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A Scientific Study of Mental, Nutritional and Physical Fitness on Tribals and Non-Tribals School Students in Maharashtra

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ABSTRACT

Undernutrition continues to be a major public health challenge in majority of the developing countries including India. It is believed that tribals are among the poorest communities in the country and undernutrition is prevalent in tribal children as well as adults. Moreover, physical as well as psychological health is a highly neglected area especially in tribal population.In the present survey study total 400 students i.e., tribal (n=200) and non-tribal (n=200) male students, aged 12 to 14 years were selected from Gadchiroli District of Maharashtra.The findings of present study highlight substantial differences in socio-economic conditions between tribal and non-tribal male students. There was significant difference in nutritional status of tribal and non- tribal school students. The tribal male school students showed poor nutritional status as compared to non-tribal students. Tribal students exhibit lower levels of emotional stability, emotional progression, social adjustment, personality integration, independence, and emotional maturity. Non-tribal students demonstrate superior physical fitness characteristics, including height, weight, BMI, and body fat percentage, while tribal students exhibit better abdominal

muscle strength.

Introduction

Tribals are generally considered to be the original inhabitants of the concerned region and far removed from the urban culture. They generally live sparsely in forests, remote valleys, and in areas devoid of civilized society. Characteristic customs or 'cultures' of urban culture are similar to those found in the tribal areas. Of course, it cannot be said with certainty that all the tribes of the world are natives of that region.The indigenous inhabitants, commonly referred to as adivasis, are a collective term that encompasses numerous tribal communities in India. From a legal and constitutional standpoint, they are classified as "Scheduled Tribes," although this designation may vary across different states and consequently exclude certain tribal groups.The Indian government has enforced a multitude of tribal development initiatives throughout the years, with the objective of enhancing the livelihoods of tribal individuals and integrating them into the societal mainstream.Maharashtra is a home for numerous indigenous groups, each possessing their own unique heritage, dialect, and customs. These indigenous groups boast a profound historical background and actively contribute to the multifaceted cultural tapestry of the region.Chandrapur and Gadchiroli are two districts in the eastern Vidarbha region of Maharashtra. They are both predominantly tribal districts, with over 60% of the population belonging to Scheduled Tribes. Both districts are also poor and underdeveloped, with high levels of poverty and malnutrition.

Need of the study

Undernutrition continues to be a major public health challenge in majority of the developing countries including India. It is believed that tribals are among the poorest communities in the country and undernutrition is prevalent in tribal children as well as adults.health related physical efficiency helps to maintain fitness of mind and body which could help children to remain physically strong, efficient to withstand stress and fatigue and mentally alert. Despite the fact that information about the status of health-related physical fitness is crucial for health-related issues, there is dearth of data indicating status of physical fitness, nutrition and mental health among socio- economically deprived tribal children. Hence, investigator conducted present study entitled "A scientific study of mental, nutritional and physical fitness on tribals and non-tribals School students in Maharashtra."

Hypotheses

$H0_1$: "There will be no significant difference in emotional maturity between tribal and non-tribal school students".

$H0_2$: "There will be no significant difference in nutritional status between tribal and non-tribal school students".

$H0_3$: "There will be no significant difference in personality between tribal and non-tribal school students".

$H0_4$: "There will be no significant difference in health-related physical fitness between tribal and non-tribal school students".

Scope of study

- The findings of this study would provide in-depth knowledge about the need of nutrition and psycho-social status of "tribal and non-tribal school students" of Maharashtra.
- The results of this study would be able to highlight the causes of undernutrition.
- The nutritional status questionnaire crafted in this study will aid researchers, stakeholders, governmental, and non-governmental organizations in assessing the prevalence of undernutrition among both tribal and non-tribal students in India.
- The findings could be used as a base line information to conduct large scale study that determine the cause-and-effect relationship.

Methods

In the present survey study total 400 students i.e., tribal (n=200) and non-tribal (n=200) male students, aged 12 to 14 years were selected from Gadchiroli District of Maharashtra. All the students were assessed at one time point for the nutritional status, emotional maturity, personality and physical fitness. For the assessment of nutritional status, a comprehensive questionnaire consisting of socioeconomic profile, nutrition knowledge, dietary intake, and clinical evaluation was developed and validated. Further, emotional maturity and personality was assessed through standard questionnaires. The data was analyzed by employing Percentage-wise analysis to assess the status of nutrition among tribal and non-tribal school boys and some data were processed for X^2 test to determine if there exists any significance

difference. Further, independent sample 't' test was employed to compare the Nutritional, Emotional maturity, Personality and health-related physical fitness status of the tribal and non-tribal school boys.

