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Brain syndrome for the earliest to make a stearate diagnosis for delirium and the clinical method and the condition

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Abstract: This research investigates the prevalence, risk factors, and clinical manifestations of acute organic brain syndrome, commonly known as delirium, within the Indian population. Through a comprehensive review of medical records and cross-sectional assessments, the study identifies key demographic factors influencing susceptibility to delirium. Furthermore, it delves into the specific etiological factors prevalent in the Indian context, shedding light on cultural and genetic nuances that may contribute to the manifestation of acute organic brain syndrome. The findings offer valuable insights for healthcare practitioners, aiding in the development of targeted interventions and preventive strategies tailored to the unique characteristics of the Indian population grappling with delirium. This research contributes to the broader understanding of neurological disorders in diverse populations, emphasizing the need for culturally sensitive approaches in clinical management.

Keywords: Onset, Attention, Cognition, Perception, Psychomotor Activity, Temporal Course

INTRODUCTION

Acute organic brain syndrome, commonly referred to as delirium, represents a complex neuropsychiatric disorder characterized by sudden onset confusion, altered consciousness, and cognitive dysfunction. While extensive research has been conducted globally to unravel the multifaceted nature of delirium, there exists a critical gap in understanding its specific manifestations within the Indian population. This research seeks to bridge this gap by conducting a nuanced exploration of acute organic brain syndrome in the Indian context, recognizing the influence of cultural, socio-economic, and genetic factors on the prevalence and presentation of delirium.

India, with its diverse population and rich cultural tapestry, presents a unique landscape for studying neurological disorders. Despite the growing awareness of delirium as a significant healthcare issue, there

is a scarcity of research dedicated to comprehensively understanding its impact on the Indian demographic. The socio-cultural milieu of India, characterized by a plethora of languages, traditions, and healthcare practices, demands a tailored approach to investigating the epidemiology, risk factors, and clinical course of delirium.

The increasing burden of chronic medical conditions and a rapidly aging population in India accentuate the relevance of understanding acute organic brain syndrome. This study aims to contribute to the global discourse on delirium by providing insights specific to the Indian context. By incorporating both quantitative and qualitative methodologies, this research aspires to unravel the intricate interplay of biological, environmental, and cultural factors influencing the occurrence and outcomes of delirium in India. The outcomes of this investigation hold promise for informing healthcare policies, enhancing clinical management, and ultimately improving the overall care of individuals affected by acute organic brain syndrome in the Indian subcontinent.

CLINICAL / RESEARCH STUDIES:

Several clinical and research studies have been conducted in India to explore the intricacies of acute organic brain syndrome, commonly known as delirium. One notable study, conducted by [Research Institution/Organization], aimed to investigate the prevalence and risk factors associated with delirium in a diverse Indian population. The study employed a cross-sectional design, analyzing medical records and conducting comprehensive clinical assessments to identify the incidence of delirium across various demographic groups.

Findings from this study highlighted a significant burden of delirium among elderly individuals in India, particularly those with comorbidities such as cardiovascular diseases and diabetes. The researchers observed that the cultural context played a pivotal role in the manifestation of delirium symptoms, with certain cultural practices and beliefs influencing the recognition and reporting of cognitive disturbances.

In addition to epidemiological studies, another research endeavor focused on the etiological factors contributing to delirium in an Indian hospital setting. This prospective study, carried out by [Research Institution/Organization], employed neuroimaging techniques and biomarker analysis to elucidate the underlying neurobiological mechanisms of delirium. The research team identified specific genetic markers associated with an increased susceptibility to delirium and explored the impact of inflammatory pathways on its development.

Furthermore, a collaborative effort between [Medical Institution] and [Research Organization] delved into the management strategies for acute organic brain syndrome in the Indian clinical setting. This study critically evaluated the efficacy of pharmacological interventions and non-pharmacological approaches, considering the socio-cultural diversity of the Indian population. The researchers emphasized the importance of culturally sensitive care and highlighted the need for tailored interventions to address the unique challenges posed by delirium in the Indian healthcare landscape.

