3.3.1.Number of papers published per teacher in the Journal notified on UGC website during the last five years

Sr. No	Title of paper	Year	P.No
1	Dr. Ramvilas Sharma ke pattron mein jhankta unka vaktitav	2022	2
2	Terahertz surface plasmons propagation in semiconducting parallel plates waveguide configuration	2021	5
3	Punjab ke lekhan Gopal Sharma Ferozepuri Krit Kahaaniyon ka Mullyankan	2021	6
4	Assessment of Metal(loid) Contamination and Genotoxic Potential of Agricultural Soils	2021	8
5	Prevalence of obesity in young adults of district Gurdaspur, Punjab	2020	9
6	Role of Gamma Amino Butyric Acid (GABA) against abiotic stress tolerance in legumes: A Review	2020	10
7	Corona sankarman ka sankat aur naari ki bhoomika	2020	11
8	Potential carcinogenic and non-carcinogenic health hazards of metal(loid)s in food grains	2019	13
9	Assessment of nutritional intake and bone mineral density in college-going young adults	2019	14
10	Assessment of tumor inducing potential of lead using crown gall tumor disc bioassay	2019	15
11	Anthropometric parameters and bone health status in young adults of district Gurdaspur, Punjab	2019	16
12	Potential Ecological Risks of Metal(loid)s in Riverine Flood Plain soil	2018	17
13	Comparative Analysis of Tissue Compartmentalised Heavy Metal Uptake by Common Forage Crop: A Field Experiment	2018	18
14	Bone health in urban and rural college-going young adults of district Gurdaspur, Punjab.	2018	**19**
15	Punjabi lok vishwas mout de parsang vich	2018	20
16	Impact of socio-economic status, physical activity, and sedentary behavior on bone mineral density in college-going boys and girls of district Gurdaspur	2018	22
17	Ecological Risk assessment of Metals in Roadside Agricultural Soil: A Modified Approach	2017	23
18	Viyangkari Da Sidhant: Lokdhara de PrasangVich	2017	24
19	Yuganuroop Bharat ka bhaugol ik parivartan	2017	26
20	Comprehensive investigation of emotional intelligence between open and closed skill athletics	2017	27
21	Effect of 12-week yogic practices on flexibility and balance of women cricketers: An Experimental study	2017	28
22	Investigation of Selected MotorFitness Components Between Batsmen And Bowler In Cricket: An Exploratory Study	2017	29
23	Coordinative abilities between Badminton and Tennis Players: A comparative Study	2017	30
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25	Assessment of bone mineral density using calcaneal ultrasound bone densitometer in college-going boys and girls of district Gurdaspur, Punjab.	2017	34

संपादक
डॉ. गिरिराजशरण अग्रवाल
डॉ. मीना अग्रवाल

ISSN 0975-735X

शोध दिशा

57

UGC APPROVED CARE LISTED JOURNAL

शोध दिशा

ISSN 0975-735X

विश्वस्तरीय शोध-पत्रिका

केंद्रीय हिंदी संस्थान, आगरा से अनुदान प्राप्त

UGC APPROVED CARE LISTED JOURNAL

विश्वविद्यालय अनुदान आयोग द्वारा मान्यता-प्राप्त शोध पत्रिका

शोध अंक 57 जनवरी-मार्च 2022 300.00 रुपए

संपादकीय कार्यालय
हिंदी साहित्य निकेतन, 16 साहित्य विहार,
बिजनौर 246701 (उ०प्र०)
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फोन : 0124-4076565, 07838090237

दिल्ली एन०सी०आर०
डॉ० अनुभूति
सी-106, शिवकला अपार्टमेंट्स
बी 9/11, सेक्टर 62, नोएडा
फोन : 09958070700

(सभी पद मानद एवं अवैतनिक हैं।)

संपादक
डॉ० गिरिराजशरण अग्रवाल
07838090732

प्रबंध संपादक
डॉ० मीना अग्रवाल

संयुक्त संपादक
डॉ० शंकर क्षेम
प्रमोद सागर

उपसंपादक
डॉ० अशोककुमार
डॉ० कनुप्रिया प्रचण्डिया

कला संपादक
गीतिका गोयल/ डॉ० अनुभूति

विधि परामर्शदाता
अनिलकुमार जैन, एडवोकेट

आर्थिक परामर्शदाता
ज्योतिकुमार अग्रवाल, सी०ए०

शुल्क
आजीवन (दस वर्ष): व्यक्तिगत : छह हजार रुपए
संस्थागत : छह हजार रुपए
वार्षिक शुल्क : आठ सौ रुपए
यह प्रति : तीन सौ रुपए

स्वत्वाधिकारी, मुद्रक, प्रकाशक डॉ० गिरिराजशरण अग्रवाल द्वारा श्री लक्ष्मी ऑफसैट प्रिंटर्स, बिजनौर 246701 से मुद्रित एवं 16 साहित्य विहार, बिजनौर (उ०प्र०) से प्रकाशित। पंजीयन संख्या : UP HIN 2008/25034

संपादक : डॉ० गिरिराजशरण अग्रवाल

डॉ॰ रामविलास शर्मा के पत्रों में झाँकता उनका व्यक्तित्व ('कवियों के पत्र' पुस्तक के संदर्भ में)

डॉ॰ सरोज बाला
असिसटेंट प्रोफेसर, हिंदी विभाग
एस॰एल॰बावा डी॰ए॰वी॰ कॉलेज, बटाला (गुरदासपुर) पंजाब

मनुष्य के चिंतन मनन और विचारों ने भाषा को जन्म दिया और भाषा के माध्यम से मनुष्य ने अपने मन की अनुभूतियों, भावों एवं विचारों को मौखिक और लेखन-प्रक्रिया से संप्रेषित किया है। सभ्यता के विभिन्न चरणों में जैसे-जैसे मनुष्य उन्नति की ओर अग्रसर होता गया वैसे-वैसे उसकी जीवनशैली में भी परिवर्तन हुआ। उसके परिवार में वृद्धि हुई, वृद्धि होने से आवश्यकताएँ बढ़ीं और उन्हें पूरा करने के लिए वह एक स्थान से दूसरे स्थान पर जाने लगा। यह क्रम प्राचीनकाल से आज तक चल रहा है। आज भी कितने परिवार के सदस्य धन कमाने के लिए अपने परिवारों से दूर विदेशों में चले जाते हैं। मनुष्य की इस भ्रमरशीलता में संचार-माध्यमों की महत्त्वपूर्ण भूमिका रही है जिनमें पत्रलेखन का महत्त्वपूर्ण स्थान है। अनौपचारिक पत्रों का साहित्य के क्षेत्र में भी बहुत अधिक महत्त्व है। साहित्यिक क्षेत्र में लिखे गए पत्रों में साहित्यकार या रचनाकार की भावनाएँ एवं विचार तो व्यक्त होते ही हैं, साथ ही उनके व्यक्तित्व की विविध प्रवृत्तियों का भी बोध होता है। उसके चरित्र, संस्कार, दृष्टिकोण व आचरण आदि पर प्रकाश पड़ता है। हिंदी के प्रसिद्ध लेखक श्री हरिशंकर शर्मा ने पत्रों के महत्त्व के संबंध में लिखा है कि 'यों सब चिट्ठियाँ, चाहे वे कलात्मक न भी हों, हृदय की भाषा होने के कारण महत्त्वपूर्ण और उपयोगी होती हैं। उनसे नि:संदेह किसी का भाव, स्वभाव, प्रभाव और व्यक्तित्व जानने में बड़ी सहायता मिलती है।'[1] यह सर्वमान्य है कि पत्र-लेखन एक कलात्मक ढंग है। 'रूपसी की चिट्ठी', बंदी के पत्र, पिता के पत्र पुत्री के नाम और 'कवियों के पत्र' आदि ऐसी रचनाएँ हैं जिनमें इस कला को उत्कृष्टता प्राप्त हुई है। डॉ॰ रामविलास शर्मा द्वारा लिखित 'कवियों के पत्र'[2] नाम पुस्तक में उनके द्वारा लिखे पत्रों और अन्य कवियों एवं साहित्यकारों द्वारा उन्हें लिखे विविध पत्रों से डॉ॰ शर्मा के बहुआयामी व्यक्तित्व पर प्रकाश पड़ता है जिनसे उनके व्यक्तित्व की असंख्य प्रवृत्तियाँ देखने को मिलती हैं।

घनिष्ठता एवं अपनत्व का भाव

यदि एक लेखक, कवि या रचनाकार के संबंध अन्य साहित्यकारों से घनिष्ठ एवं अपनत्व से परिपूर्ण हो तो उसका प्रभाव उसकी रचना-प्रक्रिया पर श्रेष्ठ रूप से पड़ता है। 'कवियों के पत्र' पुस्तक में कवियों द्वारा जितने भी पत्र डॉ॰ रामविलास शर्मा को लिखे गए हैं तथा लेखक द्वारा उन कवियों को जो पत्र लिखे गए हैं, उनसे यह ज्ञात होता है कि डॉ॰ रामविलास शर्मा के अन्य कवियों एवं साहित्यकारों से बहुत घनिष्ठ एवं संवेदना-संपन्न संबंध थे। कवि मैथिलीशरण गुप्त, दिनकर, अज्ञेय, गिरिजाकुमार माथुर, शिवमंगलसिंह सुमन, केदारनाथ अग्रवाल, सुभद्राकुमारी चौहान आदि के साथ उनकी घनिष्ठता एवं अपनत्व परिलक्षित होती है। प्रस्तुत पुस्तक में पहला पत्र मैथिलीशरण गुप्त द्वारा डॉ॰ रामविलास शर्मा को लिखा गया है जिससे पता चलता है कि उस समय वे 'हंस' पत्रिका के कविता विभाग का संपादन कर रहे थे और उन्होंने कवि मैथिलीशरण गुप्त को अपना कोई आलेख 'पत्रिका' में प्रकाशनार्थ भेजने के लिए आग्रह किया था। परंतु कवि मैथिलीशरण गुप्त उस समय प्रगतिवाद पर आलेख भेजने में असमर्थ थे। इस पत्र से इस बात का भी बोध होता है कि डॉ॰ रामविलास शर्मा पहले लखनऊ रहते थे तत्पश्चात वह आगरा चले गए थे। इस पत्र में कवि मैथिलीशरण गुप्त जी ने लिखा है कि 'आज के प्रगतिवाद में मैं तो अपने को स्वयं पिछड़ा हुआ अनुभव करता हूँ। मेरे संस्कार भी अन्य प्रकार के हैं। शरीर भी शिथिल पड़ गया है।'[3] डॉ॰ रामविलास शर्मा इस पुस्तक की भूमिका में लिखते हैं कि गुप्त जी द्वारा उक्त वक्तव्य में विनम्रता का प्रदर्शन एवं साथ ही व्यंग्य भी किया गया है। जबकि वे हर विषय को लिखने में सक्षम लेखक थे। इससे लेखक में दूसरों की विशेषताओं को देखने का सकारात्मक दृष्टिकोण भी परिलक्षित होता है।

इन पत्रों में डॉ॰ रामविलास शर्मा की घनिष्ठ मित्रता शिवमंगल सिंह 'सुमन' और केदारनाथ अग्रवाल से झलकती है। ये मित्र यौवन से लेकर वृद्धावस्था तक की यात्रा पारस्परिक मेल-मिलाप से तय करते हैं। इस पुस्तक में इन मित्रों में सन् 1943 से 1998 तक की अवधि में पत्राचार होता रहा है। वे आपस में अपने पारिवारिक और साहित्यिक गतिविधियों से जुड़कर एक-दूसरे के प्रेरणास्रोत बनते हैं।

बहुमुखी प्रतिभासंपन्न

इस पत्र-संग्रह का अध्ययन करने पर ज्ञात होता है कि डॉ॰ रामविलास शर्मा का व्यक्तित्व बहुमुखी प्रतिभा-संपन्न था जिसमें ज्ञान, स्नेह, संवेदनशीलता, सच्ची मित्रता, सृजनात्मकता, कर्मठता, उदारता एवं सकारात्मक सोच रूपी मोती सदैव समाहित रहते थे। डॉ॰ विलास के उच्च विचारों का पता उनके द्वारा केदारनाथ अग्रवाल को लिखे पत्र से भी चलता है। वे लिखते हैं–'यो जागार तं ऋच: कामयन्ते–जो जागता है, उसे ऋचाएँ चाहती हैं। यो जागार तं उ सामानियन्ति–जो जागता है, सामगीत उसके पास आते हैं। यो जागार तं अयं सोम आह जो जागता है उससे यह सोम कहता है : तब अहं अस्मिसख्ये निओक– तुम्हारी मित्रता में मेरा घर है। (ऋग्वेद : 5.44.14)'[4] तीन बार 'जागार' की अर्थगरिमा पर जोर दिया गया है। इस प्रकार 'ऋग्वेद' का अनुकरण करते हुए डॉ॰ रामविलास का मानना था कि जो कवि या लेखक जागरूक होता है, वह कवि होने के साथ-साथ योगी भी होता है उसे ऋचाओं के पीछे नहीं दौड़ना पड़ता अपितु सामगीत उसके पास स्वयं आते हैं। डॉ॰ रामविलास का आचरण भी एक जागरूक कवि एवं योगी जैसा था।

मानवीयता से ओतप्रोत

प्रस्तुत पुस्तक में संकलित पत्रों से स्पष्ट होता है कि डॉ॰ रामविलास शर्मा का व्यक्तित्व मानवीय गुणों से भरपूर है। वह किसी के दु:ख में चिंतित होते हैं और सुख में प्रसन्न रहते हैं। सभी को उच्चस्तरीय परामर्श एवं सांत्वना देते हैं। जब डॉ॰ रामविलास शर्मा को अपने परममित्र केदारनाथ के यहाँ चोरी होने की सूचना मिलती है तो वह चिंताजनक अवस्था में उन्हें दिनांक 9.12.91 को पत्र लिखते हैं और कई सुझाव देते हैं–'यह जानकर दुख हुआ कि तुम्हारे यहाँ चोरी हो गई थी। संतोष की बात इतनी है कि तुम्हारे शरीर को क्षति नहीं पहुँची। बांदा के लिए चोरी,

ISSN 0975-735X
ISSN 0975-735X

A Letters Journal Exploring the Frontiers of Physics

May 2021

EPL, 134 (2021) 38002 www.epljournal.org
doi: 10.1209/0295-5075/134/38002

Terahertz surface plasmons propagation in semiconducting parallel plates waveguide configuration

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received 18 December 2020; accepted in final form 12 April 2021
published online 15 July 2021

Abstract – In this study we theoretically and numerically demonstrated a 3-D plasmonic ter- ahertz waveguide made up of two parallel plates of semiconductor sandwiching a thin region of vacuum/air. The semiconductor can reveal conductive properties at the THz regime, making it an appropriate replacement for structured metallic surfaces in plasmonic devices. The proposed waveguide configuration not only offers an extra degree of freedom to tailor the propagation of THz wave but also promises more confinement compared to the planar waveguide configuration. The dispersion relations of the terahertz surface plasmon polaritons as they propagate in the proposed configuration is calculated using the Drude model. It is observed that the dispersion behavior of the modes is altered by the carrier densities of the plates and the separation between them. We also numerically analyze the terahertz surface waves propagation in the proposed geometry and examine terahertz surface modes behavior in conjunction with the theory. For the tapered con- figuration, we observed that the transmission amplitude increases as the tapering angle increases for the same input width. The present study could be significant in the construction of terahertz active and passive devices that may utilize semiconductors instead of metals.