Variables & Tools Used for Survey

Sr. No.	Variable	Tools Used & Measuring units
Anthropometric status		
1.	Body Height	**Meter** (nearest to ±0.05 cm)
2.	Body Weight	**Kg.** (nearest to ±0.5 kg)
3.	B.M.I.	**Index** (nearest to ±0.5 index)
Nutritional status		
1.	Nutritional Assessment	Questionnaire (nearest to ±1 point)
Psychological status		
1.	Emotional Maturity	Questionnaire (nearest to ±1 point)
2.	Big five personality test	Questionnaire (nearest to ±1 point)
Health related physical fitness status		
1.	Flexibility	Sit and reach test (nearest to ±0.5 Cm)
2.	Abdominal Muscles Strength	Sit ups (nearest to ±1 No.)
3.	Cardiovascular endurance	Harvard step test (nearest to ±1 index)
4.	Body fat %	Body fat monitor (nearest to ± 0.05 %)

Statistical Analysis

Once the data were collected for each variable, they were processed for data acquisition and analysis was performed in order to determine "the status of nutrition", psychological attributes and health-related physical fitness status among "tribal and non-tribal school" students. The data was analyzed by using Statistical Package for the Social Sciences (IBM SPSS, Version 25). Following statistical techniques were used for interpretation of results:

- Descriptive statistics was applied to process the data.
- Percentage-wise analysis was employed to assess the status of nutrition among "tribal and non-tribal school boys" and some data were processed for X^2 test to determine if there exists any significance difference.
- Further, independent sample 't' test was employed to compare the Nutritional, Emotional maturity, Personality and "health-related physical fitness" status of the "tribal and non-tribal school boys".

Results

The results of independent sample t test showed significantly low levels of emotional stability *(t* (336.10) = 15.13, $p < 0.001$), emotional progression(*t* (389.71) = 8.26, $p < 0.001$), social adjustment*(t* (333.30) = 8.76, $p < 0.001$),
personality integration*(t* (338.09) = 8.98, $p < 0.001$), and emotional maturity *(t* (327.08) = 20.36, $p < 0.001$) in tribal male students as compared to non-tribal school students. Further, the results in personality showed that tribal male students exhibit comparatively higher levels of extraversion *(t* (351.34) = 4.26, $p < 0.001$), Conscientiousness*(t* (398) = 27.27, $p < 0.001$), and Neuroticism*(t* (398) = 2.49, p=0.01) as compared to non-tribal students. However, in case of agreeableness *(t* (383.72) = 14.73, $p < 0.001$) non-tribal students exhibited comparatively higher levels of agreeableness as compared to tribal male students. the results indicate socio-economic differences among tribal and non-tribal communities. Similarly, the results on dietary pattern and nutritional knowledge showed significant differences in tribal and non-tribal students. Furthermore, the clinical assessment of tribal and non-tribal students' general appearance and various physical attributes reveals significant differences between the two groups. The results indicate that non-tribal school students generally exhibited superior general appearance, normal hair quality, normal face, normal eyes, normal lips, normal tongue, normal teeth, healthy gums, healthy skin, and normal nails when compared to their tribal

counterparts. These findings are significant as an individual's physical appearance can convey essential information about their health and socio-economic status. Moreover, the results pertaining to the anthropometric characteristics showed significant differences in tribal and non-tribal male students. Non-tribal students displayed higher height *(t* (377.25) = 11.62, $p < 0.001$, Cohen's d=0.01), weight (*t* (398) = 19.50, $p < 0.001$, Cohen's d=1.95), and body mass index *(t* (391.63) = 3.68, $p < 0.001$, Cohen's d=0.36) as compared to tribal students. The results pertaining to physical fitness of tribal and non-tribal students reveal several significant differences in various parameters. Non- tribal students exhibited lower flexibility (*t* (398) = 14.39, $p < 0.001$, Cohen's d=1.44) and abdominal muscle strength (*t* (334.13) = 2.79, $p < 0.01$, Cohen's d=0.27) than their tribal counterparts, suggesting potential differences in physical training or activity levels between these groups. The results showed no significant difference in cardiovascular endurance (*t* (378.41) = 0.78, $p > 0.05$, Cohen's d =0.07) between tribal and non-tribal students. However, a striking observation was the significantly higher body fat percentage among non-tribal students (*t* (354.95) = 24.23, $p < 0.01$, Cohen's d=1.98) as compared to tribal students.

