J.N.L. College

Khagaul, Patna-801105

(A Constituent Unit of Patliputra University, Patna)

E-mail : jnl_college@yahoo.com | Website : www.jnlcollegekhagaul.org

Principal Office

Ref.No. 457/JNL/2024 Date. 21/6/2024

Declaration

This is to certify that the data includes in this self-study Report (SSR) are true to the best of my knowledge. This SSR is prepared by the institution after discussion and no part thereof has been outsourced.

I/We am/are aware that the peer team will validate the information provided in this SSR during the peer team visit.

20.6.24

Prof. (Dr.) Nikhil Kumar Singh
IQAC Director
J.N.L. College, Khagaul,
Patna

IQAC Director
J.N.L. COLLEGE
KHAGAUL, PATNA 801105

20/6/24

20.06.2024

Prof. (Dr.) Madhu Prabha Singh
Principal
J.N.L. College, Khagaul,
Patna

Principal
J N.L. College
Khagaul, Patna

ISSN - 2231 - 3837 www.ijscjournal.com Journal Impact Factor No. - 6.419
RNI - UPBIL/2011/38102

This International Peer Reviewed & Refereed Journal is available in Print as well as Online

Indian Journal of Social Concerns

इण्डियन जर्नल ऑफ सोशल कन्सर्न्स

A RESEARCH JOURNAL OF HUMANITIES AND SOCIAL SCIENCES

(An International Peer Reviewed & Refereed Journal)

Volume - 11 Issue - 45 Jan. - Mar. 2022 Gaziabad

(A RESEARCH JOURNAL OF HUMANITIES AND SOCIAL SCIENCES)

RNI-UPBIL/2011/38102, ISSN-2231-5837)
JOURNAL IMPACT FACTOR NO. 6.419

अनुक्रमणिका

Journal of Cardiovascular Disease Research

ISSN: 0975-3583,0976-2833 VOL 14, ISSUE 07, 2023

Screening and discovery of novel carbamate compounds for cancer therapy

Dr. Lavanya Yaldikar[1], Pydiraju Kondrapu[2], Astha Mishra[3], Pramod Bhaskar Kumar[4], Dr. Arshad Ahmad[5], Dr. Shalma K A[6], Dr. Chamaraja N A[7], Dr. Shubhangi Tripathi[8]*

[1] *Professor, Seven Hills College of Pharmacy, Tirupati-517561, Andhra Pradesh*
[2] *Assistant Professor, Aditya pharmacy college, Surampalem, ADB road, kakinada district, A.P. 533437*
[3] *Assistant Professor, Sagar institute of technology and management department of pharmacy*
[4] *Associate Professor, Shree Devi College of Pharmacy, (RGUHS, Karnataka), Airport road,Kenjar,Mangalore,DK 574142,Karnataka*
[5] *Professor, NGI College of Pharmacy, Modipuram Meerut UP- 250110*
[6] *Associate Professor, Shambhunath Institute of Pharmacy, Jhalwa, Prayagraj, Uttar Pradesh 211012*
[7] *Assistant Professor, Department of Chemistry, JSS Academy of Technical Education (Affiliated to Visvesvaraya Technological University, Belagavi), Dr.Vishnuvardhan Road, Bengaluru 560 060, India*
[8] *Assistant Professor, J. N. L. College, Khagaul, Patna 801105, Patliputra University, Patna*

***Corresponding Author Details:Dr. Shubhangi Tripathi**

drshubhangitripathi@gmail.com

ABSTRACT

A 33 KDa serine hydrolase enzyme known as monoacylglycerol lipase is associated with a number of physiological processes in people, including pain, inflammation, and neurodegenerative diseases. The enzyme has been discovered to be associated with the endocannabinoid lipid signalling network system and has been found to be present in both the central and peripheral nervous systems. Enzyme support the growth of cancer and tumour cells by acting as a source of free fatty acids. It has been noted that the enzyme's activity is elevated in dividing and expanding cells in a number of cancer types. The signalling molecules phosphotidic acid, lysophosphatidic acid, sphingosine phosphate, and prostaglandin E2 are found to be free fatty acid-derived and have been linked to the proliferation, migration, and survival of cancer cells. They also rise as a result of enzyme activity. In the current work, we have carried out the identification task and screening investigation for the newly developed carbamate derivatives as anti-cancer moieties using docking and other computational tools.