Introduction. – Terahertz waves, also known as sub-millimetre radiations, have drawn a significant attention in the scientific community in the last two decades [1,2]. With the advancement in the laser technology, several techniques have evolved for the generation and detection of terahertz waves with frequencies ranging from 0.1 THz to 10 THz. THz radiations have great potential for the communication purpose due to their ability in transfer- ring information at much more speed as compared to other available communication systems [3,4]. In order to make communication devices a reality at terahertz fre- quencies, the efficient guiding of radiations is very cru- cial. In this context, various wave guiding techniques have been developed with a focus on obtaining the best possible confinement and the lowest loss. These tech- niques include dielectric fibres [5], coaxial lines [6], parallelplate configuration [7], corrugated wave guides [8], metal wires [9], etc. Among these techniques, the parallel plate waveguide geometry (PPWG) in which two plates are separated by a medium, has been widely explored by the researchers [10,11] as it offers huge prospectives in many applications such as material characterization [12], THz imaging [13], THz sensing [14], etc.

In order to exploit the guided wave properties of parallel plate configuration, one needs to understand about the number of modes supported by the configuration and their propagation properties. The number of modes can be broadly determined based upon the separation be- tween the plates, however their properties depend upon the polarisation of the incoming wave with respect to the parallel plates. Due to opposite signs of the effec- tive permittivities of metal and dielectric, one can also exploit the coupling between the incoming electromag- netic field and free electrons of the metal at the inter- face [15]. This phenomenon is useful for the excitation of surface plasmon polaritons (SPPs) at the interface of metal and dielectric/air. In order to excite the SPPs, the input beam is polarized perpendicular to the platesurface which results in the transverse magnetic (TM)

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PEER Reviewed & Refereed JOURNAL

ISSUE-26 VOLUME-7 MPACT FACTOR-SJIF-6.586, IIFS-4.125

ISSN-2454-6283 अक्तुबर–दिसंबर, 2021

AN INTERNATIONAL MULTI-DISCIPLINARY RESEARCH JOURNAL

IMPACT FACTOR- IIJIF-7.312 NEW

शोध-ऋतु

7

सम्पादक
डॉ. सुनील जाधव

तकनीकी सम्पादक
अनिल जाधव

पत्राचार हेतु कार्यालयीन पता -
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Archives of Environmental Contamination and Toxicology
https://doi.org/10.1007/s00244-021-00874-8

Assessment of Metal(loid) Contamination and Genotoxic Potential of Agricultural Soils

Vaneet Kumar[1,2] · Sandip Singh Bhatti[1] · Avinash Kaur Nagpal[1]

Received: 5 February 2021 / Accepted: 29 June 2021

Abstract

Soil, a connecting link between biotic and abiotic components of terrestrial ecosystem, receives different kinds of pollutants through various point and nonpoint sources. Among different sources of soil pollution, contaminated irrigation water is one of the most prominent sources affecting soils throughout the globe. The irrigation water (both surface and groundwater) is increasingly getting polluted with contaminants such as metal(loid)s due to various anthropogenic activities. The present study was conducted to analyze metal(loid) contents in agricultural soil samples (N = 24) collected from fields along the banks of rivers Beas and Sutlej flowing through Punjab state of India, using wavelength-dispersive X-ray fluorescence (WDXRF) spectroscopy. The soil samples were also analyzed for their genotoxic potential using *Allium cepa* root chromosomal aberration assay. The rivers Beas and Sutlej are contaminated with municipal and industrial effluents in different parts of Punjab. The soil samples analyzed were found to have higher contents of arsenic, cobalt and chromium in comparison with the reference values given by various international agencies. Pollution assessment using different indices like index of geo-accumulation, enrichment factor and contamination factor revealed that the soil samples were highly polluted with cobalt and arsenic. The *Allium cepa* assay revealed that maximum genotoxicity was found in soil samples having higher contents of As and Co. Pearson's correlation analysis revealed strong positive correlation between the different metal(loid)s which indicated common sources of these metal(loid)s. Therefore, efforts must be taken to reduce the levels of these metal(loid)s in these agricultural soils.

A polluted aquatic ecosystem is a critical threat to the environment as it can have an immediate effect on the sustenance of life. Most severe sources of pollution are related to the disposal of untreated and partially treated industrial wastes that contain hazardous toxic substances (such as metal(loid)s) most of which are not completely degradable and potentially harmful. Due to continued disposal of industrial wastes, many hydrological ecosystems in developing countries are stressed beyond repair (Singh et al. 2017; Rigo et al. 2020).

~~Vaneet Kumar and Sandip Singh Bhatti have equal first authorship.~~

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Soil can concentrate contaminants it receives from different sources, and they (contaminants) move down stream and accumulate in catchment area, sediments and biological tissues (Juarez-Santacruz et al. 2013; Bhatti et al. 2018). Among various contaminants identified, the presence of potentially toxic metal(loid)s is a major concern because these are water soluble and can easily enter the food chains. They have been reported to combine with proteins, nucleic acids and other biomolecules, thus impairing their functions (Gastaldo et al. 2007; Sharma et al. 2019).

On a global basis, agriculture is the single largest user of fresh water and because of the presence of various metal(loid)s and other toxic chemicals in irrigation water, it contributes significantly to the accumulation of metal(loid)s in soil. Excessive accumulation of metal(loid)s in agricultural soils not only results in soil contamination, but also affects food quality and human health (Zhang et al. 2019; Bhatti et al. 2020). From contaminated soils, metal(loid)s can leach to lower layers of soil and ultimately contaminate the groundwater beyond certain concentrations. Also, runoff from the polluted agricultural fields can lead to

Published online: 16 July 2021

International Journal of Health Sciences and Research
Vol.10; Issue: 1; January 2020
Website: www.ijhsr.org
Original Research Article *ISSN: 2249-9571*

Prevalence of Obesity in Young Adults of District Gurdaspur, Punjab

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ABSTRACT

Background: The aim of the present study was to estimate the overweight and obesity among young college going adults using different obesity standards.
Materials and method: The study was conducted on 1000 individuals in age range of 16-23 years (mean age: 19.35 ±2.27 yrs.) belonging to urban and rural areas of near and far vicinity attending local educational institutes in the township of Batala in the year 2016-17. The study was carried outon a sample of 1000 students with 606 girls (urban: 384; rural:222) and 394 boys (urban:229 ; rural:165). The exclusion criteria included chronic or any other infectious ailment. Applying standard methodology of Weiner and Lourie (1981), anthropometric measurements like Height, Weight, Waist Circumference (WC) and Hip Circumference (HC) were taken. Prevalence of overweight and obesity was measured using four criteria - Body Mass Index (BMI), Waist Circumference (WC), Waist-Hip- Ratio (WHR) and Waist-to-Height-Ratio (WHtR).
Results: With BMI as a criterion, prevalence of obesity was 21.06% in males and 12.70% in females and it was 10.91% and 4.95% respectively using waist circumference, 13.19% and 21.12% using waist hip ratio and 10.15% and 6.93% with waist to height ratio taken as criteria.
Discussion: Sedentary behaviour significantly affected BMI, WC, WHR and WHtR in female subjects while in males WC and WHtR was observed to get affected. Physical activity affected BMI, WC, WHtR in males while it had no influence in females since the level of physical activity was abysmally low.
A good and significant agreement was indicated by Kappa values among BMI, WC and WHtR however, it was moderate with respect to WHR in all age groups as well as on the basis of sex.

Keywords: Weight, BMI, WC, HC, WHR, WHtR.

INTRODUCTION

Overweight and obesity are major causes of co-morbidities including type-II diabetes, cardio-vascular diseases, various cancers and other health problems whichcan lead to further morbidity and mortality.
[1] Obesity means a condition of abnormal or excessive fat accumulation in adipose tissue.
[2] The amount of excess fat in absolute terms and its distribution in the body either around the waist and trunk (abdominal, central or android obesity) or peripherally around the body (gynoid obesity) has important health implications. This public health problem has become an epidemic worldwide. As per a WHO report, obesity has nearly tripled worldwide since 1975. [3] WHO report published in 2016, revealedthat more than 1.9 million adults over eighteen years of age and older were reported to be overweight. Of these over 650 million were obese and over 340 million children and adolescents aged 5-19 years were overweight or obese. [4] If seculartrend continues by 2030 an estimated 38% of the world's adult population will be overweight and another 20% will be obese.
[5] In USA the dire projections based on

Plant Physiol. Rep.
https://doi.org/10.1007/s40502-020-00553-1

REVIEW ARTICLE

Role of Gamma Amino Butyric Acid (GABA) against abiotic stress tolerance in legumes: a review

Kumari Sita[1] · Vaneet Kumar[2]

Received: 19 September 2020 / Accepted: 24 November 2020

Abstract Legumes are well known for their nutritional and health benefits as well as for their impact in the sustainability of agricultural systems. Under current scenarios threatened by climate change highlights the necessity for concerted research approaches in order to develop crops that are able to cope up with environmental challenges. Various abiotic stresses such as cold, heat, drought, salt, and heavy metal induce a variety of negative effects in plant growth, development and significantly decline yield and quality. Plant growth regulators or natural products of plants are reported to be effective to improve plant toler- ance to several abiotic stresses. Gamma Amino Butyric Acid (GABA) is a non-protein amino acid involved in various metabolic processes, and partially protects plants from abiotic stress. GABA appears to impart partial pro- tection to various abiotic stresses in most plants by increasing leaf turgor, increased osmolytes and reducedoxidative damage by stimulation of antioxidants. We have compiled various scientific reports on the role and mech- anism of GABA in plants against coping with various environmental stresses. We have also described the emerging information about the metabolic and signaling roles of GABA which is being used to improve legume crop against abiotic stress.

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Published online: 09 December 2020

Keywords Gamma Amino Butyric Acid (GABA) · Abiotic stress · Legumes · Climate change

Introduction

The worldwide population will reach 9.6 billion people, by 2050, and will face extreme challenges among which attaining food security is a high-priority issue (Stagnari et al. 2017). According to FAO (2020), even before COVID-19, 135 million people globally were already struggling with severe food insecurity and the present scenario creates a situation of ''a crisis within a crisis''. Food security is also a high-priority issue for achieving sustainable development goal 2 i.e. zero hunger (UN 2019).The Worldwide Global Nutrition Report (2020), high- lighted that maximum countries of the world including India have large number of children who are stunted due of nutritional deficiencies. To meet these challenges, a policy framework needs to be developed in which the sustain- ability of production/consumption patterns becomes cen- tral. In this context, food legumes and legume-inclusive production systems can play important roles by delivering multiple services in line with sustainability principles (Stagnari et al. 2017).

Indeed, legumes play a central role; at food level sys- tem, both for human and animal consumption, as a source of plant protein and with an increasingly importance in improving human's health. At production level, their capacity to fix atmospheric nitrogen makes them poten- tially and extremely suitable for inclusion in low-input cropping systems and owing to their role in alleviating greenhouse gases emission (Jensen et al. 2010; Westhoek et al. 2011). At cropping system level, as diversification crops in agroecosystems based on some major crop species,

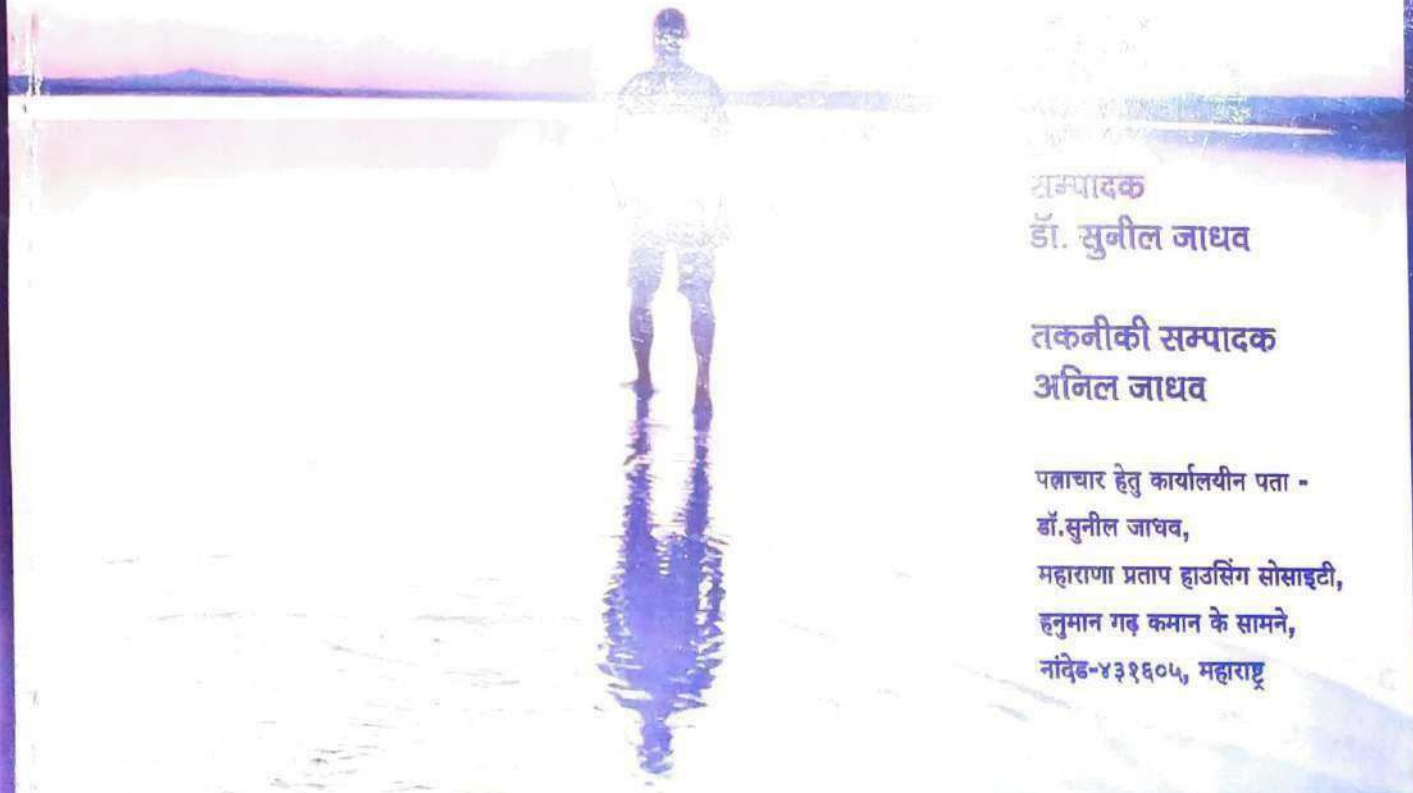
PEER Reviewed & Refereed **JOURNAL**

ISSUE-21 VOLUME-2 IMPACT FACTOR-SJIF-6.424, GIF-3588,

ISSN-2454-6283 जूलाई–सितंबर, 2020

AN INTERNATIONAL MULTI-DISCIPLINARY RESEARCH JOURNAL

शोध-ऋतु



सम्पादक
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11. कोरोना संक्रमण का संकट और नारी की भूमिका

