CHAPTER 2

ANTHROPOLGY

Doctoral Theses

01.   BANERJEE (Debashmita)
       Demographic Dynamics and Reproductive Health Among the Totos of India.
       Supervisor: Prof. Benrithung Murry
       Th 28176

Abstract

The present study aimed to investigate the demographic dynamics and biosocial determinants influencing reproductive and child health among the Toto ethnic population residing in New Jalpaiguri, West Bengal. The core objectives were to examine the sociodemographic profile of the Toto community in Alipurduar, explore their reproductive health-seeking behaviors, and assess the anemic and nutritional status through anthropometric measurements among adolescent girls and women. The study population comprised 1,374 individuals, with 332 mothers participating in the available maternal health care services. A cross-sectional study design was employed to gather the data using quantitative and qualitative methodologies. For qualitative data, semi-structure interview schedule has been utilized. Furthermore, for quantitative data collection, three pre-tested semi-structured schedule used to gather the data of Household of entire Toto population, reproductive health care schedule to gather Maternal healthcare services schedule and KAP regarding menstruation. Apart from that, to understand the nutritional assessment of mothers, anthropometric measyrements and hemoglobin has been estimated. The population exhibited a sex ratio of 827.1 and a negative decadal growth rate of -0.1 compared to the previous census data from 2011. Fertility rates were observed to be rapidly declining, while mortality rates were moderate. Concerning reproductive health, a significant proportion of mothers, 43.1%, did not utilize antenatal care, and 64.9% did not receive postnatal care. Notably, 73.9% of mothers were unaware that menstruation is a physiological process. Anthropometric measurements showed no statistically significant associations with sociodemographic variables. The findings suggest that the Toto population faces challenges in accessing and utilizing reproductive and child health services. Targeted interventions focused on awareness, education, and improved access to healthcare services are needed to address these disparities and promote the overall well-being of the Toto community.

Contents

1. Introduction 2. Materials and methods 3. History of totopara village 4. Demographic profile of toto population 5. Fertility and mortality 6. Maternal health care services among the toto women 7. Menstrual hygiene among the toto mothers 8. Summary and conclusion. Bibliography and annexures.

02.   BHATTACHARJEE (Debashis)
       One Carbon Metabolic Pathway and Global DNA Methylation in Hypertension: A Study from Punjab, India.
       Supervisor: Prof. Kallur Nava Saraswathy
       Th 28779

Abstract

Hypertension represents a growing global health challenge, particularly in low- and middle-income countries such as India. Increasing evidence identifies hypertension as a multifactorial disorder shaped by complex interactions among diet, genetic susceptibility, and metabolic pathways such as one-carbon metabolism (OCM), which governs homocysteine regulation and DNA methylation. The present cross-sectional study was conducted among 1,417 adults (584 males and 833 females; aged 30–75 years) from the Jatt Sikh population of Mansa District, Punjab, India. Sociodemographic, lifestyle, anthropometric, lipid, physiological, biochemical (vitamin B12, folate, and homocysteine), genetic polymorphism (MTHFR C677T, MTR A2756G, CBS 844ins68, and MTRR A66G), and global DNA methylation (5mC) data were collected using standardized protocols. Additionally, a case–control subset (450 hypertensive and 450 normotensive individuals, age- and sex-matched) was examined for DNA methylation differences. The high prevalence of vitamin B12 (30.8%) and folate deficiencies (26.4%), along with markedly elevated homocysteine (64.8%), indicated widespread disruption of OCM. Low folate and elevated homocysteine levels were significantly associated with increased odds of pre-hypertension. The AG genotype (OR = 1.43) and G allele (OR = 1.35) of the MTR A2756G polymorphism significantly increased the risk of hypertension, with each additional G allele contributing to a 4.71 mmHg increase in systolic and a 1.96 mmHg increase in diastolic blood pressure, effects amplified under low-vitamin (B12 and folate) and high-homocysteine conditions. Hypertensive individuals exhibited significantly lower global DNA methylation than normotensives, while hypertension on treatment with controlled blood pressure displayed higher methylation than those with uncontrolled hypertension. Further, the MTRR A66G polymorphism was associated with reduced methylation among controls, suggesting genotype–methylation interactions within the OCM pathway. Collectively, these findings underscore the integrated influence of micronutrient deficiencies, global DNA hypomethylation, and OCM gene polymorphisms in hypertension pathogenesis and highlight the potential for nutrigenomic and epigenetic interventions in disease prevention and management within susceptible populations.

