the development of hypertension (Rahaman *et al.*, 2024). Tribal populations of India, who are confined to isolated, hilly

areas, are vulnerable to lack of education, poverty, and malnourishment (Kshatriya 2014). As a result, it is presumed that they are resistant to hypertension, a condition driven by lifestyle habits. However, fresh literature indicates that hypertension is becoming more common among tribal people (Sathiyarayanan *et al.*, 2019; Tripathi *et al.*, 2020). Elderly tribal people experienced a high prevalence of hypertension; factors associated with risk for hypertension among Indian tribal men and women included educational attainment, use of tobacco products, alcohol, rising BMI, and visceral and truncal obesity (Laxmaiah *et al.*, 2015). Sinha *et al.*, (2023) reported that prevalence of hypertension was 11.80% among elderly tribal (Sinha *et al.*, 2023). Tripathi *et al.* (2020) explored the variation in the prevalence of hypertension among tribal communities throughout several states and parts of India, ranging from 10% to 55.5%. Men were more likely than women to have hypertension. Common risk factors included becoming older, having a higher body mass index, smoking, having diabetes, and consuming more salt (Tripathi *et al.*, 2020)

Diabetes mellitus

Some of the non-communicable medical conditions which lead to major problems with public health and monetary losses internationally is diabetes, which is expected to become to the seventh most common cause of death globally by 2030 (Das and Kar 2023). One of the major public health problems and difficulties in low-middle-income nations is diabetes mellitus, which causes 75% of the annual incidence of diabetes in the population. Although the prevalence of diabetes is higher in urban areas, recent study data has also indicated that the disease is becoming more common in rural areas (Hwang *et al.*, 2012). The largest prevalence of diabetes was regarded in elderly people, particularly those over 60. This was due to a combination of factors such as the aging population, the swift urbanization of people's health, and lifestyle choices that featured western food habits and a lack of vigorous physical activity. An increasing number of research indicates that diabetes in elderly individuals is associated with significant morbidity, including the highest risk of institutionalization,

decreased functional status, increased mortality, and macro- and microvascular consequences (Das and Kar 2023; Jain and Paranjape 2013). Babu *et al.*, (2024) found that the prevalence of type 2 diabetes among tribal populations was 4.77%, which was lower than the national average of 7.3% for people in general (Babu *et al.*, 2024)

Anaemia

People over 65 years are considered to be elderly, and as the population ages, anemia is becoming more prevalent in this age group. Any level of anemia has a substantial impact on quality of life and contributes considerably to morbidity and mortality in older individuals. Elderly anemia is especially important since it can lead to several dangerous outcomes. Anemia has been linked to increased risk of falls and fractures, poor physical performance and quality of life, increased incidence of cardiovascular disease, and cognitive impairment. Additionally, anemia has a strong correlation with lengthier hospital admissions and a higher risk of death, particularly death from cardiovascular illness. More significantly, anemia may indicate a malignant illness that has not yet been identified (Stauder and Thein 2014). Various studies showed that anemia is a common problem among tribal women in reproductive age group (Kamath *et al.*, 2013; Rohisha *et al.*, 2019). A higher frequency of anemia among these tribal people may be caused by a number of reasons, including economic hardship, insufficient nutrition, lack of education, adverse cultural practices, lack knowledge of the disease, inadequate geographic connectedness, and a lack of health staff and services (Ismail *et al.*, 2017). An investigation of the haemoglobin levels of elderly tribal people from Orissa revealed a miserable picture: none of the females had normal hemoglobin levels, and 70% of the men and 77% of the females, respectively, had severe anaemia (Kerketta *et al.*, 2009).

Conclusion

Tribes' status in our country is entirely discarded. They are being forced to abandon their original position and are also facing threats from the occupiers. These primitive organizations have left our society's ancient tribes in a strange and miserable

status. Their ageing into the worst circumstances they have ever known is a result of their non-migration status, bad health, lack of an economic source, and child abandonment. People in the modern world need access to clean water, electricity, housing, and sanitary facilities in order to live with dignity. The establishment and implementation of these rules not only safeguards women from major health, safety, and environmental hazards, but they are also crucial for the economic development of the tribe. The primary causes of aged tribal people's low nutritional state include a lack of income, sanitary facilities, clean water, electricity, shelter, and bad habits. Non-communicable diseases like diabetes mellitus, hypertension, and anaemia are very common among tribal communities, and their management and prevention techniques must be implemented immediately.

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