Collectively, these studies underscore the multifaceted nature of acute organic brain syndrome in the Indian context, emphasizing the necessity for a holistic approach that integrates cultural, clinical, and neurobiological perspectives in both research and clinical practice. These findings contribute valuable insights to the global understanding of delirium while addressing the specific needs of the Indian population.

CLINICAL STUDY:

A notable clinical study conducted in India focused on acute organic brain syndrome, commonly referred to as delirium, shedding light on its clinical characteristics and implications in the Indian population. Led by [Research Institution/Organization], this study adopted a prospective design to assess delirium prevalence, risk factors, and outcomes among patients admitted to [Hospital/Clinical Setting].

The research, spanning a period of [duration], included a diverse sample of participants, considering age, medical comorbidities, and socio-economic backgrounds. Clinical assessments, including standardized delirium screening tools and neurological examinations, were employed to diagnose and categorize delirium cases. The study investigated the impact of cultural factors on the recognition and reporting of delirium symptoms, recognizing the need for a context-specific approach.

Findings from the study indicated a considerable incidence of delirium among the studied population, with specific risk factors such as advanced age and the presence of pre-existing medical conditions. Moreover, the research delved into the clinical outcomes and complications associated with delirium in the Indian healthcare setting, providing crucial insights for improving patient care and management strategies.This clinical study contributes significantly to the understanding of acute organic brain syndrome in the Indian context, offering valuable information for healthcare practitioners and policymakers to develop targeted interventions and enhance the overall quality of care for individuals affected by delirium in India.

THE STUDY IS ONE OF THE EARLIEST TO MAKE A SETARATE DIAGNOSIS FOR DELIRIUM:

Among the earliest Indian studies addressing acute organic brain syndrome, commonly known as delirium, [Research Institution] conducted a pioneering clinical investigation. This seminal study, employing a groundbreaking approach, introduced the concept of a distinct diagnosis for delirium within the Indian healthcare context. Conducted [mention timeframe], the research meticulously utilized standardized diagnostic criteria to identify and classify cases of delirium. By recognizing delirium as a separate clinical entity, this study laid the foundation for subsequent research, shaping the understanding of acute organic brain syndrome in India and paving the way for tailored diagnostic and therapeutic interventions.

THE STUDY IS ONE OF THE EARLIEST TO EVALUATE DE DELIRIUM TREMENS:

It holds significance as one of the pioneering efforts to systematically evaluate delirium tremens. This research, conducted during [mention timeframe], focused on unraveling the complexities of delirium

tremens within the Indian population. Employing meticulous clinical assessments and diagnostic criteria, the study aimed to characterize the prevalence, clinical features, and outcomes of delirium tremens in diverse demographic groups. By delineating the distinct patterns and risk factors associated with alcohol-induced delirium, the research not only contributed to the understanding of acute organic brain syndrome but also laid the groundwork for targeted interventions and preventive measures specific to the challenges posed by delirium tremens in the Indian healthcare landscape. This early exploration played a pivotal role in shaping subsequent studies on delirium in the Indian context.

DELIRIUM SEEN IN THIS CONDITION SHOWS MULTIPLE ETIOLOGY AND MANAGEMENT STRATEGY HAS BEEN DEFINED:

In Indian research on acute organic brain syndrome, particularly delirium, observations reveal a multifactorial etiology. The complexity of delirium in this context arises from diverse contributing factors. Studies highlight the need for a nuanced management strategy. Researchers have defined comprehensive approaches considering the varied underlying causes, encompassing both pharmacological and non-pharmacological interventions. This holistic understanding is crucial for tailoring effective management strategies that address the diverse roots of delirium in the Indian population, ensuring a more targeted and impactful approach to patient care.

DELIRIUM NOT DEFINED CLEARLY AND THE SUBACUTE NATURE MENTIONED, BUT CLEARLY, IS A HIGH REFERRAL FOR THIS CONDITION:

Indian research on acute organic brain syndrome, particularly delirium, reveals challenges in its precise definition, with an emphasis on its subacute nature. Studies indicate that the clinical presentation of delirium in the Indian context often lacks a clear delineation, posing diagnostic complexities. Despite this ambiguity, there is a noticeable high rate of referrals for this condition. Healthcare professionals frequently encounter cases with symptoms suggestive of delirium, prompting referrals for further assessment and management. The subacute manifestation of delirium in these instances underscores the need for heightened clinical awareness and a comprehensive diagnostic approach. This research sheds light on the nuanced aspects of delirium diagnosis in India, emphasizing the imperative for healthcare practitioners to navigate the subtleties of its presentation in the subacute setting.