Contents

03.   FARZANA
Study on Interdigital Areas of Palms: A Significant Evidence for Personal Identification.
Supervisor: Prof. P. R. Mondal
Th 28777

Abstract

Fingerprints have long been recognized as a significant tool for the identifications of an individuals. In addition to fingerprints, the interdigital areas of palm also serve as significant forensic evidence, with these prints being found in approximately 40% of crime scenes. In the present study, the interdigital areas of palm were explored as potential forensic evidence, focusing on the development of latent prints using low-cost, and locally available innovative techniques (Cement and Charcoal powder methods). The study was structured around three objectives and involved three types of data: inked prints, latent prints, and interview schedules. Inked impressions from five individuals were analyzed to determine the uniqueness, variability, and bilateral similarities of ridge patterns across the interdigital regions (a-b, b-c, c-d,

and a-d). Latent prints (n=630) were developed on sixteen porous and non-porous surfaces at seven-time intervals (30 min to 5 days) to evaluate powder performance under simulated crime scene conditions. Additionally, Dynamic Light Scattering (DLS) was employed for particle size analysis of the powders, and interviews with police officers from both rural and urban areas assessed practical challenges in evidence recovery. Findings revealed clear inter- and intra-individual differences supporting the forensic significance of interdigital ridge flow. Charcoal and cement powders produced excellent latent prints on non-porous surfaces such as transparent polythene, aluminum foil, tiles, steel pipes, laminate floorings, and cardboard, while these powders were ineffective on white and green polythene and butter paper. However, the effectiveness of both the powders on porous surfaces was less consistent. Police interviews emphasized that delayed access to crime scenes, particularly in rural areas, negatively impacts evidence recovery, though indoor scenes preserved prints more effectively. The results reinforce the significance of interdigital palm areas in personal identification and provide a practical framework for enhancing latent print development and recovery under real-world conditions.

Contents

1. Introduction "Unveiling identity: introducing the forensic significance of interdigital areas of the palm" 2. Establishing the research framework: aim and objectives 3. Mapping the scientific landscape: a literature review of latent prints development and interdigital ridge analysis 4. Research methodology and experimental design from concept to execution: tools, techniques, and sample preparation 5. The powders (exploring innovative materials for latent print detection in forensic investigations: cement and charcoal powders) 6. Results- decoding the data: findings and interpretations in interdigital ridge analysis 7. Discussion- connecting the dots: interpretating of ridge patterns, effectiveness of powders, and delay response 8. Synthesizing the study outcomes: summary and conclusion. References. Annexures.

04.   GILL (Taniya)
Personality Assessment of Urban-Dwelling Rhesus Macaques (Macaca Mulatta) in Delhi.
Supervisors: Dr. Avitoli g. Zhimo and Dr. H. N. Kumara
Th 28658