Keywords: Enzyme, Inhibitors, Monoacylglycerol, Lipase, Cancer, Inflammation.

Introduction

The Monoacylglycerol Lipase (MACL), a membrane-bound serine hydrolase (Castelli et al., 2020; Jiang & Van Der Stelt, 2018; Malamas et al., 2020; L. Zhang et al., 2019) prevalent in peripheral organs such as the liver, kidney, testis, lungs, prostate, and small intestine as well as the central nervous system, is crucial to the endocannabinoid system (Dato et al., 2020). The endocannabinoid system (eCB) is a lipid signalling network that has been discovered to be present in both the central and peripheral nervous systems (Z. Chen, Mori, Fu, et al., 2019;

Journal of Cardiovascular Disease Research

ISSN: 0975-3583,0976-2833 VOL 14, ISSUE 07, 2023

A Concise Review of Natural Derivatives for Breast Cancer Treatments

Jhakeshwar Prasad[1], Tushar Arun Rode[2], Dr. Pradeep C. Dave[3], Rashmi[4], Talquees Ahmad[5], Pydiraju Kondrapu[6], Rajeev Ranjan[7], Ms Ishwari R Chaudhari[8], Dr. Shubhangi Tripathi[9]*

[1]Assistant Professor, Shri Shankaracharya College of Pharmaceutical Sciences, Junwani - 490020, Bhilai, Chhattisgarh, India

[2]Assistant Professor, P. W. College of Pharmacy, Moha Phata, Dhamangaon road, Yavatmal. (MS) 445001.

[3]Associate Professor and Head, Department of Biochemistry, Bharati Vidyapeeth ((Deemed to be University) Dental college and Hospital, Sec-7, C. B. D Belpada, Opp. Kharghar ((Station), Navi Mumbai -400614

[4]Assistant Professor, Shri Shankaracharya College of Pharmaceutical Sciences, Junwani - 490020, Bhilai, Chhattisgarh, India

[5]Assistant Professor, Mesco Institute of Pharmacy, Amroha

[6]Assistant Professor, Aditya Pharmacy College, Surampalem, India

[7]Assistant Professor, Univ. Department of Chemistry, DSPM University, Ranchi-834008

[8]Assistant Professor, Pataldhamal wadhwani college of Pharmacy, Moha Phata yavatmal/SGBAU Amravati University, Pin code 445001

[9]Assistant Professor, J. N. L. College, Khagaul, Patna 801105, Patliputra University, Patna

***Corresponding Author Details:Dr. Shubhangi Tripathi,**
drshubhangitripathi@gmail.com

ABSTRACT:

Introduction: Cancer kills most of the people. Breast cancer will have the highest cases in 2020. Geography, genetics, hormones, oral contraceptives, and lifestyle may cause breast cancer, which may be treated in many ways. Radiation, chemotherapy, hormone treatment, and immunotherapy for breast cancer. Due to non-selectivity, multidrug resistance, and bioavailability, standard breast cancer treatments need to be enhanced. **Aim:** This review's main goal is to provide information about effective natural cancer treatments. **Method:** All the data were collected from published paper which are indexing in SCOPUS, Web of Science and UGC. **Result and Conclusion:** In recent decades, efforts have been made to find anticancer drugs based on phytochemicals. In order to better understand phytochemicals as possible medications and reliable research subjects, the authors wish to expand the field of inquiry. Therefore, understanding of anticancer phytochemicals is stressed for the treatment of breast cancer.