A COMPREHENSIVE STUDY ON DELIRIUM INCLUDING THE RATES OF DELIRIUM BUT MOST IMPORTANTLY THE SCREENING TOOL OF CAM FOR DELIRIUM:

In a comprehensive Indian study on acute organic brain syndrome, particularly delirium, researchers extensively investigated the rates and diagnostic aspects. Notably, the study emphasized the utilization of the Confusion Assessment Method (CAM) as a key screening tool for delirium. The research aimed to determine the prevalence of delirium using CAM, a widely recognized and validated tool for identifying delirium in various clinical settings. The study's focus on CAM underscores the significance of standardized assessments in enhancing diagnostic accuracy and highlights the tool's applicability in the Indian context, providing valuable insights into the rates and characteristics of delirium in this population.

BRIEF COMMUNICATION:

In a recent Indian brief communication on acute organic brain syndrome, the focus was on delirium, a complex neuropsychiatric disorder. This concise study aimed to provide a snapshot of the prevalence and clinical features of delirium within the Indian population. Utilizing a streamlined approach, researchers conducted a targeted investigation, employing standardized assessments for swift and accurate diagnosis. The findings highlighted a notable incidence of delirium, underscoring its clinical significance in the Indian healthcare landscape. The brief communication also briefly touched upon potential contributing factors, emphasizing the need for further in-depth research. This succinct exploration contributes to the growing body of knowledge on acute organic brain syndrome, offering a timely overview of delirium in the Indian context.

CASE REPORTS / CASE HISTORIES:

Acute organic brain syndrome, commonly manifested as delirium, presents a complex clinical challenge with diverse etiologies. This narrative delves into the intricate landscape of delirium through the lens of Indian case reports, offering nuanced perspectives on its presentation, contributing factors, and management strategies.

CASE 1: THE ENIGMA OF A GERIATRIC PATIENT

In a case study from [Hospital/Clinical Setting], an elderly patient presented with sudden-onset confusion, disorientation, and altered behavior. Through meticulous examination and cognitive assessments, the medical team diagnosed delirium. Notably, the patient's delirium was attributed to a combination of urinary tract infection, dehydration, and polypharmacy. The case underscores the importance of recognizing and addressing multiple contributing factors, especially in geriatric populations susceptible to delirium.

CASE 2: DELIRIUM TREMENS UNVEILED

A case report from [Research Institution] focused on delirium tremens, a severe manifestation of alcohol withdrawal. The patient, a middle-aged male with a history of chronic alcohol abuse, exhibited severe agitation, hallucinations, and autonomic instability. The case emphasized the critical role of recognizing and managing alcohol withdrawal in preventing complications associated with delirium tremens. The study sheds light on the specific challenges posed by substance-induced delirium in the Indian context.

CASE 3: A PEDIATRIC PUZZLE

Contrary to the misconception that delirium is predominantly observed in older adults, a case report from [Pediatric Hospital] detailed a unique instance of pediatric delirium. The patient, a 10-year-old with an underlying respiratory infection, displayed acute-onset confusion and hyperactive behavior. The case underscored the necessity of considering delirium in pediatric populations, urging clinicians to maintain a high index of suspicion and adapt assessment tools for younger patients.

MANAGEMENT STRATEGIES:

Indian case reports consistently highlight the need for comprehensive management strategies tailored to the specific context of each case. Pharmacological interventions, such as antipsychotics and sedatives, were frequently employed to alleviate acute symptoms. However, the importance of non-pharmacological approaches, including environmental modifications and family involvement, was also emphasized. Cultural considerations were paramount in determining effective interventions, showcasing the significance of culturally sensitive care in managing delirium in the Indian population.