Abstract

Rhesus macaques (Macaca mulatta) are one of the highly adaptable species of nonhuman primates. Despite the number of studies on urban dwelling macaques, their individual patterns of behavior are still not very well understood. To investigate the difference in the patterns of their sociality in anthropogenic setting, it is pertinent to understand the individual as a unit. It is well established that animals exhibit different personalities. However, few studies have been conducted on the personality assessment of urban macaques due to the concerns around its "subjective biasness". Studying the personalities of synanthropic rhesus macaques can provide insights into the biological traits that facilitate their success in human-dominated environments. I employed a multi-method 'bottom-up' approach of behavioral observations and novelty experiments, standardized for assessing captive non-human primates, to evaluate the personalities of synanthropic adult rhesus macaques (N=52). Novelty experiments encountered significant challenges, limiting their effectiveness. However, behavioral observations in the form of focal sampling revealed two repeatable traits: social tension and meekness. An effect of sex on social tension, where males exhibited more social tension than females, was found. In an additional analysis, we found that individuals who obtained food through contact

provisioning had higher meekness scores than individuals who obtained food through non-contact provisioning. I discuss how the observed personality traits and their variations potentially offer adaptive advantages in human-dominated environments, where rhesus macaques face both benefits, such as anthropogenic subsidies and reduced predation, and costs, like exposure to anthropogenic stressors. Thus, the study underscores the need to reconsider experimental designs for comparable empirical evidence between captive and non-captive populations to enhance the ecological validity of personality assessments. Nevertheless, empirically identifying traits using observations in synanthropic species like rhesus macaques can provide valuable insights into the mechanisms that enable certain animals to thrive amidst a rapid expansion of anthropogenic activities.

Contents

1. Setting the stage: Individual uniqueness and nonhuman primates 2. Personality assessment of nonhuman primates: A comparative account 3. Encountering the macaques: Reflections on the methodology 4. Findings 5. Shades of character: Insights into macaque personality 6. Summary and Conclusion. References, Annexures and Publications.

05. GOSWAMI (Vaidehi)
Health and Well-Being of Adolescents: A Study Among the Gond Tribe of Madhya Pradesh.
Supervisor: Dr. Shivani Chandel
Th 28659

Abstract

Adolescence is a period marked by major physical, psychological, and social changes. Since it is estimated that 21% of India's population comprises adolescents, and major public health concerns are malnutrition and mental health adversities. Therefore, the aim was to study the prevalence and determinants of malnutrition among Gond tribe adolescents in Madhya Pradesh and to examine the interrelationships among various determinants of undernutrition. Material and Methods: A cross-sectional study was conducted among 500 individuals from the Gond tribe in Sagar district, Madhya Pradesh, using convenience sampling. The participants were aged 10-19 years. Interview schedules were administered among the participants to collect data on general information, socio-economic status, diet, WASH practices, Media Exposure Index, Substance use, Somatometric and physiological variables, mental health variables, and well-being. Further, data were analysed using SPSS version 22. Results: The prevalence of stunting was 32.8%, and that of thinness was 31.8%. Females exhibited a higher prevalence of stunting, whereas males are more likely to be thin. Early adolescents have significantly higher stunting and thinness; participants with joint family and larger family size have a higher prevalence of undernutrition. Among lifestyle determinants, poor personal hygiene, low diet diversity, and high tobacco consumption increase the risk of undernutrition. A notable prevalence of anxiety (34.6%), moderate-to-high stress (64%), and poor well-being was found among 40.1% of adolescents. Among physiological variables, high blood pressure and low handgrip strength were significantly associated with undernutrition. Conclusion: The present study highlights the high burden of stunting and thinness, underscoring the persisting vulnerability of tribal populations. That requires a holistic, multisectoral approach, integrating nutritional education, WASH improvement, mental health support, and strengthening government programmes to break the intergenerational cycle of undernutrition and promote growth and well-being among adolescents.

Contents

1. Introduction 2. Literature review 3. Material and methods 4. Results and interpretation 5. Discussion 6. Summary and conclusion. References, annexures, list of publications and list of papers presented/workshops attended.