डॉ० सरोज बाला

सहायक प्राध्यापक एस.एल.बावा डी.ए.वी. कॉलेज,

बटाला–ज़िला गुरदासपुर, पंजाब।

सृष्टि के आरम्भ से लेक र वर्तमान समय तक नारी सदैव अपने परिवार समाज एवं राष्टं के प्रति महत्त्वपूर्ण भूमिका निभाती रही है। सृष्टि प्रलय के समय श्रद्धा में मनु को प्रेरित कर उसे पुनः सृष्टि विस्तार करने के लिए आग्रह किया। राष्टं की स्वाधीनता के लिए 'झाँसी की रानी' अपने सर्वस्व को देश पर न्यौछावर कर देती है। माता सीता ने नारी की अस्मिता को बचाने के लिए अपने को धरती माता में समाहित कर दिया। मीरा की भक्ति, माता यशोधा में वात्सल्य, मदर टेरेसा के सामाजिक योगदान को कौन नहीं जानता है। कल्पना चावला और सुनीता विलियमस जैसे अंतरिक्ष वैज्ञानिकों से हम सब भलीभाँति परिचित है।13 वर्षीय मलावत पूर्णा और अरूणिमा सिन्हा का माउन्ट ऐवेरेस्ट चढ़ने का किस्सा विस्मृत नहीं किया जा सकता है। खेल गतिविधियों में पी.टी.ऊषा, दुतीचन्द, हिमादास, मेरीकॉम, पी.वी. सिन्धु, साक्षी मलिक, दीपा मलिक ने राष्टं को गोरवान्वित किया है। साहित्य के क्षेत्र में महादेवी वर्मा, सुभद्राकुम ारी चौहान, मीराबाई, कृष्णा सोबती, मन्नु भण्डारी, चित्रा मृदुगल, मैत्रेयी पुष्पा, गीता डोगरा, अरूणदिति राय, अनामिका, चुम्पा लहरी का योगदान अमूल्य है। राजनीतिक क्षेत्र में इन्दिरा गाँधी, प्रतिभा पाटिल, सुषमा स्वराज, शीला दीक्षित, उमा भारती, हरसिमरन कौर बादल, मेनका गाँधी, निर्मला सीतारमण, स्मृति इरानी, ममता बैनर्जी, जयललिता की महत्त्वपूर्ण भूमिका रही है। किरण बेदी 1/4आई.पी.एस. ऑफिसर1/2 का योगदान भी बहुमूल्य है। शुकुंतला देवी ह्यूमन कैलकुलेटर की उपाधि से प्रतिष्ठित है। सौन्दर्य क्षेत्र में ऐश्वर्या राय, प्रियका चोपड़ा, मानुषी चिल्लर, सुष्मिता सेन, लारा दत्ता, रीटा फारिया आदि विश्व.सुन्दिरयों ने अपने सुन्दर ज़ौहर दिखाए है। "वेद मन्त्रों के वास्तविक अर्थ को स्पष्ट करने वाले लोमशा, विश्ववारा, सिकता, सूर्या, घोषा आदि प्रसिद्ध है। गार्गी जैसी ब्रहम्वादिनी विदुषी ने राजा जनक की सभा में दिग्गज दार्शनिक पंडितों के साथ शास्त्रार्थ किया था।"1 इस प्रकार नारी ने अपने देश की सामाजिक, सांस्कृतिक, साहित्यिक, पारिवारिक राष्टीय आदि प्रत्येक अनुकूल एवं प्रतिकूल परिस्थितियों में अपने.आप को पूर्णतः समर्पित किया है।

आज कोविड–19 के संक्रमण के संकट काल में भी नारी अपने परिवार, समाज, साहित्य, मीडिया आदि में अपनी विशेष भूमिका निभा रही है। नारी को धैर्य, सहनशीलता, त्याग, करूणा, दया, समपर्ण, ममता आदि गुणों से परिपूर्ण माना गया है। गुणवती होने के कारण ही आज वह अपना अस्तित्व और अस्मिता बढ़ा रही है। इस वैश्विक संकट में कोरोना वायरस के संक्रमण से पूरा विश्व भयावह है। आज उच्चस्तरीय और विकसित चिकित्सीय सुविधाओं का दम भरने वाले राष्टं भी कोरोना विषाणु जनित बीमारी कोविड–19 के सम्मुख नतमस्तक है। चीन में पनपी इस बीमारी के मरीज़ जब भारत में भी पाए जाने लगे तो हमारे सम्मानीय प्रधानमंत्री श्री नरेन्द्र मोदी जी ने 22 मार्च, 2020 को जनता कर्फ्यू का ऐलान किया और 23 मार्च को पूर्णतः कर्फ्यू और लॉकडाउन का सिलसिला आरम्भ हुआ। मीडिया के माध्यम से लोगों को जागृत किया गया कि घर में रहकर सुरक्षित रहें, शारीरिक दूरी बनाएँ रखें, किसी से हाथ न मिलाए, संतुलित भोजन करें और अगर किसी को बुखार, खासी, जुकाम आदि है तो वह अपने निकट के किसी स्वास्थ्य केन्द्र से समपर्क करें। यहाँ तक कि अभिताभ बच्चन जैसे हस्ताक्षर मीडिया पर आकर यह संदेश दे रहे थे। इस संक्रमण से ही संकट का काल आरम्भ होता है। पारिवारिक सदस्यों को घर पर रहना पड़ा, व्यापारियों, ऑटो.रिक्शा चालक, श्रमिक, रेड़ी वाले, छोटे उद्योगों वाले इस संक्रमण से बहुत आहत और परेशान हुए। सर्वाधिक असर देश की आर्थिक स्थिति पर पड़ा। इसके साथ ही शैक्षणिक कार्य ऑनलाइन हुए और समाज में शिक्षकों, चिकित्सकों और प्रशासन ने महत्त्वपूर्ण भूमिका निभाई और इस संक्रमण संकट काल में नारी भी किसी से पीछे नहीं रही वह फार्मिस्ट, चिकित्सक, पुलिसकर्मी, समाचार वाचिका, शिक्षिक, गृहिणी, समाज सुधारक के रूप में सर्वाधिक सक्रिय रहीं।

Environmental Science and Pollution Research
https://doi.org/10.1007/s11356-020-08238-w

RESEARCH ARTICLE

Potential carcinogenic and non-carcinogenic health hazards of metal(loid)s in food grains

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Received: 31 July 2019 / Accepted: 25 February 2020

Abstract

Metal(loid) contamination of vital food grains such as wheat and rice is a very serious problem throughout the world because consumption of such contaminated food can lead to severe health effects in humans. Metal(loid) contamination of food crops can occur from different sources such as contaminated soil, irrigation water, and aerial deposition. Therefore, the present study was conducted to analyze potential non-carcinogenic and carcinogenic health impacts posed by different metal(loid)s (As Cd, Co, Cr, Cu, Fe, Mn, Mo, Ni, Pb, Se, and Zn) via consumption of wheat and rice grown on metal(loid)-contaminated soils in areas around rivers (Beas and Sutlej) of Punjab, India. Among the metal(loid)s analyzed in wheat and rice samples, contents of As, Cd, Cr, Ni, and Pb were found to be above the international (FAO/WHO and EU) maximum permissible limits. The non-carcinogenic and carcinogenic health risk assessment of individual metal(loid)s revealed that As posed highest risk followed by Cd, Cu, Fe, Mn, and Pb. The values of indices calculated for analysis of combined non-carcinogenic, i.e., (hazard index; range 3.49–15.94) and carcinogenic (total carcinogenic risk index; range 8.30×10^{-4}–131.62×10^{-4}) risks for both crops were found to be many fold higher than the prescribed limits of 1.0 and 1.0×10^{-4}, respectively. Thus, the analysis of combined risks posed by metal(loid)s indicated that human population consuming wheat and rice from the study area faced both non-carcinogenic and carcinogenic health risks. Therefore, immediate steps must be taken to reduce the levels of metal(loid)s in wheat and rice from the study area.

Keywords Arsenic · Estimated daily intake · Food grains · Metal(loid)s · Risk analysis

Introduction

Metal(loid) contamination of different environmental components (soil, water, vegetation etc.) is becoming a grave cause of concern throughout the globe. Metal(loid)s in different environmental components ultimately affect human health via different routes. Among different metal(loid)s, non-essential metal(loid)s such as arsenic (As), cadmium (Cd), chromium (Cr), and lead (Pb) are well recognized to be toxic to humans and animals even at low concentrations causing mortality, carcinogenic, and reproductive effects (Chandra et al. 2009; Ma et al. 2016). In contrast, metals such as copper (Cu), iron (Fe), and zinc (Zn) are essentially required by humans and animals for various physiological and metabolic processes at relatively low concentrations (Giri and Singh 2017). However, at elevated concentrations, these essential metals can be toxic resulting in symptoms such as gastrointestinal bleeding, vomiting, diarrhea, damage to internal organs, immunodeficiency, and reproductive effects (Duruibe et al. 2007; Jaishankar et al. 2014). Humans can be exposed to

Responsible editor: Philippe Garrigues

Electronic supplementary material The online version of this article (https://doi.org/10.1007/s11356-020-08238-w) contains supplementary material, which is available to authorized users.

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Published online: 07 March 2020

International Journal of Health Sciences and Research
www.ijhsr.org ISSN: 2249-9571

Original Research Article

Assessment of Nutritional Intake and Bone Mineral Density in College-Going Young Adults

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ABSTRACT

Background: Bone health is an important concern because of a great increase in longevity and bone related issues faced later in life. To ensure a healthy bone structure the younger populations have to be assessed for a timely intervention to improve the bone health to avoid the associated morbidities later in life.
Methodology: A cross sectional study was conducted in year 2016-17 at local colleges in and around Batala town of distt. Gurdaspur, Punjab. The data was obtained using interview schedule to acquire information regarding nutritional intake and anthropometric measurements were taken. Bone health was measured through bone densitometer.
Results: Stratification of data on gender basis, although revealed a significantly higher intake of nutritional components in males compared to females but energy intake was lower than the recommended dietary allowances while consumption of protein, calcium and phosphorous was higher than recommended level in both groups whereas calcium-phosphorous ratio was lesser. Mean values of anthropometric variables (height, weight, waist circumference and hip circumference) and obesity indicators (BMI, WC, WHR and WHtR) were significantly higher in males than females. T-score and Z-score for bone density indicated a significantly higher mean in males. Osteopenia and osteoporosis was much pronounced in females (44.9%; 6.4%) than males (37.5%; 5.1%).
Conclusion: Male respondents were better in their nutritional intake, anthropometric parameters and indices as well as in the bone density measurements. Energy, fat, phosphorus, waist circumference, hip circumference had significant positive correlation with T-score. Energy, carbohydrate, phosphorous and waist height ratio was positively correlated with Z-score and height was negatively correlated with a significant difference.

Key words: Bone mineral density, Quantitative ultrasound bone densitometer, Nutritional intake, Anthropometric variables.

INTRODUCTION

Bone health in an individual can be quantified through assessment of bone mineral density, a measure of bone mineral per volume of bone. Low bone mineral density manifests itself as bone fragility and is predictive of osteopenia and osteoporosis. [1] Osteoporosis is a disease that affects millions of people around the world and it is characterised by low bone mass and micro architectural deterioration of bone tissue, leading to enhanced bone fragility and consequent increase in fracture risk. [2,3] The fragility fractures are hallmark of osteoporosis and are particularly common in the spine, hip and forearm but may affect other sites. [4] Reduction in bone mass and disruption in bone architecture results in reduced bone strength and increase in bone fractures. With the increase in age

Nucleus
https://doi.org/10.1007/s13237-019-00283-2

ORIGINAL ARTICLE

Assessment of tumor inducing potential of lead using crown gall tumor disc bioassay

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Received: 7 May 2019 / Accepted: 1 July 2019

Abstract

The exposure of human beings to the compounds of lead (such as commercially important lead acetate) via different routes (including inhalation, ingestion, skin contact etc.) poses severe health risks. The present study involved the application of crown gall tumor assay using potato discs, to check the tumor inducing potential of lead acetate. Though originally designed for estimation of antitumor activity of various test compounds/plant extracts, this assay has recently been used for analysis of tumor inducing potential of different environmental samples. The experiment was divided into two sets to check the tumor induction by different concentrations of lead acetate alone and in combination with *Agrobacterium tumefaciens*. The con- trols used in the present study were *A. tumefaciens* alone and only discs. The study revealed that number of tumors inducedin potato discs treated with different concentrations of lead alone (29.8–49.2) and in combination with *A. tumefaciens* (36.4–50.8) were significantly higher than the negative control (2.4). The increase in number of tumors was significantly higher in the discs which were treated with lead in combination with culture than the culture alone which indicates that the presence of lead enhanced the expression of Ti-plasmid of *A. tumefaciens*. Thus, the present study indicates that lead acetatehas a significant tumor inducing potential and crown gall tumor disc bioassay can be used as a potential and reliable tool forscreening the tumor inducing potential of various test agents.