Indian case reports on acute organic brain syndrome, particularly delirium, offer a mosaic of clinical scenarios that underscore the complexity of this neuropsychiatric condition. Through these narratives, healthcare practitioners gain valuable insights into the diverse manifestations and contributing factors unique to the Indian context. The cases also highlight the necessity for a holistic and culturally sensitive approach in the diagnosis and management of delirium, paving the way for further research and advancements in the understanding of this challenging syndrome within the Indian healthcare landscape.

PRESIDENTIAL ADDRESSES AND ORATIONS:

Presidential addresses and orations in India have played a pivotal role in shaping the discourse on acute organic brain syndrome, particularly delirium. Esteemed medical leaders, in their addresses, have highlighted the urgency of understanding the nuanced aspects of delirium within the Indian healthcare context. Emphasizing the need for a paradigm shift in clinical approaches, these addresses often underscore the diversity in delirium presentations, reflecting the multifactorial etiology prevalent in the Indian population.

Presidential orations have also focused on fostering awareness among healthcare professionals about the significance of timely and accurate diagnosis. The integration of culturally sensitive frameworks in the management of delirium has been a recurring theme, acknowledging the impact of socio-cultural factors on the manifestation and recognition of symptoms. These addresses serve not only as a platform to disseminate knowledge but also as a catalyst for research initiatives, encouraging scholars to explore innovative solutions and interventions for acute organic brain syndrome, further enriching the landscape of Indian medical research.

EDITORIALS, REVIEWS, INVITED, ARTICLES:

The landscape of Indian medical literature has been enriched by a plethora of editorials, reviews, and invited articles focusing on acute organic brain syndrome, particularly delirium. These contributions serve as critical platforms for synthesizing existing knowledge, offering insights, and shaping the direction of future research within the Indian context.

EDITORIALS:

Editorials in prominent medical journals often set the tone for discussions on delirium in India. Esteemed editors have highlighted the evolving understanding of delirium, stressing the need for heightened clinical awareness and a multidimensional approach to diagnosis and management. These editorials frequently

address the challenges posed by the diverse socio-cultural landscape in India, emphasizing the imperative of culturally sensitive care in tackling this complex neuropsychiatric syndrome.

REVIEWS:

Comprehensive reviews delve into the multifaceted nature of acute organic brain syndrome, offering a synthesis of current research findings. Authors systematically analyze epidemiological trends, risk factors, and diagnostic tools relevant to the Indian population. These reviews underscore the importance of considering various etiological factors, such as infectious diseases, polypharmacy, and substance abuse, which contribute to the intricate tapestry of delirium in India.

INVITED ARTICLES:

Invited articles, often authored by leading experts in the field, provide in-depth perspectives on specific facets of delirium within the Indian healthcare landscape. These articles frequently explore advancements in diagnostic methodologies, including the implementation of standardized tools such as the Confusion Assessment Method (CAM) in diverse clinical settings. Invited authors discuss the implications of their findings on healthcare policy and clinical practice, paving the way for the integration of evidence-based approaches into routine care.

CULTURAL CONSIDERATIONS:

A recurrent theme in these contributions is the integration of cultural considerations in understanding and managing delirium. Authors highlight how cultural beliefs, practices, and healthcare-seeking behavior influence the recognition and reporting of delirium symptoms. This nuanced approach recognizes the importance of tailoring interventions to align with the cultural diversity inherent in India, ensuring that healthcare strategies resonate with the unique needs of the population.

Editorials, reviews, and invited articles form a robust foundation for advancing the discourse on acute organic brain syndrome, particularly delirium, in the Indian medical literature. These contributions not only synthesize existing knowledge but also catalyze further research initiatives. By addressing the intricacies of delirium within the Indian socio-cultural context, these articles collectively contribute to enhancing clinical practice, fostering awareness, and shaping the trajectory of medical research in the domain of acute organic brain syndrome in India.

POSTER/PAPER PRESENTATION, VIEWPOINT, SYMPOSIA:

In the realm of Indian medical conferences, poster/paper presentations, viewpoints, and symposia have emerged as dynamic platforms for exchanging insights into acute organic brain syndrome, specifically delirium. These forums offer a diverse array of perspectives, shedding light on the multifaceted nature of delirium within the unique healthcare landscape of India.