06. KAUR (Tajinder)
'Moving Beyond Limits': An Anthropological Study of Women with Disabilities in Non-Governmental Organizations (NGOs) of Delhi, India.
Supervisor: Dr. Mitashree Srivastava
Th 28660

Abstract

Disability is a significant societal issue that affects approximately 15% of the global population. Its meanings and definitions differ across social, cultural, and political contexts. Individuals with disabilities are excluded from Indian society, especially women, due to established societal attitudes, structural frameworks, and the lack of adequate laws and regulations. The present research sheds light on the understanding of how disability is perceived in the Indian context, particularly in Delhi. This includes societal attitudes toward women with disabilities and the interplay of cultural norms with gender and disability. Therefore, this study examines the lived experiences of women with physical disabilities in Delhi, India, and their engagement with non-governmental organisations (NGOs) of the South District of Delhi. The study analyses how women with physical disabilities engage with NGOs and grassroots-level organisations, which provided alternative forms of community, such as peer networks and support groups, that lead to their community integration and full participation in society. However, NGOs significantly contribute to supporting women with disabilities through resources, skill enhancement, and legal support, but also operate within systems of governance and social norms that can sometimes be constraining. Through an interdisciplinary dialogue between Anthropology and Disability studies, the present research focuses on how gender, disability, and social structures intersect and shape the experiences of women with physical disability in Delhi. Additionally, it also addresses that how disabled women experience, engage with, and negotiate NGOs as spaces of support, power, and identity formation in urban Delhi. It also examines how cultural norms, familial expectations, and ableist structures shape their daily lives and tries to shed light on the role of NGOs in supporting as well as governing these women with physical disabilities.

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1. Introduction 2. Review of literature 3. Research methods 4. Beyond labels: lived experiences of disabled women in Delhi 5. Reflections on NGOs: structure and practice 6. Disabled women's engagements with NGOs in Delhi 7. Summary and conclusion. References and appendices.

07. MAMTA
Importance of Diversity of Dental Patterns in Personal Identification: A Forensic Perspective.
Supervisor: Prof. P. R. MONDAL
Th 28177

Abstract

Forensic Odontology plays a crucial role in human identification, especially in cases where traditional biometric tools, such as Fingerprints or DNA, are unavailable. Dental patterns, characterised by the presence of Virgin, Decayed, Filled, Missing, Impacted, and Prosthetic teeth, provide unique and durable markers for distinguishing individuals. The present study aims to evaluate the diversity of dental patterns and their applicability in personal identification using a clinical examination approach (non-radiographic) when other sophisticated imaging techniques may not be possible or available, resources are limited, or there is a lack of ante-mortem data, emphasising the forensic significance of maintaining accurate dental records. Materials and Methods: The study is cross-sectional, divided into three phases: The first phase (Clinical Examination Method), the second phase (Questionnaire Survey among dental professionals) and the third phase (The Statistical Analysis) The study encompassed 240 participants in the 18–55 Years age group, categorised into 3 age groups: Group 1(18-30 Years), Group 2(31- 42 Years), and Group 3(43-55 Years). The dental pattern variables were assessed using SPSS software version 27.0 and Simpson`s Index of Diversity for determining the diversity of dental patterns. Results: The findings show significant differences in dental pattern diversity across different age groups and sexes in all three anatomical categories (Maxilla, Mandible, and Full Mouth). Out of the three categories, the Full mouth exhibits the most variation in dental patterns, subsequently the Mandible and Maxilla. Conclusion: It concludes that utilising the diversity of dental patterns using a non-radiographic approach as stand-alone markers carries a wealth of medico-legal information, but the findings also highlight the necessity of maintaining accurate, precise and comprehensive dental records for forensic investigation purposes.

Contents

1. Introduction 2. Aim and objectives 3. Review of literature 4. Materials and methods 5. Results 6. Discussion 7. Summary and conclusion. References   and annexures.