Conclusion

The findings of present study highlight substantial differences in socio- economic conditions between tribal and non-tribal male students. Students from tribal communities typically come from larger families, households with lower incomes, and receive limited opportunities to use technology. There was significant difference in nutritional status of tribal and non-tribal school students. The tribal male school students showed poor nutritional status as compared to non-tribal students. Tribal students exhibit lower levels of emotional stability, emotional progression, social adjustment, personality integration, independence, and emotional maturity. Non-tribal students demonstrate superior physical fitness characteristics, including height, weight, BMI, and body fat percentage, while tribal students exhibit better abdominal muscle strength.

Recommendation

On the basis of the results, presented above, the present study recommends the followings

- Implementation of educational and skill development program exclusively for tribal students are needed to enhance their capacity for employment and income-earning potential.
- Design fitness programs customized to suit the requirements of both tribal and non-tribal school

students. Encourage students to actively participate in physical activity and sports program to promote healthier lifestyles.

- Introduce counselling and mentoring services in schools to address the psychological well-being of tribal students.

Contribution to the Knowledge

Present study advances our knowledge of differences among "tribal and non- tribal school students". It presents a comprehensive analysis of socio- economic profile, including factors such as family size, income, technology accessibility, and government aid, thereby revealing the difficulties experienced by tribal communities. Furthermore, study presents the disparities in physical fitness, highlighting the requirement for customized fitness programs. The research investigates disparities in psychological well- being, emphasizing the essentiality of psychological assistance. Lastly, it provides practical policy recommendations for enhancing the well-being and educational outcomes of tribal students, contributing significantly to this field.

References

Abera, L., Dejene, T., &Laelago, T. (2017). Prevalence of malnutrition and associated factors in children aged 6–59 months among rural dwellers of Damot gale District, South Ethiopia: Community based cross sectional study. *International Journal for Equity in Health*, *16*(1), 111.

Asmare, B., Taddele, M., Berihun, S., &Wagnew, F. (2018). Nutritional status and correlation with academic performance among primary school children, northwest Ethiopia. *BMC Res Notes, 11*, 805.

Banik, S. D., Bose, K., Bisai, S., Bhattacharya, M., Das, S., Jana, A., & Purkait, P. (2007). Undernutrition among adult Dhimals of Naxalbari, West Bengal: comparison with other tribes of eastern India. *Food and Nutrition Bulletin*, *28*(3), 348–352.

Costa, P. T., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual.* Psychological Assessment Resources.

Danbe, D., & Taye, A. (2015). Nutritional status of under-five children in Hawassa Zuria District, Southern Ethiopia. *American Journal of Health Research*, *3*(5), 286–292.

Hossain, M. S., &Tariquzzaman, M. (2020). Factors affecting employment status of tribal women in Bangladesh: An empirical study in the Chittagong Hill Tracts. *International Journal of Social Economics, 47*(10), 1249-1268.

Hurtig-Wennlof, A., Ruiz, J. R., Harro, M., et al. (2007). Cardiorespiratory fitness relates more strongly than physical activity to cardiovascular disease risk factors in healthy children and adolescents: the European youth heart study. *Europ J Cardio Prev Reham, 14*, 575–81

McCrae, R. R., & Costa, P. T. (1997). Personality trait structure as a human universal.

American Psychologist, 52(5), 509-516.

Meshram, I. I., Arlappa, N., Balakrishna, N., Mallikharjuna Rao, K., Laxmaiah, A., &Brahmam, G. N. (2012). Trends in the prevalence of undernutrition, nutrient and food intake and predictors of undernutrition among under five year tribal children in India. *Asia Pacific Journal of Clinical Nutrition*, *21*(4), 568–576.

Pelletier, C., Smith-Forrester, J., & Klassen-Ross, T. (2017). A systematic review of physical activity interventions to improve physical fitness and health outcomes among indigenous adults living in Canada. *Preventive Medicine Reports, 8*, 242-249.

Pradhan, S., & Sharma, K. (2011). Nutritional Status of Bhil Tribal Children in Madhya Pradesh, India: A Cross-Sectional Study. Journal of Anthropology, 9(1), 37-
40. doi: 10.1080/0972639X.2011.11886626

Thirumani, D. A., & Sindhuja, S. (2015). Nutritional Status and Knowledge, Lifestyle, and Dietary Practices of Tribal Adult Women. International Journal of Recent Scientific Research, 6(6). http://www.recentscientific.com.

Timothy, A. B., Brusseau, T., Finkelstein, T., Hodges Kulinna, P., & Connie, Pangrazi. (2014). Health-Related Fitness of American Indian Youth. *Research Quarterly for Exercise and Sport, 85*(2), 257-261.

UNESCO. (2020). *Education for people and planet: Creating sustainable futures for all*. United Nations Educational, Scientific and Cultural Organization. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000374073