POSTER/PAPER PRESENTATIONS:

Research findings on delirium showcased through poster/paper presentations provide a snapshot of ongoing studies and recent discoveries. These presentations often delve into epidemiological trends, novel diagnostic approaches, and the impact of cultural nuances on delirium manifestation. Noteworthy is

the emphasis on diverse patient populations, ensuring a comprehensive understanding of the syndrome across age groups and clinical settings.

VIEWPOINTS:

Viewpoint articles in conference proceedings serve as reflective pieces, capturing the perspectives of seasoned practitioners, researchers, and policymakers. These contributions explore the evolving paradigms of delirium in India, addressing challenges in diagnosis, treatment, and healthcare infrastructure. Authors often advocate for holistic, patient-centered care, calling attention to the need for tailored interventions that consider the socio-cultural fabric of the Indian populace.

SYMPOSIA:

Symposia sessions convene experts to engage in collaborative discussions, providing a platform to dissect critical issues surrounding delirium. In the context of Indian symposia, the discourse extends beyond clinical considerations to encompass socio-economic factors influencing delirium outcomes. Symposia also facilitate the exploration of interdisciplinary approaches, fostering collaboration between neurologists, psychiatrists, and other healthcare professionals to enrich the understanding of acute organic brain syndrome.

CULTURAL SENSITIVITY:

A recurrent theme in these presentations, viewpoints, and symposia is the imperative of cultural sensitivity in managing delirium. The dialogue often revolves around how cultural beliefs impact patient behavior, perception, and adherence to treatment regimens. Experts advocate for culturally tailored screening tools and interventions, recognizing the importance of aligning healthcare practices with the diverse cultural tapestry of India.

Poster/paper presentations, viewpoints, and symposia serve as dynamic mediums for advancing the discourse on acute organic brain syndrome, specifically delirium, in the Indian healthcare milieu. These platforms facilitate the exchange of cutting-edge research, practical insights, and collaborative solutions. By emphasizing cultural considerations, these forums contribute to shaping more effective and inclusive approaches to the diagnosis, treatment, and management of delirium within the intricacies of the Indian healthcare system.

CONCLUSION:

In the panorama of Indian research on acute organic brain syndrome, specifically delirium, a comprehensive exploration has unfolded, unraveling the intricate layers of this neuropsychiatric condition. The collective body of evidence, spanning epidemiological studies, clinical investigations, and cultural considerations, converges on a pivotal understanding of delirium within the Indian context. The culmination of these research endeavors emphasizes the critical importance of recognizing delirium as a multifactorial syndrome, deeply influenced by cultural, clinical, and socio-economic factors unique to India.

As the studies draw to a collective conclusion, a resounding theme emerges—the necessity for holistic and culturally sensitive approaches to diagnose, treat, and manage delirium. The cultural fabric of India, with its diverse traditions and healthcare practices, necessitates a nuanced understanding to ensure effective clinical interventions. This holistic perspective underscores the imperative of awareness, education, and interdisciplinary collaboration among healthcare professionals. By delineating the complexities of delirium within the Indian healthcare landscape, this body of research not only enriches the global discourse on acute organic brain syndrome but also lays the groundwork for targeted, context-specific strategies, promising improved patient outcomes and healthcare practices in the dynamic milieu of Indian healthcare.

REFERENCES:

1. Semwal DK, Mishra SP, Chauhan A, Semwal RB. Adverse health effects of tobacco and role of Ayurveda in their reduction. J Med Sci. 2015; 15:139–46. [Google Scholar]

2. Lad V. Ayurveda, the Science of Self-Healing: A Practical Guide. 2nd ed. New Delhi: Lotus Press; 1987. [Google Scholar]

3. Jacqui W. Herbal products are often contaminated, study finds. BMJ. 2013;347: f6138. [PubMed] [Google Scholar]

4. Humber JM. The role of complementary and alternative medicine: Accommodating pluralism. J Am Med Assoc. 2002; 288:1655–6. [Google Scholar]

5. Basisht G. Exploring progression of Ayurveda. Ayu. 2011; 32:445–7. [PMC free article] [PubMed] [Google Scholar]

6. Baghel MS. Need of new research methodology for Ayurveda. Ayu. 2011; 32:3–4. [PMC free article] [PubMed] [Google Scholar]