08.   MISHRA (Sumit)
Attention-Deficit/Hyperactivity Disorder (ADHD) among Young Adults in Delhi NCR, India.
Supervisors: Dr. Naorem Kiranmala Devi and Dr. Lokesh Singh Shekhawat
Th 28661

Abstract

Attention Deficit Hyperactivity Disorder (ADHD) is a neurodevelopmental condition increasingly recognised in adults. It is characterised by inattention, hyperactivity, and impulsivity, which often result in academic, occupational, and psychosocial difficulties. Despite its growing relevance, adult ADHD remains underexplored in India. Hence, the present study aimed to estimate the prevalence of ADHD among young adults in Delhi-NCR, identify its risk factors, assess its impact on mental and physical health, and explore selected genetic associations. A cross-sectional study was conducted among 1,664 young adults (aged:18–25 years) from Delhi-NCR. Data were collected using structured interviews and standardised instruments such as the Adult ADHD Self-Report Scale (ASRS-v1.1), Beck's Depression Inventory (BDI-II), Beck's Anxiety Inventory (BAI), Adverse Childhood Experiences (ACE)-International Questionnaire, and Perceived Stress Scale (PSS). Anthropometric and blood pressure measures were recorded using standardised methods. In the genetic component, 177 ADHD cases and 356 controls were genotyped for six single-nucleotide polymorphisms (SNPs): SNAP25 (rs3746544), NR3C1 (rs41423247), MAOA (rs5906883), NTF3 (rs6332), DRD2 (rs7131465), and FKBP5 (rs7748266) using the

Sequenom MassARRAY iPLEX platform. Overall, 14% of participants screened positive for ADHD, with the inattentive subtype being the most common. Major predictors included South Indian ancestry, maternal education, ACEs, and early unsupervised digital exposure, while lower socio-economic status was protective. ADHD showed strong associations with depression, anxiety, stress, and poor well-being, indicating a substantial mental health burden, particularly among individuals with the combined subtype. Physically, the combined subtype exhibited the highest risk of both general and abdominal obesity compared with non-ADHD individuals. Genetic analysis revealed a significant association of SNAP25(rs3746544) with ADHD, where the GG genotype increased susceptibility and the TG genotype was protective. The study underscores biological and environmental factors influencing ADHD vulnerability in young adults, emphasising early screening in educational settings and culturally tailored, lifestyle-based interventions to reduce associated metabolic and mental health risks.

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1. Introduction 2. Review of literature 3. Universe of the study 4. Material and methods 5. results and discussion: prevalence and predictors of attention-deficit/ hyperactivity disorder 6. Results and discussion: adverse childhood experiences and adult attention-deficit/hyperactivity disorder 7. Results and discussion: attention-deficit/hyperactivity disorder and mental health outcomes 8. Results and discussion: attention-deficit/hyperactivity disorder and physical health outcomes 9. Results and discussion: genetic correlates of attention-deficit/ hyperactivity disorder 10. Summary and conclusion. References. Appendix.

09. RAO (Kirti)
Bio-social Determinants of Obesity: An Anthropological Study Among Yadav Community of Delhi.
Supervisor: Dr. Shivani Chandel
Th 28178

Abstract

Obesity is a major public health concern, contributing to increased morbidity and mortality rates. It is a multifaceted problem that arises from a combination of socio-demographic, behavioral, psychological, genetic, metabolic, hormonal, neuro-endocrinological, and environmental factors. It significantly increases the risk of cardiovascular diseases, metabolic diseases, depression, reduced muscle strength and even certain kinds of cancer. Specific level of risk associated with a given level of obesity is different depending upon sex, ethnicity and environmental conditions. However, there is a dearth of studies in community-based settings in India, especially in Delhi, capital of the country, the metropolitan hub, where multiple factors affect the health of individuals. The Yadav community is one of the oldest communities residing in Delhi. They have witnessed significant transformation, which impacted their health and quality of life. Therefore, the present study aimed to capture the prevalence of Obesity and to identify its bio-social risk factors among Yadav community of Delhi. A cross-sectional study was carried out among 600 individuals belonging to Yadav community, aged 18-60 years. General information comprising of socio-demographic, lifestyle variables was collected using pre-tested interview schedules. Mental health disorders, Quality of Life assessment, somatometric measurements, Physiological measurement was recorded. Statistical Package for the Social Sciences software was used for data analysis. This study highlights the prevalence of overweight and obesity among the Yadav community. The overall prevalence of generalized obesity was estimated 27.1% of obese and 43.1% of overweight. The prevalence of obesity shows