Keywords *A. tumefaciens* · Carcinogen · Crown gall tumor disc bioassay · Lead · Tumor

Introduction

The environmental contamination with heavy metals has severely increased in last few decades due to anthropogenic activities such as use of pesticides, fertilizers, continuous air emissions from industrial sources and vehicular traffic [4]. Among different heavy metals, lead has attracted the attention of scientists all over the world due to great versatility of its uses and toxic nature [26]. Globally, it is ubiquitous toxic metal present in earth's crust in the form of organic and inorganic compounds which are used in the manufac- turing and processing of various commercial products [23, 24]. For example, lead acetate is used in paints, dyeing and printing, chrome pigments, manufacturing of pesticides and varnishes, hair dyes etc. [17]. Lead nitrate is used in rodenticides, oxidizers, photographic sensitizers, mordant in dyeing, manufacturing of matches and explosives etc. Lead oxide (red) is used in plasters, storage batteries, ointments, manufacturing of colorless glass, coloring rubber, pigment in printing inks and paints [16]. Although lead and its compounds are highly useful in industrial processes, but these compounds are highly toxic in nature. Tetramethyl and tetraethyl lead (organic compounds of lead) were used heavily as gasoline additives, but their use has been drastically reduced in the US since late 1970s [29] followed by other countries. Lead toxicity of different environmental components has emerged as an important global problem with severe health consequences in human beings, especially children [3, 8].

Electronic supplementary material The online version of this article (https://doi.org/10.1007/s13237-019-00283-2) contains supplementary material, which is available to authorized users.

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Published online: 24 July 2019

International Journal of Health Sciences and Research
www.ijhsr.org ISSN: 2249-9571

Original Research Article

Anthropometric Parameters and Bone Health Status in Young Adults of District Gurdaspur, Punjab

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ABSTRACT

With increase in life span and longevity, maintenance of healthy bones and skeletal structure might help to escape associated morbidity and economic burden occurring because of bone fragility and fractures during old age. To ensure a healthy bone structure the younger population is needed to be assessed for a timely intervention to improve the bone health to avoid the associated morbidities later in life.
Objective: Keeping this in view, the present survey was designed to study anthropometric parameters and bone health status of young adults since it is the time when peak bone mass is attained.
Method: The survey was carried out on 1000 college-going boys and girls in the age range of 16-23 years using quantitative ultrasound bone densitometer.
Result: Male subjects displayed better skeletal health as well as a higher mean t-score value in all age groups and significantly so in age group 16-17 yrs, 22-23yrs, and in overall data. Mean z-score was significantly different in all the age groups. Male subjects (57.1%) were in a significantly better state of bone health than girls (48.7%). Maximum cases of normal bone health were present in age group 20-21yrs with 89% of males and 83% of females which thereafter decreased to 87.5% in males and 57.1% in females in age group 22-23yrs. In all, 37.8% of male subjects had osteopenia and 5.1% had osteoporosis compared to 44.9% and 6.4% respectively in females.
Discussion: Weight, BMI, WC, HC, WHtR affected bone health in studied young females and was observed to have negative correlation in studied young females.
Key words: Weight, BMI, WC, HC, WHtR, Osteoporosis, Osteopenia.

INTRODUCTION

Osteoporosis is characterized by low bone mass and micro-architectural deterioration of bone tissue leading to enhanced bone fragility, thus increasing susceptibility to fracture. These changes are initially silent and can progress gradually until a low trauma fracture occurs. [1] Bone health is important for overall health and quality of life and is dependent on bone mass, bone architecture and body mechanics. [2] Optimal bone health status is crucial to prevent osteoporosis, which is a disease characterized by low bone mass and bone micro-architectural deterioration, leading to bone fragility and an increased risk of fracture. [3] At any given age, bone mass results from the amount of bone acquired during growth and the attainment of a higher peak bone density in growing years has an important role in the prevention of osteoporosis later in life. [4] Life expectancy in India is on the rise and average age of an Indian had shown an increase by almost ten years in the past two decades. [5] India is a young country as nineteen percent of its population is in the age group 15-24 years and today every fifth

Ecotoxicology and Environmental Safety 164 (2018) 722–731

Contents lists available at ScienceDirect

Ecotoxicology and Environmental Safety

journal homepage: www.elsevier.com/locate/ecoenv

Potential ecological risks of metal(loid)s in riverine floodplain soils

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ARTICLEINFO

Keywords:
Physico-chemical characteristics
Metal(loid)s
Land uses
Ecological Risk
Allium cepa

ABSTRACT

The quality of soils under different land uses is getting deteriorated throughout the world due to various an- thropogenic activities. This deterioration is highly complex in riverine floodplain areas due to contamination by multiple point and non-point sources and change in seasons. Therefore, a study was conducted to analyze seasonal (pre and post-monsoon) variations in physico-chemical characteristics, contents of metal(loid)s (Al, As, Cd, Cr, Co, Cu, Fe, Mn, Mo, Ni, Pb, Sb and Zn) in riverine floodplain soils under three land uses (agricultural, riverbank and roadside) from areas around the rivers Beas and Sutlej in Punjab, India. Further, analysis was done to assess the ecological and genotoxic risks (*Allium cepa* genotoxicity assay) posed by metal(loid)s in these soils. It was observed that soil samples under the three land uses were slightly alkaline (pre-monsoon) to acidic (post- monsoon) in nature with sandy texture and low soil organic matter. The levels of most metal(loid)s increased in post- monsoon soil samples under the three land uses, which was attributed to increase in soil organic matter, silt and clay contents in post-monsoon samples due to precipitation, flooding and sedimentation. The ecological Risk

Index (58.3–104.5) and Modified Risk Index (145.2–178.9) calculated to analyze the level of ecological risks of metal(loid)s revealed that As, Cd and Sb posed moderate to considerable ecological risks in the agricultural and roadside soils in both seasons. *Allium cepa* genotoxicity assay indicated that the metal(loid)s in studied soils can cause genotoxic effects in biological systems. Therefore, various steps such as reduction in use of agrochemicals, promotion of organic agricultural methods and decontamination of soils using techniques such as phytor- emediation etc must be taken to ensure reduction and containment of metal(loid)s in such riverine floodplain areas.

1. Introduction

The soil environments worldwide are under threat of metal(loid) contamination due to human activities such as industrialization, urbanization, intensive agriculture, wastewater irrigation, vehicular traffic etc. (Brady and Weil, 2008; M. Kaur et al., 2014; Chandrasekaran et al., 2015). But, the metal(loid) contamination risk is far more complex in riverine floodplain areas because a conglomeration of metal(loid)s brought and deposited by rivers from distant areas can occur in the soils (Rennert et al., 2017; Iwegbue et al., 2018). The metal contents in riverine floodplain soils under different land uses are further impacted by changes in climatic conditions, because events like precipitation during rainy seasons (as monsoon season in India) causes flooding which significantly changes the soil characteristics and deposits metal (loid)s brought from various upstream sources. The soil characteristics such as pH, soil organic matter (SOM), soil texture etc. significantly affect the mobility, availability and toxicity of metal(loid)s in soils (Troeh and Thompson, 2005; Boluda et al., 2011). Therefore, the regular analysis of soil characteristics and metal(loid)s contents is necessary for determining their impacts on plants, animals and humans. But, analysis of metal(loid) contents alone does not indicate their potential risks in soil. Further different factors and indices such as Contamination Factor (CF) and Enrichment Factor (EF), Ecological Risk Index (RI) and Modified Risk Index (MRI) should be calculated to determine the potential ecological impacts of metal(loid)s in soils (Trujillo-González et al., 2016; Duodu et al., 2016; Tian et al., 2017; Bhatti et al., 2018). In order to examine the impact of contaminants (such as metal(loid)s) in soil on biological systems, rapid, sensitive and widely applied plant assays such as *Allium cepa* root chromosomal assay can be used (Rank et al., 2003; M. Kaur et al., 2014).

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https://doi.org/10.1016/j.ecoenv.2018.08.032
Received 6 April 2018; Received in revised form 5 August 2018; Accepted 8 August 2018

Catena 160 (2018) 185–193

Contents lists available at ScienceDirect

Catena

journal homepage: www.elsevier.com/locate/catena

Comparative analysis of tissue compartmentalized heavy metal uptake by common forage crop: A field experiment

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ARTICLE INFO

Keywords:
Bioaccumulation Factor
Heavy metals
Soil
Translocation Factor
Trifolium alexandrinum

ABSTRACT

Heavy metal contamination of agricultural soils is a severe cause of concern globally. The heavy metals can enter crops through roots and can result in biomagnification in the different plant tissues such as roots, stems and leaves. From plants these metals are transferred into animal and human systems resulting in serious health problems. Various physical and chemical methods are available for heavy metal removal from soil but phy - toremediation is considered as one of the most sustainable and cost-friendly method. Although many studies have been carried throughout the world to assess phytoremediation potential of plants in controlled conditions, few studies are available on the metal uptake capabilities of plants growing in natural conditions. Therefore, the present study was conducted to assess the phytoremediation potential of *Trifolium alexandrinum* (Berseem), an important forage crop growing in intensively cultivated agricultural soils of Punjab, India with main focus on the accumulation and mobility of metals (Cr, Cd, Cu, Co, Fe, Mn, Pb and Zn) in various plant tissues like roots, stems and leaves. The maximum contents of Cd, Co, Fe and Pb were observed in roots whereas for Cr, Cu, Mn and Zn maximum content was observed in leaves of Berseem. Overall among the metals studied Fe content was highest in all tissues of Berseem, which could be due to the higher content of Fe in soil. Metal Bioaccumulation Factor (BAF) and Translocation Factor (TF) calculated for assessing metal uptake and transport by plant tissues were found to be above 1 for the studied metals (except Co and Fe), which indicated Berseem to be a suitable ac - cumulator of these metals in natural conditions.

1. Introduction

Heavy metal contamination of soils is a very serious issue affecting plant, animal and human health throughout the globe. Indiscriminate anthropogenic activities such as industrialization, urbanization, excessive agrochemical application have contributed significantly to heavy metal contamination of soils. The soil physico-chemical characteristics such as pH, soil organic matter (SOM), texture, soil nutrients are very important in determining the retention and mobility of heavy metals in soils (Kavianpoor et al., 2012). Several conventional physical, chemical and biological approaches such as in situ vitrification, soil incineration, excavation and landfill have been employed for decontamination of soil. But these methods have limited applicability due to their high costs, intensive labor requirements, irreversible changes to soil structure and disturbance of soil microflora (Ali et al., 2013; Ma et al., 2016). Hence, there is a strong requirement for cost effective and environment friendly methods for cleanup of metal contaminated soils. Phytoremediation is one such approach, which employs plants for removal of metals from soil.

For phytoremediation, plants having high metal uptake capabilities are grown on metal contaminated soils. These plants either absorb and retain the metals in their roots (known as phytostabalization) or transport the metals to above ground tissues (known as phytoextrac- tion). Usually plants having high metal extraction properties, high biomass, rapid growth and ability to accumulate > 1000 mg/kg of a metal in various tissues are considered ideal for phytoremediation (Baker and Brooks, 1989; Vamerali et al., 2010; Malik et al., 2010). *Trifolium alexandrinum* (Berseem) is one such plant. It is a leguminous crop belonging to family Fabaceae and having fast growth, high bio- mass and high metal extraction properties (Prasad, 2007; Ali et al., 2012). It flourishes best in neutral to alkaline soils and is usually grown

in winter season where it has frost tolerance to temperatures as low as −6 °C (Muhammad et al., 2014). Although many studies have been conducted to assess phytoremediation potential of plants (including

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http://dx.doi.org/10.1016/j.catena.2017.09.015
Received 19 November 2016; Received in revised form 18 September 2017; Accepted 22 September 2017

Anthropologist, 33(1-3): 129-137 (2018)
DOI: 10.31901/24566802.2018/343.1-3.2022

Bone Health in Urban and Rural College-Going Young Adults of District Gurdaspur, Punjab

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KEYWORDS Bone Mineral Density. Nutritional Intake. BMI. Physical Activity. Quantitative Ultrasound Bone Densitometer

ABSTRACT Three hundred and ninety four (394) male (urban: 229; rural: 165) and 606 female (urban: 384; rural: 222) college students in 16-23 years of age were investigated to find out an impact of lifestyle variables like physical activity, exposure to sun and dietary intake along with anthropometric variables on bone health in urban and rural population. There was a significant difference in mean T-score and Z-score among urban and rural females. Bone mineral density was significantly better in rural males (normal, 60.6%; osteopenia, 37.6%; osteoporosis, 1.8%) compared to urban (normal, 54.6%, osteopenia, 38.0%; osteoporosis, 7.4%) males. Rural females (normal, 51.4%; osteopenia, 45.0%; osteoporosis, 3.6%) too had a better bone health than the urban (normal, 47.1%; osteopenia, 44.8%; osteoporosis, 8.1%) females. Physical activity was cited to have a significant correlation with T-score and Z- score. Protein and calcium intake could be significantly correlated with T-score in urban subjects, and with energy, carbohydrates and phosphorus in rural subjects. Z-score had positive correlation with calcium intake in urban individuals and with energy and carbohydrate in rural subjects. However height, weight and BMI had no impact on BMD.