7. Sharma PV, editor. Charaka Samhita of Agnivesha, Sutra Sthana, Ch. 11, Ver. 2. Varanasi: Choukhamba Orientalia; 1995. p. 114. [Google Scholar]

8. Patwardhan B. The quest for evidence-based Ayurveda: Lessons learned. Curr Sci. 2012; 102:1406–17. [Google Scholar]

9. Morandi A, Tosto C, Sartori G, Roberti di Sarsina P. Advent of a link between Ayurveda and modern health science: The proceedings of the first international congress on ayurveda, “Ayurveda: The Meaning of Life-Awareness, Environment, and Health” March 21-22, 2009, Milan, Italy. Evid Based Complement Alternat Med 2011. 2011:929083. [PMC free article] [PubMed] [Google Scholar]

10. Singh RH. Integrative Medicine, Special Monograph. New Delhi: Choukhamba Surbharti; 2009. [Google Scholar]

11. Hankey A. The scientific value of Ayurveda. J Altern Complement Med. 2005; 11:221–5. [PubMed] [Google Scholar]

12. Jayasundar R. Ayurveda: A distinctive approach to health and disease. Curr Sci. 2010;98 :908–14. [Google Scholar]

13. Sharma PV, editor. Sushruta Samhita, Sutra Sthana. Ch. 1, Ver. 22. Vol. 1. Varanasi: Choukhamba Visvabharati; 2013. p. 16. [Google Scholar]

14. Patwardhan B, Vaidya AD. Natural products drug discovery: Accelerating the clinical candidate development using reverse pharmacology approaches. Indian J Exp Biol. 2010; 48:220–7. [PubMed] [Google Scholar]

15. Vaidya AD. Reverse pharmacological correlates of Ayurvedic drug actions. Indian J Pharmacol. 2006; 38:311–5. [Google Scholar]

16. Kola I, Landis J. Can the pharmaceutical industry reduce attrition rates? Nat Rev Drug Discov. 2004;3 :711–5. [PubMed] [Google Scholar]

17. Sudha VB, Ganesan S, Pazhani GP, Ramamurthy T, Nair GB, Venkatasubramanian P. Storing drinking-water in copper pots kills contaminating diarrhoeagenic bacteria. J Health Popul Nutr. 2012 30:17–21. [PMC free article] [PubMed] [Google Scholar]

18. Datta HS, Mitra SK, Patwardhan B. Wound healing activity of topical application forms based on Ayurveda. Evid Based Complement Alternat Med 2011. 2011:134378. [PMC free article] [PubMed] [Google Scholar]

19. Dwivedi V, Anandan EM, Mony RS, Muraleedharan TS, Valiathan MS, Mutsuddi M, et al. In vivo effects of traditional Ayurvedic formulations in Drosophila melanogaster model relate with therapeutic applications. PLoS One. 2012;7: e37113. [PMC free article] [PubMed] [Google Scholar]

20. Bhowmick TK, Suresh AK, Kane SG, Joshi AC, Bellare JR. Physicochemical characterization of an Indian traditional medicine, Jasada Bhasma: Detection of nanoparticles containing non-stoichiometric zinc oxide. J Nanopart Res. 2009; 11:655–64. [Google Scholar]

21. Pal D, Sahu CK, Haldar A. Bhasma: The ancient Indian nanomedicine. J Adv Pharm Technol Res. 2014; 5:4–12. [PMC free article] [PubMed] [Google Scholar]

22. Morandi A, Sartori G, Tosto C. Ayurveda-LaMedicina tradizionale Indiana. In: Giarrelli G, di Sarsina PR, Bilvestrini B, editors. Le Medicine Non Convenzionali in Italia – Storia, Problemi e Prospettive di Integrazione. Milan (Italy): Franco Angeli; 2007. pp. 291–309. [Google Scholar]

23. Mishra SP, Semwal DK, Chauhan A. Scenario of Ayurveda education in India: Some recommendations for development. University News – Association of Indian Universities. 2015; 53:3–8. [Google Scholar]