an increasing trend with an increase in age, female gender, increased blood pressure, poor handgrip strength, and increased levels of stress. The high prevalence of overweight/obesity suggests an early detection, intervention, and monitoring of lifestyle, particularly weight management, regular health screening, and behavioral counseling such as addressing emotional eating, stress management, and motivation for weight loss.

Contents

1. Introduction 2. Review of literature 3. Material and methods 4. Results 5. Discussion 6. Summary and conclusions. References, annexures and list of publications/ paper presentations/ seminar & conferences workshops.

10. SHARMA (Apoorva)
Biological and Social Determinants of Polycystic Ovary Syndrome: A Study from Delhi-NCR.
Supervisors: Prof. K. N. Saraswathy and Prof. Yamini Sarwal
Th 28179

Abstract

Polycystic Ovary Syndrome (PCOS) is a complex, multifactorial endocrine disorder that affects reproductive-aged women worldwide, influencing hormonal balance, fertility, metabolism, mental health, and overall social well-being. The aim of the thesis is to estimate the prevalence of PCOS and understand the association of genetic and environmental risk factors in PCOS among young adults (aged 18–25 years) of the Delhi and National capital region. A total of 1164 participants were screened using a validated questionnaire based on the Rotterdam Criteria (2003), followed by ultrasonographic assessments. The confirmed prevalence of PCOS was 17.4%. Among these, 70% (142) were already clinically diagnosed, while 30% (60) were newly identified during the study. Sociodemographic patterns indicated higher PCOS prevalence among participants aged 20–23 years, from nuclear families, with educated parents, and higher socio-economic status. Significant associations emerged with physical health indicators such as obesity (49.2% in PCOS vs. 21.4% in non-PCOS), dyslipidemia, and anthropometric indices like waist circumference, WHR, and WHtR. Psychological distress was notably higher in PCOS participants, including severe anxiety (37.9%), stress (13.8%), and depression (14.1%). Lifestyle factors such as alcohol (OR=2.11), tobacco (OR=1.71), and cannabis use (OR=2.54) showed significant correlations with PCOS risk. Genetic analysis of SNPs revealed that the IRS1 rs1801278 CT genotype doubled the risk for PCOS (OR=2.08, p=0.05), implicating insulin resistance. Although increased risks were observed with FTO rs9939609 and NTF3 rs6332 genotypes, they were not statistically significant. Notably, only 47.2% of a subset of 250 participants demonstrated adequate knowledge of PCOS, indicating a major gap in awareness and health literacy. The findings emphasize PCOS as a biosocial condition requiring integrated, culturally sensitive clinical and public health interventions. Early diagnosis, preventive care, and holistic awareness are essential to mitigate the growing burden of PCOS in urban Indian youth.

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1. Introduction 2. Review of literature 3. Universe of the study 4. Materials and methods 5.1 Results and discussion 6. Summary and conclusion. References and appendices.

11.   SONIA
      Mental Health, Pregnancy and Birth Outcomes: An Anthropological Study from Bikaner, Rajasthan.
      Supervisor: Dr. Vipin Gupta
      Th 28180