INTRODUCTION

Bone health is assessed through bone mineral density, a measure of bone mineral per square centimetre of bone and is an indirect indicator of osteoporosis and bone fracture. Osteoporosis is characterized by low bone mass with micro architectural deterioration of bone tissue leading to enhanced bone fragility, thus increasing susceptibility to fracture (Lane 2006). Bone health is important at every age and stage of life and the attainment of a high peak bone density in growing years has an important role in the prevention of osteoporosis later in life (Rizzoli et al. 2001). Bone health may be optimized by creating an environment to achieve peak bone mass during adolescence and maintenance of healthy bone throughout life cycle (Khadilkar and Mandlik 2015). The maximum bone size and strength termed peak bone mass is an interplay of genetic constitution and lifestyle factors like diet and exercise that can influence the potential to achieve full bone mass. Childhood, adolescent and early adulthood are the times when there could be a significant increase in peak bone mass through diet and exercise (AAOS 2012). With regular physical exercise young individuals intend to have normal bone mineral values (Tandon et al. 2003; Uppal and Kaur 2017). Sports training and nutrition played a significant impact on bone mineral density in sports women of 18-21 years in comparison to sedentary control group (Marwaha et al. 2011). Low physical activity and sedentary lifestyle have been assessed as risk factors which are significantly associated with low mineral density resulting in osteopenia and osteoporosis (Javed et al. 2015; Sridevi and Ragi 2016; Soomro etal.2017). Insufficientcalciumintakeandinsufficient sun exposure were reported to be the factors to cause low bone mineral density in young Saudi women (Zeidan et al. 2016). A systematic review and meta-analysis (Matsuzaki et al. 2015) related that highincomecountries generallyshowed higher BMD in rural areas and it may be higher in urban areas in some lower income countries. Since peak bone health is achieved in younger age and is influenced by environmental factors, it becomes imperative to examine the state of bone health of young population who are a potential human resource. Therefore, the present study was designed to investigate the bone health of young adults from urban and rural areas, hailing from same social background, to find out the impact of

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Approved by UGC No. 62531

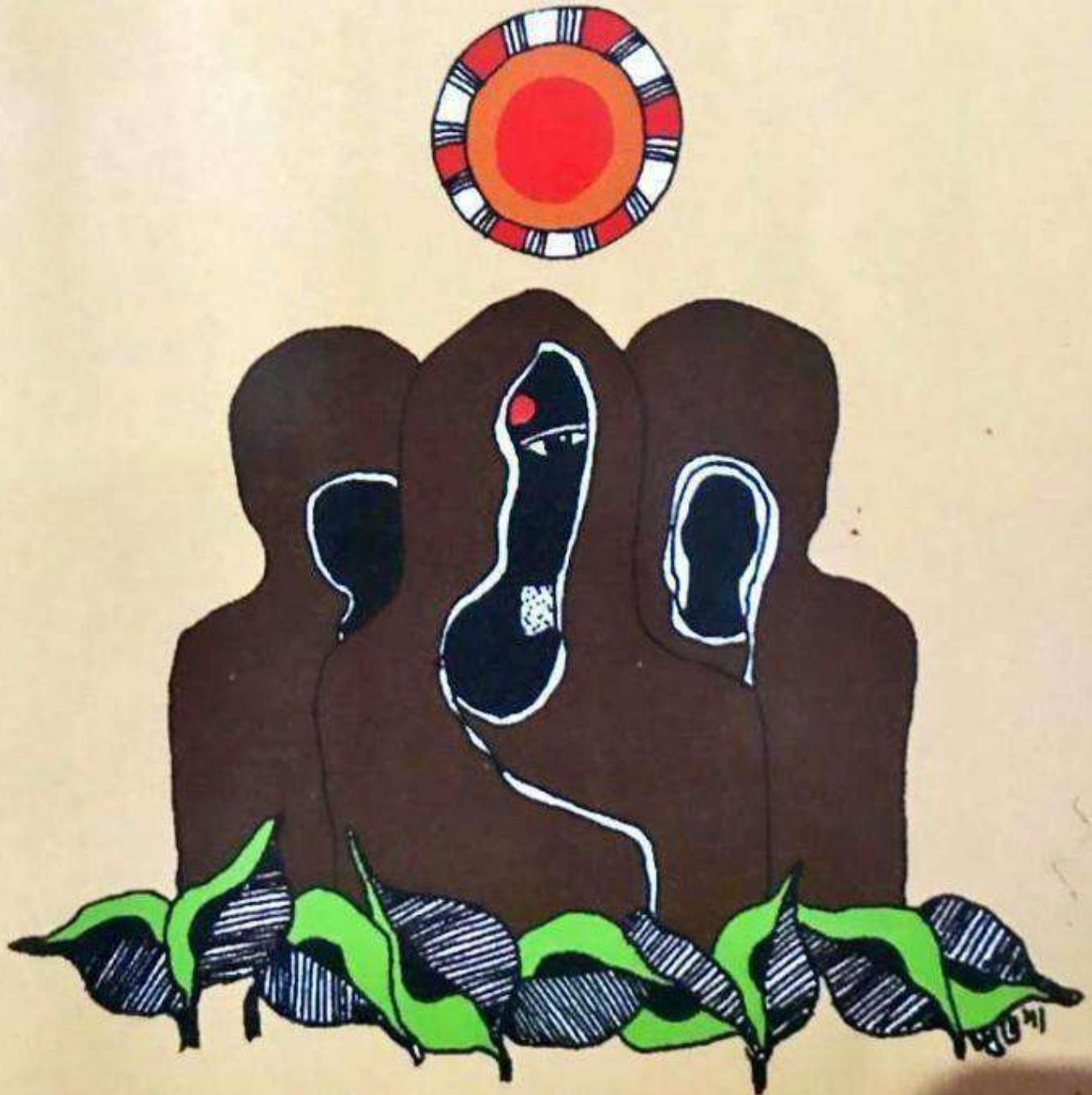
ਅਪ੍ਰੈਲ-ਜੂਨ 2018

ਪ੍ਰਤਿਮਾਨ

56

ISSN: 2277-9930

ਮੁੱਲ: 100/-



ਮੁੱਖ ਸੰਪਾਦਕ : ਡਾ. ਅਮਰਜੀਤ ਕੌਂਕੇ

ਮਹਿਮਾਨ ਸੰਪਾਦਕ : ਜਗਦੀਸ਼ ਰਾਏ ਕੁਲਰੀਆਂ

ਪੰਜਾਬੀ ਲੋਕ-ਵਿਸ਼ਵਾਸ : ਮੌਤ ਦੇ ਪ੍ਰਸੰਗ ਵਿਚ / ਡਾ. ਗੁਰਵੰਤ ਸਿੰਘ

ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਵਿਚ ਲੋਕ-ਵਿਸ਼ਵਾਸ ਲੋਕ ਜੀਵਨ ਦੀ ਜ਼ਿੰਦ-ਜਾਨ ਹਨ। ਇਨ੍ਹਾਂ ਦੀ ਇਤਿਹਾਸਕ ਰੂਪ-ਰੇਖਾ ਦਾ ਸੁਨਿਸ਼ਚਿਤ ਖ਼ਾਕਾ ਬਣਾਉਣਾ ਅਸੰਭਵ ਹੈ ਪਰ ਫਿਰ ਵੀ ਅਸੀਂ ਆਖ ਸਕਦੇ ਹਾਂ ਕਿ ਪੰਜਾਬੀ ਲੋਕ-ਵਿਸ਼ਵਾਸ ਇਥੋਂ ਦੇ ਸਭਿਆਚਾਰ ਜਿੰਨੇ ਹੀ ਪੁਰਾਤਨ ਹਨ। ਲੋਕ-ਵਿਸ਼ਵਾਸ ਮਨੁੱਖੀ ਜਨਮ ਤੋਂ ਪਹਿਲਾ ਅਤੇ ਮੌਤ ਤੋਂ ਬਾਅਦ ਦੀਆਂ ਕੁਝ ਰਸਮਾਂ ਵਿਚ ਵੀ ਨਿਭਾਏ ਜਾਂਦੇ ਹਨ। ਲੋਕ-ਵਿਸ਼ਵਾਸ ਬਾਰੇ ਰੀਵਰ ਤੇ ਬੋਸਵਲ ਕਹਿੰਦੇ ਹਨ:

ਪਰੰਪਰਾਗਤ ਤੌਰ 'ਤੇ ਪ੍ਰਵਾਨ ਕਰ ਲਈ ਗਈ ਧਾਰਨਾ ਹੈ, ਇਸ ਵਿਚ ਅਜਿਹੇ ਅਦਭੁਤ ਅਤੇ ਪਰਾਸਰੀਰਕ ਵਿਸ਼ਵਾਸ ਵੀ ਆ ਜਾਂਦੇ ਹਨ, ਜਿਨ੍ਹਾਂ ਨੂੰ ਲੋਕਾਂ ਨਾਲ ਸੰਬੰਧਿਤ ਕਰਨ ਅਤੇ ਪ੍ਰਭਾਵ ਦੀ ਭਾਵਾਤਮਕ ਸਾਂਝ ਦੇ ਨਤੀਜੇ ਵਜੋਂ ਉਸਾਰਨ ਵਿਚ ਅਣਗਿਣਤ ਪੀੜ੍ਹੀਆਂ ਬੀਤ ਚੁੱਕੀਆਂ ਹਨ। ਵਿਸ਼ਵਾਸ ਸ਼ਬਦ ਵਿਚ ਸਾਰੀਆਂ ਭਾਵਨਾਤਮਕ ਅਤੇ ਤਰਕ-ਰਹਿਤ ਭਾਵਨਾਵਾਂ ਸੰਮਿਲਤ ਹਨ।।

ਲੋਕ-ਵਿਸ਼ਵਾਸ ਲੋਕ-ਮਨ ਦੀ ਅਭਿਵਿਅਕਤੀ ਨਾਲ ਸੰਬੰਧਿਤ ਇਕ ਅਜਿਹੀ ਧਾਰਾ ਹੈ ਜੋ ਪਰੰਪਰਾਗਤ ਰੂਪ ਵਿਚ ਪੀੜ੍ਹੀਓ-ਪੀੜ੍ਹੀ ਸਵੀਕਾਰ ਹੁੰਦੀ ਹੋਈ ਸਾਡੇ ਸਭਿਆਚਾਰ ਵਿਚ ਜੀਵਿਤ ਰੂਪ ਵਿਚ ਚੱਲ ਰਹੀ ਹੈ। ਕੁਝ ਲੋਕ-ਵਿਸ਼ਵਾਸ ਮਨੁੱਖ ਦੀ ਕਲਪਨਾ ਦੀ ਉਪਜ ਵੀ ਹਨ। ਜੇਕਰ ਜੀਵਨ ਦੀਆਂ ਪ੍ਰਸਥਿਤੀਆਂ ਸਖ਼ਤ ਹੋਣ ਤਾਂ ਮਨੁੱਖ ਦੀ ਮਨੋਸਥਿਤੀ ਅਸਾਂਵੀ ਹੁੰਦੀ ਹੈ ਕਿਉਂਕਿ ਜੋ ਕੁਝ ਉਸ ਦੇ ਚੌਗਿਰਦੇ ਵਿਚ ਅਸਾਂਵਾਂ ਵਾਪਰਦਾ ਹੈ, ਉਸ ਨੂੰ ਉਹ ਹੁੰਗਾਰਾ ਦਿੰਦਾ ਹੈ। ਉਸ ਨੂੰ ਸਮਝਣ ਲਈ ਉਸ ਪਾਸ ਲੋੜੀਂਦਾ ਗਿਆਨ ਨਹੀਂ ਹੁੰਦਾ ਹੈ। ਉਹ ਆਪਣੇ ਜੀਵਨ ਦੇ ਅਸਾਵੇਂਪਨ ਨੂੰ ਬਾਹਰੀ ਪ੍ਰਸਥਿਤੀਆਂ ਦੇ ਅਸਾਵੇਂਪਨ ਨਾਲ ਜੋੜ ਕੇ ਨਿਕਲਣ ਵਾਲੇ ਅਸਾਵੇਂ ਨਤੀਜਿਆਂ ਪ੍ਰਤੀ ਧੀਰ ਕਰਦਾ ਹੈ। ਕੁਝ ਸਥਿਤੀਆਂ, ਪ੍ਰਸਥਿਤੀਆਂ ਦੇ ਕਾਰਜ ਅਤੇ ਵਸਤਾਂ ਸਮੇਂ-ਸਮੇਂ ਮਨੁੱਖੀ ਮਾਨਸਿਕਤਾ ਉੱਪਰ ਜੋ ਪ੍ਰਭਾਵ ਪਾਉਂਦੇ ਰਹੇ, ਉਹਨਾਂ ਪ੍ਰਭਾਵਾਂ ਸਦਕਾ ਹੀ ਅਨੇਕ ਤਰ੍ਹਾਂ ਦੇ ਲੋਕ-ਵਿਸ਼ਵਾਸ ਜਨਮੇ ਅਤੇ ਸਮੇਂ ਦੇ ਵਿਕਾਸ ਨਾਲ ਇਹ ਵਿਸ਼ਵਾਸ ਪ੍ਰਫੁੱਲਿਤ ਹੋਏ ਤੇ ਵਿਗਸਦੇ ਰਹੇ।

ਗ੍ਰਹਿਸਥ ਦੀਆਂ ਜ਼ਿੰਮੇਵਾਰੀਆਂ ਪੂਰੀਆਂ ਕਰ ਰਹੇ ਵਿਅਕਤੀ ਦਾ ਇਕ ਦਿਨ ਅੰਤਿਮ ਦਿਹਾੜਾ ਆ ਜਾਂਦਾ ਹੈ। ਪੰਜਾਬੀ ਲੋਕ ਮੌਤ ਨੂੰ ਜੀਵਨ ਪ੍ਰਵਾਹ ਦਾ ਅੰਤ ਨਹੀਂ, ਇਕ ਪੜਾਅ ਮੰਨਦੇ ਹਨ। ਉਹਨਾਂ ਦੇ ਵਿਸ਼ਵਾਸ ਅਨੁਸਾਰ ਸਰੀਰ ਇਕ ਚੋਲੇ ਸਮਾਨ ਹੈ ਜਦੋਂ ਇਹ ਪੁਰਾਣਾ ਹੋ ਜਾਂਦਾ ਹੈ ਤਾਂ ਆਤਮਾ ਇਸ ਨੂੰ ਤਿਆਗ ਕੇ ਨਵਾਂ ਚੋਲਾ ਪਹਿਣ ਲੈਂਦੀ ਹੈ। ਮੌਤ ਨੂੰ ਸਾਰੇ ਜੀਵਨ ਵਿਵਹਾਰ ਦੀਆਂ ਮੁਸੀਬਤਾਂ, ਦੁੱਖਾਂ,.ਗਮਾਂ ਨਾਲੋਂ ਵੱਡੀ, ਨਾ ਟਾਲੀ ਜਾ ਸਕਣ ਵਾਲੀ ਮੁਸੀਬਤ ਅਤੇ ਵਿਨਾਸ਼ਕ ਮੰਨਿਆ ਜਾਂਦਾ ਹੈ। ਇਸ ਸਮੇਂ ਜੋ ਸੰਸਕਾਰ ਕੀਤੇ ਜਾਂਦੇ ਹਨ। ਉਹ ਉਸ ਦੇ ਅਗਲੇ ਜਨਮ ਦੇ ਰਸਤੇ ਨੂੰ ਸੁਆਰਨ ਲਈ ਕੀਤੇ ਜਾਂਦੇ ਹਨ। ਇਹ ਸੰਸਕਾਰ ਬੱਚਿਆਂ, ਮਰਦਾਂ, ਜਨਾਨੀਆਂ, ਬੁੱਢੀਆਂ ਜਾਂ ਜਵਾਨ ਮੁੰਡੇ-ਕੁੜੀਆਂ ਦੀ ਮੌਤ ਸਮੇਂ ਭਿੰਨ-ਭਿੰਨ ਹੁੰਦੇ ਹਨ।

ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਵਿਚ ਇਹ ਵਿਸ਼ਵਾਸ ਪ੍ਰਚੱਲਿਤ ਹੈ ਕਿ ਜਦੋਂ ਕੋਈ ਵਿਅਕਤੀ ਮਰ ਰਿਹਾ ਹੁੰਦਾ ਹੈ ਤਾਂ ਉਸ ਨੂੰ ਮੰਜੇ ਤੋਂ ਥੱਲੇ ਉਤਾਰ ਕੇ ਹੇਠਾਂ ਜ਼ਮੀਨ ਉੱਪਰ ਉਸ ਦਾ ਮੂੰਹ ਉੱਤਰ ਵੱਲ ਤੇ ਪੈਰ ਪੂਰਬ ਵੱਲ ਕਰ ਕੇ ਲਿਟਾ ਦਿੱਤਾ ਜਾਂਦਾ ਹੈ। ਲੋਕਾਂ ਦਾ ਵਿਸ਼ਵਾਸ ਹੈ ਕਿ ਮੰਜੇ ਉੱਪਰ ਮਰਿਆ ਪ੍ਰਾਣੀ ਭੂਤ-ਪ੍ਰੇਤ ਦੀ ਜੂਨ ਪੈਂਦਾ ਹੈ। ਇਸ ਸਮੇਂ ਉਸ ਦੇ ਮੂੰਹ ਵਿਚ ਗੰਗਾਜਲੀ ਅਤੇ ਤੁਲਸੀ ਦੇ ਪੱਤੇ ਪਾਏ ਜਾਂਦੇ ਹਨ। ਉਸ ਦਾ ਅੱਗਾ ਸੁਆਰਨ ਲਈ ਹਿੰਦੂ ਗੀਤਾ ਤੇ ਸਿੱਖ ਸੁਖਮਨੀ ਸਾਹਿਬ ਦਾ ਪਾਠ ਕਰਦੇ ਹਨ। ਧਰਤੀ ਉੱਪਰ ਲਿਟਾ ਕੇ ਵਿਅਕਤੀ ਦੇ ਹੱਥੋਂ ਦਾਨ ਕਰਵਾਇਆ ਜਾਂਦਾ ਹੈ। ਪੁਰਾਤਨ ਸਮੇਂ ਵਿਚ ਮਰਨ ਵਾਲੇ ਵਿਅਕਤੀ ਕੋਲੋਂ ਗਊ ਦਾ ਦਾਨ ਕਰਵਾਇਆ ਜਾਂਦਾ ਸੀ। ਆਟੇ ਜਾਂ ਦਾਣਿਆਂ ਨੂੰ ਹੱਥ ਲਵਾ ਕੇ ਮੰਗਤਿਆਂ ਤੇ ਗ਼ਰੀਬਾਂ ਵਿਚ ਵੰਡ ਦਿੱਤਾ ਜਾਂਦਾ ਸੀ। ਕਿਹਾ ਜਾਂਦਾ ਹੈ ਕਿ ਇਹ ਦਾਨ ਵਿਅਕਤੀ ਲਈ ਅਗਲੇ ਲੋਕ ਲਈ ਸਹਾਇਕ ਬਣਦਾ ਹੈ। ਮਰ ਰਹੇ ਵਿਅਕਤੀ ਦੇ ਲਾਗੇ ਦੀਵੇ ਦੀ ਨਿਰੰਤਰ ਜੋਤ ਜਗਾਈ ਜਾਂਦੀ ਹੈ। ਲੋਕ-ਨਿਸ਼ਚੇ ਅਨੁਸਾਰ ਦੀਵੇ ਦੀ ਰੌਸ਼ਨੀ ਵਿਅਕਤੀ ਨੂੰ ਅਗਲੇ ਲੋਕ ਦਾ ਰਸਤਾ ਵਿਖਾਉਂਦੀ ਹੈ ਅਤੇ ਪਾਠ ਉਸ ਦੀ ਮੁਕਤੀ ਲਈ ਸਹਾਈ ਹੁੰਦਾ ਹੈ।

ਸ਼ਮਸ਼ਾਨ ਭੂਮੀ ਦੇ ਅੱਧ ਵਿਚ ਜਾ ਕੇ ਮੁਰਦੇ ਨੂੰ ਧਰਤੀ ਉੱਤੇ ਰੱਖ ਦਿੱਤਾ ਜਾਂਦਾ ਹੈ। ਇਸ ਜਗ੍ਹਾ 'ਤੇ ਪਾਣੀ ਨਾਲ ਭਰੇ ਹੋਏ ਕੁੱਜੇ ਨਾਲ ਮੁਰਦੇ ਦੇ ਚਾਰੇ ਪਾਸੇ 'ਕਾਰ' ਕੀਤੀ ਜਾਂਦੀ ਹੈ ਤੇ ਫਿਰ ਜ਼ੋਰ ਦੀ ਕੋਰੇ ਕੁੱਜੇ ਨੂੰ ਸਿਰ ਦੇ ਲਾਗੇ ਭੰਨ ਦਿੱਤਾ ਜਾਂਦਾ ਹੈ। ਲੋਕ-ਵਿਸ਼ਵਾਸ ਅਨੁਸਾਰ ਪਾਣੀ ਨਾਲ ਭਰੇ ਕੁੱਜੇ ਦਾ ਭੰਨਣਾ ਵਿਅਕਤੀ ਦੀ ਇਸ ਹੋਂਦ ਮੂਲਕ ਸੰਸਾਰ ਤੋਂ ਯਾਤਰਾ ਸਮਾਪਤੀ ਜਾਂ ਸੰਪੂਰਨਤਾ ਹੈ ਤੇ ਅਗਲੇ ਲੋਕ ਦੀ ਯਾਤਰਾ ਦੀ ਸ਼ੁਰੂਆਤ ਹੈ। ਮਰੇ ਹੋਏ ਵਿਅਕਤੀ ਦੀ ਅਰਥੀ ਘੁੰਮਾ ਦਿੱਤੀ ਜਾਂਦੀ ਹੈ। ਇਸ ਤਰ੍ਹਾਂ ਕਰਨ ਨਾਲ ਵਿਸ਼ਵਾਸ ਕੀਤਾ ਜਾਂਦਾ ਹੈ ਕਿ ਵਿਅਕਤੀ ਆਪਣੇ ਘਰ ਦਾ ਰਸਤਾ ਭੁੱਲ ਜਾਂਦਾ ਹੈ। ਅਰਥੀ ਦੇ ਅੱਗੇ-ਅੱਗੇ ਤੁਰਨਾ ਬਦਸ਼ਗਨੀ ਮੰਨਿਆ ਜਾਂਦਾ ਹੈ ਕਿਉਂਕਿ ਅੱਗੇ ਤੁਰਨ ਵਾਲਾ ਪ੍ਰਾਣੀ ਮ੍ਰਿਤਕ ਤੋਂ ਵੀ ਪਹਿਲਾ ਮਰਘਟ ਅਰਥਾਤ ਜਮਪੁਰੀ ਪਹੁੰਚਣਾ ਚਾਹੁੰਦਾ ਹੈ। ਲੋਕ-ਵਿਸ਼ਵਾਸ ਹੈ ਕਿ ਇਸ ਤਰ੍ਹਾਂ ਕਰਨ ਵਾਲਾ ਪ੍ਰਾਣੀ ਦੋ-ਤਿੰਨ ਦਿਨ ਬਾਅਦ ਮਰ ਜਾਂਦਾ ਹੈ।

Indian Journal of Basic and Applied Medical Research; September 2018: Vol.-7, Issue- 4, P . 174 - 186

Original article:

Impact of socio-economic status, physical activity, and sedentary behavior on Bone Mineral Density in college-going boys and girls of District Gurdaspur

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Abstract:

Introduction: Low bone density is a prevalent health condition which manifests as osteoporosis in later part of life. Since it is being influenced by lifestyle factors like physical activity, sedentary behavior and food choices, the present study was proposed to find out their impact on bone health status of young population.

Material and Method: The present survey was designed to study Bone Mineral Density (BMD), using calcaneal ultrasound bone densitometer as a diagnostic instrument in 1000 young male and female subjects aged 16-23 years from local colleges.

Results and observations: Male individuals had a significantly better bone health with a larger number being normal for their BMD (Males: 57.1%; Females: 48.7%) whereas a higher number of females were osteopenic (Males: 37.8%; Females: 44.9%) and osteoporotic (Males: 5.1%; Females: 6.4%). Exposure to sunlight, intake of fast food and spongy bleeding gums significantly influenced BMD. Intake of milk products specifically cheese could be seen to significantly affect BMD in males. Bone fracture in father and paternal grand-mother made a significant difference to BMD in males and that of paternal grand-father in females. Socioeconomic status and physical activity had positive correlation while time spent engrossed on mobile phone was found to have significantly negative and adverse impact on T-score in females.

Conclusion: The study indicates that bone health status of young adults, which is significantly influenced by lifestyle choices, is at a precarious state and requires a timely intervention to prevent osteoporosis in later part of life.

Key words: Bone mineral density, Socio-economic status, Physical activity, Sedentary behavior, Pedigree studies.

Introduction:

Osteoporosis, "porous bone disease" is characterized by too little bone formation, bone fragility and high risk of fracture.[1] Osteoporosis is a major global public health problem associated with significant morbidity, mortality, and socioeconomic burden. [2,3] Lifestyle factors are estimated to influence 20-40% of adult peak bone mass and due to unfavourable lifestyle factors there can be an increase in the risk of osteoporosis and associated fractures.[4] Physical activity, optimal nutrition and adequate sun exposure are very crucial for attaining peak bone mass, and are major determinant of osteoporosis. [5] A positive association exists between bone mineral status and daily participation in high-impact physical activity where engaging in appropriate levels of physical activity and exercise can have lifelong benefits on bone structure, strength, and potential fracture risk. [6,7,8,9] With regular physical exercise young individuals intend to have normal bone mineral values. [10,11] Physical activity is a promising non-drug modulator that

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Human and Ecological Risk Assessment: An International Journal

ISSN: 1080-7039 (Print) 1549-7860 (Online) Journal homepage: http://www.tandfonline.com/loi/bher20

Ecological risk assessment of metals in roadside agricultural soils: A modified approach

Sandip Singh Bhatti, Sartaj Ahmad Bhat, Vaneet Kumar, Mandeep Kaur, Minakshi, Vasudha Sambyal, Jaswinder Singh, Adarsh Pal Vig & Avinash Kaur Nagpal

To cite this article: Sandip Singh Bhatti, Sartaj Ahmad Bhat, Vaneet Kumar, Mandeep Kaur, Minakshi, Vasudha Sambyal, Jaswinder Singh, Adarsh Pal Vig & Avinash Kaur Nagpal (2017): Ecological risk assessment of metals in roadside agricultural soils: A modified approach, Human and Ecological Risk Assessment: An International Journal, DOI: 10.1080/10807039.2017.1373328

To link to this article: http://dx.doi.org/10.1080/10807039.2017.1373328

Accepted author version posted online: 05 Sep 2017.

ਸਰਪ੍ਰਸਤ : ਸ੍ਰੀ ਪੂਰਨ ਪਿਆਸਾ

1995 ਤੋਂ ਲਗਤਾਰ ਪ੍ਰਕਾਸ਼ਿਤ ਹੋ ਰਿਹਾ

ਅਜੋਕੇ ਸ਼ਿਲਾਲੇਖ

ਅਕਤੂਬਰ-ਦਸੰਬਰ 2017

50 ਰੁਪਏ

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International Journal of Sanskrit Research 2017; 3(4): 283-285

International Journal of Sanskrit Research

International Journal of Sanskrit Research2015; 1(3):07-12

अनन्ता

ISSN: 2394-7519
IJSR 2017; 3(4): 283-285

www.anantaajournal.com
Received: 25-05-2017
Accepted: 26-06-2017

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MkWå uohu pUn

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Correspondence
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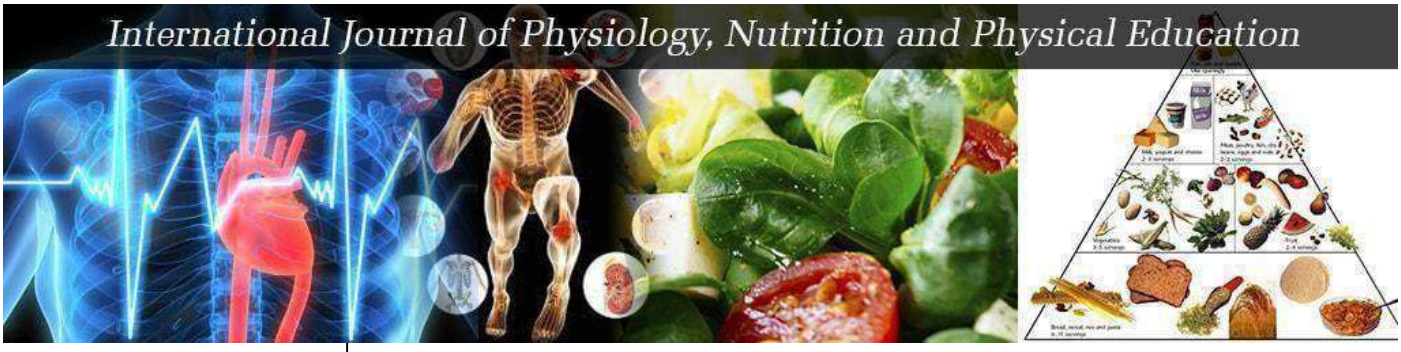

ISSN: 2456-0057
IJPNPE 2018; 3(1): 1984-1986

www.journalofsports.com
Received: 23-11-2017
Accepted: 25-12-2017

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Comprehensive investigation of emotional intelligence between open and closed skill athletes