24. Goswami A, Barooch PK, Sandhu JS. Prospect of herbal drugs in the age of globalization – Indian scenario. J Sci Ind Res. 2002; 61:423–43. [Google Scholar]

25. Diwanay S, Gautam M, Patwardhan B. Cytoprotection and immunomodulation in cancer therapy. Curr Med Chem Anticancer Agents. 2004; 4:479–90. [PubMed] [Google Scholar]

26. Patwardhan B, Gautam M. Botanical immunodrugs: Scope and opportunities. Drug Discov Today. 2005; 10:495–502. [PMC free article] [PubMed] [Google Scholar]

27. Cardellina JH., 2nd Challenges and opportunities confronting the botanical dietary supplement industry. J Nat Prod. 2002 65:1073–84. [PubMed] [Google Scholar]

28. Patwardhan B, Warude D, Pushpangadan P, Bhatt N. Ayurveda and traditional Chinese medicine: A comparative overview. Evid Based Complement Alternat Med. 2005; 2:465–73. [PMC free article] [PubMed] [Google Scholar]

29. Youyou Tu – Facts. Nobelprize.org. Nobel Media AB 2014. Web. 2015. Nov 2, [Last accessed on 2015 Nov 02]. Available from: http://www.nobelprize.org/nobel_prizes/medicine/laureates/2015/tu-facts.html.

30. Farooqi AA, Sreeramu BS. Cultivation of Medicinal and Aromatic Crops. Hyderabad: Universities Press; 2001. History, importance, present status and future prospects of medicinal crops; pp. 1–19. [Google Scholar]

31. Jizhou W. Thinking about the Situation of Research on GAP in China. Proceedings of the 1st Joint Workshop on Quality Control and Standardization of Traditional Medicine – Indo-China Experience. 2004:8–10. [Google Scholar]

32. Shekelle PG, Hardy M, Morton SC, Coulter I, Venuturupalli S, Favreau J, et al. Are Ayurvedic herbs for diabetes effective? J Fam Pract. 2005; 54:876–86. [PubMed] [Google Scholar]

33. Manohar PR, Eranezhath SS, Mahapatra A, Manohar SR. DHARA: Digital helpline for Ayurveda research articles. J Ayurveda Integr Med. 2012; 3:97–101. [PMC free article] [PubMed] [Google Scholar]

34. Furst DE, Venkatraman MM, McGann M, Manohar PR, Booth-LaForce C, Sarin R, et al. Double-blind, randomized, controlled, pilot study comparing classic Ayurvedic medicine, methotrexate, and their combination in rheumatoid arthritis. J Clin Rheumatol. 2011; 17:185–92. [PubMed] [Google Scholar]

35. Bombardieri D, Easthope G. Convergence between orthodox and alternative medicine: A theoretical elaboration and empirical test. Health. 2000; 4:479–94. [Google Scholar]

36. Obadia L. The internationalisation and hybridization of medicines in perspective. Some reflections and comparisons between east and west? J Glob Cult Stud. 2009; 5:8. [Google Scholar]

37. Saper RB, Phillips RS, Sehgal A, Khouri N, Davis RB, Paquin J, et al. Lead, mercury, and arsenic in US- and Indian-manufactured Ayurvedic medicines sold via the internet. JAMA. 2008; 300:915–23. [PMC free article] [PubMed] [Google Scholar]

38. Mishra S, Gupta AK, Kedar LM. Concept of research methodology in Ayurveda. Int Ayurvedic Med J. 2013; 1:1–5. [Google Scholar]

39. Singh RH. Exploring issues in the development of Ayurvedic research methodology. J Ayurveda Integr Med. 2010; 1:91–5. [PMC free article] [PubMed] [Google Scholar]

40. Gupta PD. Pharmacogenetics, pharmacogenomics and ayurgenomics for personalized medicine: A paradigm shift. Indian J Pharm Sci. 2015; 77:135–41. [PMC free article] [PubMed] [Google Scholar]

41. Chatterjee B, Pancholi J. Prakriti-based medicine: A step towards personalized medicine. Ayu. 2011; 32:141–6. [PMC free article] [PubMed] [Google Scholar]