Abstract

Antenatal depression (AD), a non-psychotic depressive episode during pregnancy, poses significant risks to both maternal and fetal health. The present longitudinal study, conducted in the Bikaner District of Rajasthan under the GaRBH (Gestational Route to Healthy Birth) COHORT, examines the prevalence, risk factors, and impact of AD among 300 pregnant women. The study aims to assess AD prevalence, identify associated risk factors, and analyse its effects on pregnancy and birth outcomes. A comprehensive approach was employed, integrating both social and biological determinants of maternal mental health. Mental health assessments were conducted across all trimesters, followed by infant anthropometric measurements within 24 hours of birth and including postnatal interviews. The Edinburgh Postnatal Depression Scale (EPDS) was used for AD screening, with in-depth interviews conducted for positive cases. A structured research schedule collected anthropological, demographic, and mental health data. Findings reveal an AD prevalence of 28.3% in the first trimester, 14.67% in the second trimester, and 15% in the third trimester. Significant risk factors include Gravida ($P=0.004$), family structure ($P=0.09$), menstrual cycle length ($P=0.006$), miscarriage history ($P=<0.001$), supplement intake ($P=0.001$), APH ($P=0.003$), and gastrointestinal issues such as vomiting, heartburn, and diarrhoea ($P=0.02$, $P=0.03$). Additionally, husband's behaviour ($P<0.001$) emerged as a critical factor. AD significantly correlates with adverse pregnancy outcomes such as gestational weight gain ($P<0.001$), premature rupture of membranes ($P=0.008$), mode of delivery ($P=0.01$), and labor induction. It also influences birth outcomes, including preterm birth ($P=0.001$), gestational age ($P=0.001$), stunting ($P=0.03$), and NICU admission ($P=0.07$). The In-depth interviews highlighted major social factors contributing to AD, including domestic violence, lack of husband and family support, male child preference, and limited autonomy for women. These findings emphasize the urgent need for early screening and targeted interventions to mitigate AD`s impact and enhance maternal and child health.

Contents

1. Introduction 2. Rationale of the study 3. Review of literature 4. Methodology 5. Results 6. Qualitative findings 7. Discussion 8. Conclusion. References and annexures.

12.   SOREN (Shrila)
      Interwovenness of Oral Tradition, Memory, and Embodiment: A Multi-Sited Ethnography of Santhals.
      Supervisor: Dr. Avitoli G. Zhimo
      Th 28662

Abstract

Oral traditions must be understood as a dynamic, multisensory, and performative process through which people sustain and convey the knowledge of their past and navigate their present and future while simultaneously shaping their narratives and constructing collective identity. As anthropology continues to evolve and the boundaries of human experiences undergo shifts, anthropologists must employ an interdisciplinary approach to investigate oral traditions to develop a holistic

understanding. The present investigation explores how the elements of oral tradition are transferred and preserved among the Santhals amidst the ongoing shift occurring in the global world. Fieldwork was carried out in three stages (between 2019 and 2021) in three different field sites, viz., Tembaghutu in Mayurbhanj district, Odisha; Jhingasole in Jhargram district, West Bengal; and Gandanata in East Singhbhum district, Jharkhand. Emphasis has been put on multi-sited ethnography to incorporate findings from different geographical locations where Santhals reside and to understand if there are any differences in perceptions of people regarding their beliefs and practices. The findings explain and draw upon the interdisciplinary theoretical framework comprising memory, time, phenomenology, embodiment, and anthropology of the body, and the convergence of these fields offers a multifaceted interpretation concentrating on how Santhals remember their past, how they share the collective narratives, how they preserve their traditional knowledge, and how their cultural beliefs and practices construct a shared identity. Oral traditions serve as a repository of intangible cultural heritage, where the myths, stories, legends, narratives, songs, riddles, rituals, etc., are being produced, reproduced, enacted, re-enacted, adapted, and transferred across generations continuously. However, oral tradition is also a medium of said transfer of the products of the repository. The bridge between the living and the dead (ancestors), that is, the present and the past, is linked by oral traditions through the interplay of time, memory, and identity.

Contents

1. Introduction 2. Field methods and experiences 3. A glimpse of santhals and their world 4. Delineating the genres of oral tradition of Santhals 5. Oral tradition as a heuristic tool for understanding culture and society 6. Remembering through the memories 7. Paradigm shifts in oral tradition 8. Discussion and conclusion. Bibliography and Appendices.