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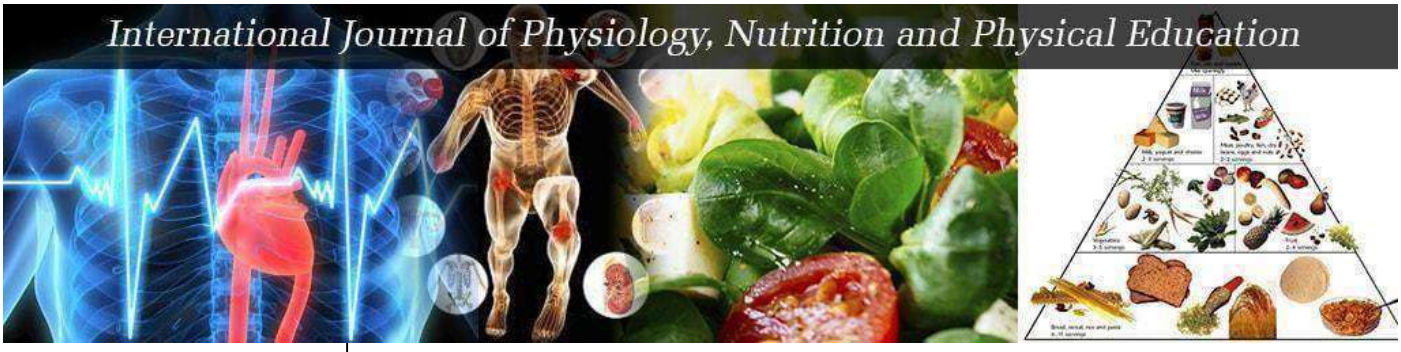
Abstract
The purpose of this study was to find out the differences between open and closed skill athletes on the construct Emotional Intelligence. 209 male inter-college level players were chosen as subjects. They were further dispersed under two aggregations which incorporates n=130; open skill and n=79; closed skill. A standardized questionnaire developed by Hyde *et al*. (2001) was employed to collect the data for emotional intelligence. An exploratory research design has been used in the present study that has followed a quantitative method of data collection and analyses. The Purposive Sampling procedure was followed to achieve the goal of the study. Unpaired t-test was employed to establish the differences between open and closed skill athletes. For testing the hypotheses, the level of significance was set at
0.05. Findings show that no significant differences were found between the means of both groups with regard to the variable self-awareness, empathy, emotional stability, managing relations, self-development, commitment, altruistic behavior and overall emotional intelligence. However, significant mean differences were observed between both groups in relation to self-motivation ($t=2.42$, $p<0.05$), integrity ($t=4.06$, $p<0.05$) and value orientation ($t=2.89$, $p<0.05$). It was found that open skill athletes possessed better self-motivation, integrity and value orientation than closed skill athletes; however, both groups were equal in overall emotional intelligence.

Keywords: Self-awareness, empathy, self-motivation, emotional stability, managing relations, integrity, self-development, value orientation, commitment, altruistic behaviour

Introduction
Emotional intelligence is "the capacity to screen one's own particular and other's emotions, to separate among them, and to utilize the data to guide one's reasoning and activities" Salovey and Mayer (1990) [3] presented the "capacity display" that incorporates four noteworthy subjects of capacities incorporated into emotional intelligence, specifically (1) seeing emotions, (2) utilizing emotions, (3) understanding emotions, and (4) overseeing emotions. The dominance of these four noteworthy measurements of emotional learning is alluded to as emotional intelligence.
Mayer *et al*. (2008) [2] portrayed emotional intelligence as the subset of social intelligence that includes the capacity to screen one's own and others' sentiments and emotions, to segregate among them and to utilize this data to guide one's reasoning and activities. They further accentuated that emotional intelligence includes the capacity to prevail upon and about emotions, and the limit of emotion to improve thought. Goleman (1999) [1] stated that it means overseeing emotions with the goal that they are communicated fittingly and viably, empowering individuals to cooperate easily towards their normal objectives.
Research has indicated mental abilities encourage athletic performance. Relaxation training, positive thought control, self-regulation, symbolism, focus, vitality control, self-observing, and objective setting are all qualities that have been connected with athletic execution Zizzi,Deaner, Hirschhorn, (2003) [4]. A considerable lot of these qualities reflect emotional intelligence.

Selection of Subjects
209 male inter-college level players were chosen as subjects. They were further dispersed under two aggregations which incorporates n=130; open skill and n=79; closed skill.



ISSN: 2456-0057
IJPNPE 2017; 2(2): 1014-1017

www.journalofsports.com
Received: 24-05-2017
Accepted: 25-06-2017

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Effect of 12-week yogic practices on flexibility and balance of women cricketers: An experimental study

Ranjeet Singh Sandhu, Barinderpal Singh and Navneet Singh

Abstract
The purpose of present study was to assess the effect of 12-week yogic practices on flexibility and Balance of women cricketers. The present study was conducted on 120 women Cricketers of Northern region of India. Keeping in view the objectives, the players were categorized into two main groups: Group A: Experimental group (N_1=60) and Group B: Control group (N_2=60). The age of subjects ranged between 18 to 25 years. The purposive sampling technique was used to attain the objectives of the study. All the subjects, after having been informed about the objective and protocol of the study, gave their consent and volunteered to participate in this study. The difference in the mean of each group for selectedvariable was tested by "t" test. The level of significance was set at 0.05. Analysis of data revealed that with regard to flexibility the "t" value in case of experimental group was 9.0311* and for control group it was 0.9594. The "t" value in case of experimental group 9.0311* as shown in the table above was found statistically significant (*P*<.05). It is evident that women cricketer with regards Balance the "t" -value in case of experimental group was 5.3769* and for control group it was 1.7840. The "t" value in case of experimental group 5.3769* as shown in the table above was found statistically significant (*P*<.05).

Keywords: Flexibility, balance, yogic practice and women cricketers

Introduction
Cricket is the most popular sport in commonwealth countries and one of the most popular sports in the world. The performance of cricketers is enhancing day by day, old records are broken and new records are forming; scores are reaching new heights, it is due to high intensity training of the players which help them to perform well. A modern day cricketer, whospends hours on the field and the one who is also involved in the off-field activities such as brand endorsements, campaigns and other activities, needs to keep a sharp eye on his physical as well as mental health. And other activities, needs to keep a sharp eye on his physical as wellas mental health. Among the various fitness activities and drills, it is crucial for cricketers around the globe to sign up for Yoga as it not only helps keeping a track of his mental and physical health, but also helps improving reflections and overall strengthening of the body. It is a known fact that a strong and well-maintained body is less prone to injuries, and all cricketers must vie for it. With a powerful tool such as Yoga, cricketers can work their entire body, stretch, strengthen, and recover quickly as compared to the other ways. In a gymnasium, a cricketer can work out on only few specific parts of his body, but combining it with Yoga can do wonders for cricketers who are some or the other way busy all around the year.

Yoga and cricket make a powerful combination. Yoga, across the world, is seen as a one-stop shop for body-mind-spirit wellness. It is no more an ancient Indian practice but a global phenomenon, touching varied fields like sports. Most warm-up exercises that cricketers do nowadays are yoga postures. Back in the seventies and eighties, cricketers were not very conscious about their fitness. It also illustrates the various advantages of yoga postures in making a sportsperson's body much more flexible and agile. For a cricketer, yoga helps in keeping track of his mental and physical health, apart from improving reflexes and strengthening the body. Yoga-related exercises focus on core muscle stability benfitting the sports person holistically.

After all Bhagvad Geeta States that Yoga is "Yogah karmasu kaushalam" Spiritual experience & bliss is the final aim of Yoga, however, the journey of it deals with Holistic health & fitness of individuals and the players.

European Journal of Physical Education and Sport Science
ISSN: 2501 - 1235
ISSN-L: 2501 - 1235
Available on-line at: www.oapub.org/edu

doi: 10.5281/zenodo.1050696 Volume 3 | Issue 10 | 2017

INVESTIGATION OF SELECTED MOTOR FITNESS COMPONENTS BETWEEN BATSMEN AND BOWLER IN CRICKET: AN EXPLORATORY STUDY

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Abstract:
The aim of this assessment is to discover the significant differences of motor fitness components between batsmen and bowler. A group of thirty (N=30) male subjects aged between 18-28 years were chosen for this appraisal from Guru Nanak Dev university, Amritsar (Punjab), India. The purposive sampling technique was utilized to accomplish the objectives of the appraisal. Every one of the subjects, in the wake of having been educated about objective and protocol of the study, gave their agreement and volunteered to take an interest in this appraisal. They were further partitioned into two group of 15 each (i.e., N1=15; batsmen and N2=15; bowler). Student's t-test for independent data was utilized to evaluate the between- group differences. The level of $p \leq 0.05$ was considered significant. Investigation of data uncovered that there were insignificant differences of speed ($p = 0.20$), strength ($p = 0.096$) agility ($p = 0.06$) and Cardiovascular Endurance ($p = 0.21$) amongst Batsmen and Bowler, the calculated valueof t for all the variables i.e., speed (t=1.30), strength (1.72), agility (1.94) and Cardiovascular Endurance (1.41 is smaller than the tabulated value of t (=2.048) for 28 degree of freedom. In this way, it might be presumed that the group difference between Batsmen and Bowler with respect to speed, strength, agility and endurance observed to be statistically insignificant. Whereas significant differences of static Balance ($p =$ **0.019)** between Batsmen and Bowler, since the calculated value of t for static Balance (t=2.50) is higher than the tabulated value of t (=2.048) for 28 degree of freedom. In this manner it might be inferred that the group difference between Batsmen and Bowler in regards to

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International Journal of Yoga, Physiotherapy and Physical Education
ISSN: 2456-5067
Impact Factor: RJIF 5.24
www.sportsjournal.in
Volume 2; Issue 6; November 2017; Page No. 68-70

Coordinative abilities between Badminton and Tennis Players: A comparative study

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Abstract
The aim of this study is to find out the significant differences of coordinative abilities between male Badminton players and Tennis players. A group of thirty (N=30) male subjects aged between 18-28 years, who participated in intercollege competitions organized by the Department of Sports, Guru Nanak Dev University, volunteered to participate in this study were selected for this study. The purposive sampling technique was used to attain the objectives of the study. All the subjects, after having been informed about the objective and protocol of the study, gave their consent and volunteered to participate in this study. They were further divided into two groups of 15 each (i.e., N1=15; tennis players and N2=15; badminton players). To compare the mean differences between the two groups, mean, S.D and t-tests were computed by means of Statistical Software. To test the hypotheses, the level of significance was set at 0.05. The results revealed significant differences between tennis players and badminton players on the sub-variables i.e. Reaction Ability, Orientation Ability and Differentiation Ability. However, insignificant differences were noticed with regard to the sub-variables i.e. Rhythmic Ability.

Keywords: tennis players, badminton players, rhythmic ability, reaction ability, orientation ability and differentiation ability

Introduction

Tennis and badminton are the best-known members of a family of related racket games. Despite their similarities, the two sports also have many differences in play and in strategy. Tennis and badminton are two racket sports that are favorite pastimes in many countries. Badminton is very popular insouth East Asia and Indonesia. Which have produced many top players. Fitness has become increasing important part of Badminton both physical and mental fitness are required in Badminton players required arm and shoulder strength of maintain the smash and overhead clears for Badminton. Tennis is a racket sport in which two players or teams of two players, send a ball over a net in such a way that it is difficult to return legally. Modern tennis has its roots in the old French game of pause, for which the rules were written in Paris in 1592. Tennis was part of the first Olympic Games of the modern era, in 1896; it was withdrawn from the Olympic after 1924 and reinstated in 1988 These two are popular games and can be found in almost every country. Though these games aresimilar in nature, they have various differences among them including rules, regulations, etc. While the basic principle is the same, the two games differ in their rules, terminology, playing equipment, number of players, field size etc. In sports today best performance can only be achieved through inaccurately planned, executed and controlled training system loosed on the scientific knowledge, theoretical and methodical fundamentals of sport training. A sportsman cancompete effectively only by a certain coordinative mastery of the technique. Coordination ability means an ability to quickly and purposefully perform difficult spatio-temporal movement structures. Within this context, coordination abilities are understood as an externally visible manifestation of the control and regulation processes of the motor activity of the central nervous system. Coordinative abilities enable the sports man to doa group of movements with better quality and effect.

Coordinative abilities are also needed for maximum utilization of conditional abilities, technical skills and tactical skills. Without the adequately developed coordinative abilities, a sportsman cannot make maximum use of his psycho- biological capacities and reserves. The coordinative abilities, a great extent, determine the maximum limits to which sports performance can be improved in several sports especially the sports which depends largely on technical and tactical factors. Because of this reason assessment of coordinative and the possibilities of their further development from an important parts of the process of talent identification in sports.

The speed of learning of skill and its stability is directly dependent on the level of various coordinative abilities. Coordinative abilities are needed for maximal utilization of conditional abilities, technical skills and tactical skills. In different sports requirement of coordinative abilities are different and these abilities ensures highermovementefficiency and movement economy, whereasis some sports events they helps in higher movement frequency with high explosiveness and force application. In strength sports they help in puttingmaximum effort in a short time and at the right time. But, where the technique dominates the event the sea bilities helps in better learning, stabilization, variability and autoimmunization. In sports seven coordinative abilities are of key importance. In different sports the relative importance of these abilities is however different. Differentiation ability

ISSN: 2231-3869 Kashf

4.G.C.482/64780 Kashf

शोधात्मक उल्लिखित अर्द्धवार्षिकी

कश्फ़

अल्पचर्चित भारतीय सूफ़ी-साधक

संपादक :

डॉ. विनोद तनेजा

वर्ष 16/पंज -7 अंक - 1 जून 2017

ISSN: 2231-3869 Kashf
R.N.I.G.C.482/64780 Kashf

शीर्षक सत्यापन पत्र PUNBIL01098/19/1/2010-TC

कश्फ़

[शोधात्मक-उल्लिखित (Referred Journal)- द्वैभाषिक (Bilingual) अर्द्धवार्षिकी]

संपादक : डॉ. विनोद तनेजा

'कश्फ़' एक अव्यवसायिक शोध पत्रिका है।

सदस्यता सहयोग आजीवन 2100 रु. संरक्षकीय : 11,100 रु.

संस्थागत : 500 रु. वार्षिक

अल्पचर्चित सूफ़ी-साधक

डॉ. सरोज बाला

सूफ़ी साधना का साधक उस क्षण में जीता है जिसमें वो जी रहा है। भूत और भविष्य से बेपरवाह वर्तमान को भोगने वाला यह साधक मानता है कि जो अतीत से घिरा हो या भविष्य की चिंता करता हो, वह कभी भी सच्ची साधना के पथ पर आगे नहीं बढ़ सकता। इसी कारण वह उस छोटे क्षण वर्तमान को उस अणु के रूप में मानता है जिसका सही विस्फोटन अधिक ऊर्जावान होता है। इसी ऊर्जा के कारण उसका जीवन सदैव ताजा और नया बना रहता है। यह नयापन जिसके लिए उसे अतीत से प्रतिपल मुक्त होते हुए भविष्य में कूदने के स्थान पर अपने क्षण में नया होना बहुत भाता है। परम्परा से यें सूफ़ी साधक विभिन्न संस्कृतियों को जोड़ने वाले पुल का काम करते रहे हैं। एक ऐसा पुल जिसने न जाने कितनों के एक तट से दूसरे तट तक पहुंचाया। जिस तरह पुल की कई कड़ियां तो दिखाई देती है पर कुछ ऐसी भी होती है जो बोझ तो बराबर सहती है पर दिखाई नहीं देती है। ऐसे ही सूफ़ी साधना पुल में न दिखने वाली कई कड़िया हैं जो अल्पचर्चित रूप में अपना कार्य करती रही हैं उन्हीं में से कुछ परिचय प्रस्तुत है-

1. **शेख़ कदन दानिशमंद खेराबांदी :** इनके बारे में इतना ही पता कि वह शेख सादुल्ला खेरावादी के खलीफ़ा होने के अतिरिक्त लखनऊ में प्रसिद्ध सुहरावर्दिया सूफ़ी शाह मिना के शिष्य थे।

2. **शेख़ काहनदोती :** हुमायूं और शेरशाह सूरी के समकालीन वह खानदूत जलालुपर से सम्बन्ध रखते थे। इन्होंने धर्मपरायणता हेतु अपनी अन्तर्रात्मा सूफ़ियाना संगीत को समर्पित की दी।

3. **शेख़ लाल :** वह कश्मीर में कुर्बावय्या सूफ़ी, शेख़ या कूब सर्फ़ी के शिष्यों में से एक थे जिन्हें संगीत का बहुत जुनून था। एक बार एक अजनबी द्वारा गए मधुर संगीत को सुनकर हर्षदेल्लास से इतना नाचे कि अपने घर की छत से गिर गए और गिरने पर भी ध्यानमग्न अचेतन अवस्था में नाचते रहे कि उन्हें अपनी चोट का भी पता नहीं चला। एक अन्य अवसर पर, जब वे अहमदाबाद में अपने गुरु शेख़ याकूब सर्फ़ी के साथ थे। गुजरात के सूबेदार ने इनको सम्मानित करने हेतु एक सामा नाम की सभा का आयोजन किया कहाँ पर भी संगीत में परमानव भी स्थिति को प्राप्त करते हुए अपने अन्तिम अश्रुभरे शब्द कहे या हुवा या हुवा। इनकों अहमदाबाद में मृत्यु उपरान्त दफनाया गया।

4. **शेख़ लूहरा :** शेख़ लूहरा का वास्तविक नाम अब्दुर-रय्याक था और वे अबुल-फ़ेद मक्की के पुत्र थे। इस प्रसिद्ध सूफ़ी, शेख़ लूहरा का देहान्त सितम्बर 1576 को आगरा में हुआ ।

5. **शेख़ महदी :** शेख़ माहदी शेख़ याकूब छातावली के भाई एवं ख़लीफ़ा थे। उन्होंने अपना पूरा जीवन प्रभु के ध्यान एवं चिंतन-मनन में व्यतीत किया।

6. **शेख़ मोहम्मद बिन अब्बुल्ल गुजराती:** वह गुजरात प्रांत में पैदा हुए। वह शेख़ लक्ष कर मोहम्मद के ख़लीफ़ा थे। उन्होंने अपने सभी भाव परमात्मा को समर्पित किए घायूसी शत्तारी ने उनकी बहुत प्रशंसा की। शेख़ मोहम्मद बिल अब्बुल्ला गुजराती ने हज भी किया।

7. **शेख़ मोहम्मद बिन जल्लाल :**का जन्म गुजरात में हुआ। वे शेख़ मोहम्मद शत्तारी के शिष्य और शेख़ सदरु-द-दीन जाकिर के ख़लीफ़ा थे। वह आध्यात्मिक क्षेत्र में लोगों के मार्गदर्शन और मंदू में असख्य लोगों की प्रेरणा बने। आजीवन खुदा के प्रति ध्यानमग्न रहे। मंदू में 1588 को उनका देहांत हो गया।

8. **शेख़ मोहम्मद बिन सायद मलिक :** दौलतबाद में शेख़ अब्दुल-आई-लतीफ़ के मुरीद के रूप में प्रविष्ट हुए। तत्पश्चात् वह नरनाउल-वाय-मालवा में शेख़ निजाम नरनऊली को देखने गए। आजीवन आध्मात्मिक मार्ग पर चलते हुए वह मंदू पहुँचे जहाँ उन्होंने 1578-9 ई को एक मस्जिद बनाई। वहीं पर 1610-11ई में उनका देहांत को हुआ।

9. **शेख़ कमल अलियाज शेख़ कालू :** वह अहमदाबाद के नज़दीक स्थित मनिकपुर में रहने वाले शेख़ हूसामू 'द-दीन (1449-50) के शिष्य थे। वह एक प्रसिद्ध सूफ़ी-साधक थे जिनकी मृत्यु अलाहाबाद के पश्चिम में 41 मील की दूरी पर स्थित 'कारा' में 1450 ई में हुई।

10. शेख़ करमू लाह **मुल्तानी :** वह दाऊद मुल्तानी के पुत्र थे जिनको सुहरावर्दिया सिलसिले में पूर्ण लगन एवं निष्ठा थी। वह मंदू में स्थनांतरित हो गए जहाँ उनको सूफ़ी-साधक के रूप में बहुत प्रसिद्धि प्राप्त हुई। उस समय गुजरात के मुग़ल गर्वनर राजा मान सिंह ने इस साधक को उनके घर जाकर निजी तौर पर सम्मानित किया था।

11. शेख़ खानू ग्वालियोरी : वह चिश्तिया सूफ़ी ख़्वाज़ा हुसैन नागौरी के प्रसिद्ध शिष्य थे। इन्होंने चंदेरी में तैनात शेख़ इस्माइल इबन शेख़ हुर्सन सरमस्त से 'खिरका' ली।

वह ख़्वाज़ा मु 'इनऊ 'द-दीन चिश्ती के प्रति पूर्णत:समर्पित थे। इनके शिष्य इस्मा 'इल और शेख़ मुनव्वर थे। शेख़ खानू ग्वालियोरी की मृत्यु 1534-5 ई में हुई।

12. शेख़ खुदा बख़्श मंदावी - इनके पूर्वज अरेनिया से भारत आए थे। शेख़ खुदा बख्श मंदावी को शेख़ फ़ज़लतलाह बिन शेख़ हुसैन चिरती मुल्तानी द्वारा सूफ़ीमत में दीक्षित

किया गया। वह परमात्मा के प्रति एकाग्र चित होकर एकांत में ध्यान लगाते थे। उनको सूफ़ी-मत को क्षमता, आध्यात्मिक प्राप्ति शेख़ घाऊशी शतारी की देख-रेख में हुई।

13. **शेख़ ख़वाज़ा 'अलाम' :** वे अपने पिता की ओर से ख़्वाज़ा माऊदूद चिश्ती और माता जी की ओर से शेख़ जलाल पानीपति के वंशज थे। आप शेख़ मोहम्मद घोष द्वारा शतारिया में दीक्षित हुए। आप बहिरंग एवं गोपनीय ज्ञान को सागर थे। आपकी मृत्यु बीरपुर में हुई।

14. **शेख़ जीवः** का वास्तविक नाम अब्दुल हाय था। वे मोहम्मद गौस शत्तारी के एकमात्र प्रतिष्ठित खुलाफ़ा थे। उनका अल्लाह पर असीम विश्वास था। उनके भीतर व्याप्त एकांत में ध्यान-अभ्यास, संयमिता, फ़कीरी, आज्ञापालन, स्थिरता एवं मस्तिष्क की नम्रता को उनके उस्ताद गौस शत्तारी द्वारा उजागर किया गया। सर्वप्रथम वह दिल्ली में स्थानांतरित हुए बाद में पानीपत पर उनकी अन्तिम मंजिल बिदाऊलि थी जहाँ उनका देहांत हुआ।

15. **शेख़ जुनैदः** लखनऊ के नजदीक स्थित मोहन, जो आज उत्तर प्रदेश का उन्नाव जिला है, वहाँ रहते थे। उन्होंने अपनी भक्ति एवं शारीआब से द्वितीय जुनैद कहलाए शेख़ जुनैद ने अपने खून-पसीने से अपने जीवन की जरुरते पूरी की किसी पर बोझ नहीं बने। वह जंगल से लकड़ी काटकर बेचा करते थे। इस तरह उसका फक्र कि वह अपनी अधि शेष कमाई दान में दे दिया करते थें। शेख़ जुनैद में अरबी भाषा में पैंगम्बर मोहम्मद और चिश्तिया पीरो की प्रशंसा में छन्दबद्ध संगीत का निर्माण किया। इसके साथ उन्होंने सैंकड़ों सूफियाना प्रबंधों का हिन्दी और फार्सी भाषा में भी छंदबद्ध संगीतात्मक रचनाएं प्रस्तुत की।

16. **शेख़ जुनैद मुफ्ती :** वह शेख़ बाहु-उद्-दीन कुरैशी आसदी हाशमी के पुंत्र थे। उनका सूफ़ी ज्ञान, मन से ईश्वर-भक्ति और उत्कृष्ट शिष्टाचार से घनिष्ठ सम्बन्ध था। वे मेहमान निवाजी में बहुत विश्वास रखते थे। उनकी उपेक्षा कर कभी भी स्वयं खाना नहीं खाते थे। वे जरूरतमंद लोगों की आवश्यकताओं को पूरी निष्ठा से पूर्ण करते थे। उनका 998/29 अप्रैल 1589 को देहांत हुआ।

17. **शेख़ कबीरः** शेख़ फ़रीद-बिन अब्दुल-अजीज बिन शेख़ हमीदु-द-दीन नागौरी के वंशज थे, जिनका जन्म 1396-7 ई में हुआ। वे बहिरंग एंव गूढ़ ज्ञान के संग्रह थे। उन्होंने किताब-आईदहन को शीर्षक के अन्तर्गत जा-हू मिसबह पर टिप्पणी लिखी। उनका देहांत 1458-9 ई गुजरात में हुआ।

18. **शेख़ मोहम्मद हाय बारहनासरः** का जन्म, परमात्मा के लिए तीव्र तड़प के जादू के अन्तर्गत अहमदबाद में हुआ। वह खुद शेख़ हबीब शत्तारी के आदेश से शत्तारिया सुफ़ियों के साथ जुड़े। इसके अतिरिक्त वह शेख़ मोहम्मद गोष शत्तारी के आदरजीद खलीफ़ओं में से एक थे।

19. **शेख़ मोहम्मद हसनः** वह शेख़ हसन ताहीर के बड़े पुंत्र थे। वह अपने पिता के

आदेशानुसार चिश्ति से जुड़े, वह मक्का में हज करने हेतु यमन में एक 'म्युदिरियां बने। शेख़ अब्दुल-हक के अनुसार- 'जब वह एकाग्रचित्त होकर परमात्मा की ओर ध्यान लगाते थे तब उन पर उस आध्यात्मिक शक्ति का प्रभाव इतना अधिक पड़ता था वह ज़ोर ज़ोर से चिल्लाते थे। 'अल्लाह महान है'' (तकबीर, जैसे वह स्वयं उसे बाहर आते देखते हों। उन्होंनें कहा कि वह वाहदत-अल-वूजूद के प्रबल समर्थक थे। उनकी मृत्यु 1537 ई में हुई और उन्हें दिल्ली में उनके पिता जी के मकबरे के पास दफनाया गया। वह अपने देहांत से कुछ समय पूर्व आगरा से दिल्ली आ गए थे।

20. **शेख़ मुहम्मद हुसैनी जीलानी उच्ची मखदूमः** खुरासान से मुल्तान में आकर बसने वाले शेख़ मुहम्मद हुसैनी बाद में उच्च शहर में बसे। आप घुमक्कड़ी रहे। आपका सम्बन्ध सैय्यद अब्दुल कादिर जीलानी से रहा है । आपके प्रयत्नों से ही उच्च में कादरिया सिलसिले की पहली खानकाह स्थापित हुई। 15 वी सदी के उतरार्द्ध में आप उच्च क्षेत्र के प्रसिद्ध सूफ़ी साधकों में स्थान रखते थे।

संदर्भ

1. मलफ़ज़ारे शाह मीना (यू), पृष्ठ 248
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3. हसन, तजकीरा (यू), पृष्ठ 226-7
4. गुलज़ारे अबरार (जैड), पृष्ठ 295
5. हसन, तजकीरा (यू) पृष्ठ 310
6. अकब रू-ए- अरवयार (यू), पृष्ठ 318
11. मा 'अरिजू-ए-विलायत (आर), एफ़ एफ. 426 बी-431 ए.
12. गुलजारें अबरार (जैड), पृष्ठ 358
13. अकबरू-ए-अखयार (यू) पृष्ठ 323.
14. गलुजारे अबरार (जैड), पृष्ठ 444
15. अकबरु-ए-अखयार (यू), पृष्ठ 402-13

रिसर्च असोसिष्ट

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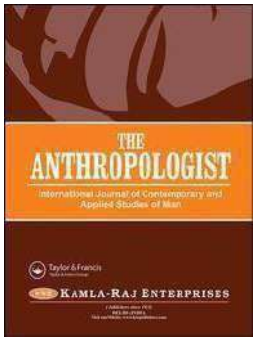

The Anthropologist

ISSN: 0972-0073 (Print) (Online) Journal homepage: http://www.tandfonline.com/loi/ranp20

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To cite this article: Manjula Uppal & Rupinder Kaur (2017) Assessment of Bone Mineral DensityUsing Calcaneal Ultrasound Bone Densitometer in College-Going Boys and Girls of District Gurdaspur, Punjab, The Anthropologist, 28:3, 166-172, DOI: 10.1080/09720073.2017.1335781

To link to this article: https://doi.org/10.1080/09720073.2017.1335781