13.   TANDON (Archita)
       Anthropological Assessment of Maternal Experiences of Labour Pain During Childbirth.
       Supervisor: Dr. Vipin Gupta
       Th 28663

Abstract

Labour pain is one of the most intense yet underexplored experiences in women's lives. While medicine often treats it as a biological event that needs to be controlled, women themselves live it as something far more layered, shaped by family expectations, cultural beliefs, and the realities of the hospital setting. This study takes an anthropological approach to understand how women in India perceive, endure, and make meaning of labour pain across the journey from pregnancy to one month after childbirth. The study followed 301 women at Sir Ganga Ram Hospital, New Delhi, in a longitudinal mixed-method design. Pain was assessed using four standard tools (SF-MPQ-2, NRS, BRS, PCS) alongside detailed interviews and non-participant observation. This combination allowed to capture both the measurable aspects of pain and the stories women told about it. The findings revealed that pain was not only felt in the body but also lived as a social and moral experience. Many women described silence and endurance as marks of strength, often reinforced by elders who framed pain as necessary for becoming a "good mother." Some resisted quietly asking for pain relief only after an "acceptable" period of suffering or when family members were not present. Quantitative data also revealed an unexpected pattern: severe pain was more often reported during the latent stage than in the active stage of labour, highlighting the need for closer attention to early pain experiences. This study argues that labour pain cannot be reduced to numbers or

managed only with drugs. It is a deeply human, culturally shaped experience that carries moral weight and influences how women see themselves as mothers. Recognizing pain as both physical and social is key to advancing more respectful, informed, and just childbirth care in India.

Contents

1. Introduction 2. Literature review 3. Materials and methods 4. Results and discussion 5. Conclusions. References, appendices and list of publications.

14. VERMA (Jyoti)
Development of Latent Fingerprints on various Plant Leaves as a Forensic Evidence.
Supervisor: Prof. P. R. Mondal
Th 28778

Abstract

Fingerprints, being universal, permanent, and individualistic, remain the gold standard for personal identification in forensic science. However, developing latent fingerprints on natural substrates such as plant leaves presents distinctive challenges due to their complex surface morphology, waxy coatings, and variable moisture content. This study aimed to evaluate and compare the efficacy of conventional, chemical, and advanced latent fingerprint development techniques on selected plant leaves—Mango, Money plant, Peepal, Rose, and Ficus. Conducted in three phases, the research assessed six techniques: Black powder, Fluorescent powder, Ninhydrin, Iodine Fuming, Cyanoacrylate Fuming, and Phase Transfer Catalyst (PTC). In Phase 1, cyanoacrylate, black powder, and Phase Transfer Catalyst (PTC) emerged as the most effective methods, whereas iodine and ninhydrin produced poor and transient impressions. Phase 2 examined the persistence of developed prints over time (0–7 hours), revealing that black powder and cyanoacrylate yielded the most durable and clear ridge details, while Phase Transfer Catalyst (PTC) showed early degradation. In Phase 3, the Forenscope, an advanced non-invasive digital imaging tool, was compared with cyanoacrylate fuming using the Mann–Whitney U test, which confirmed cyanoacrylate's superior performance (p = 0.012). Despite its advantages in non-contact visualization, Forenscope's bulky design limits field applicability. Overall, cyanoacrylate proved to be the most dependable technique for fingerprint recovery from botanical substrates, while Phase Transfer Catalyst (PTC) demonstrated potential as an emerging cost-effective method. The study highlights the forensic relevance of plant leaves as viable substrates and underscores the importance of timely and method-specific fingerprint recovery in outdoor crime scene investigations. Keywords: Latent fingerprints, Plant leaves, Cyanoacrylate fuming, Phase Transfer Catalyst, Forenscope, Forensic Science

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1. Introduction 2. Aim and objectives 3. Review of literature 4. Materials and methods 5. Results 6. Discussion 7. Summary and conclusion. References and annexures.