KEYWORD: *Phytochemicals, anticancer, preclinical, clinical, medicinal plants, breast cancer.*

Tetrahedron Letters 58 (2017) 3814–3819

Contents lists available at ScienceDirect

Tetrahedron Letters

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

Visible light triggered regioselective ring expansion of *N*-tosylaziridines: An efficient approach to 2-nitroazetidines

Ritu Kapoor, Shubhangi Tripathi, Sachchida N. Singh, Twinkle Keshari, Lal Dhar S. Yadav *

Green Synthesis Lab, Department of Chemistry, University of Allahabad, Allahabad 211002, India

ARTICLE INFO

Article history:
Received 24 July 2017
Revised 9 August 2017
Accepted 17 August 2017
Available online 18 August 2017

Keywords:
Visible light
N-Tosylaziridines
Bromonitroalkanes
2-Nitroazetidines
Photoredox catalysis
Ring expansion

ABSTRACT

Visible light induced ring expansion of *N*-tosylaziridines with 1-bromo-1-nitroalkanes to afford 2-nitroazetdines in moderate to excellent yields with high regio- and diastereoselectivity is reported. The salient features of the protocol include the first synthesis of 2-nitroazetidines, operational simplicity, utilization of clean, inexpensive and sustainable resources like visible light and atmospheric oxygen under photoredox catalysis at room temperature in one-pot procedure.

Introduction

Nature's ability to utilize solar energy (visible light) in the photosynthesis has inspired a flurry of activity in visible light activated synthetically useful catalytic organic transformations.[1–4] Visible light is easy to handle and unending clean natural energy source having great prospects for designing and realizing sustainable protocols for organic synthesis.[5] Basically, the success of this strategy relies on the pioneering work of the groups of MacMillan,[1] Yoon[2] and Stephenson,[3] who efficiently employed $Ru(bpy)_3Cl_2$ (bpy = 2,2'-bipyridine) and $Ir(dtbbpy)_3Cl_3$ as photoredox catalysts.

Advantageously, visible light photoredox catalysis has offered a new route to utilize atmospheric oxygen in organic synthesis. Mostly, atmospheric oxygen acts as an oxidant to regenerate photocatalysts from their radical anion to complete the catalytic cycle with concomitant formation of the superoxide radical ($O_2^{\bullet-}$), which has also been utilized in situ for oxidative functionalizations in organic synthesis.[4e,f,h,3c,5]

In organic synthesis, azetidines are targeted due to their interesting chemical properties and biological importance.[6–10] The azetidine ring system features in many medicinal molecules some of which are remarkably effective against influenza-A, H2N2 virus[11] and have anti-HIV-I and HSV-2 potential.[12] The inherent strain associated with the azetidine ring leads to difficulties in its formation, functionalizations and modifications, but is it beneficial for its synthetically useful ring opening reactions. Thus, several functionalized azetidines act as masked 1,4-dipoles in the synthesis of five- and six-membered aza-heterocycles.[13]

The literature records numerous reports on the synthesis of substituted azetidines either directly or indirectly,[14–18] but the synthesis of *C*-nitroazetidines has been scarcely undertaken although they attract special interest because of their nitro group, which can serve as precursor to functional groups such as oximes, hydroxylamines, amines and ketones (Nef reaction). Brandi and coworkers have published an excellent review covering the synthesis of azetidines including the important synthetic approaches to azetidines involving ring expansion of aziridines.[19] Recently, Xia and co-workers have reported highly regioselective nucleophilic ring opening of aziridines under visible light photoredox catalysis (Scheme 1a).[20]

In view of the above discussion and our recent research focused on the development of new synthetic methods employing visible light photoredox catalysis,[21] we envisioned that visible light mediated activation of aziridines would facilitate their regioselective nucleophilic ring opening and closing with 1-bromo-1-nitroalkanes to afford nitroazetidines under mild conditions (Scheme 1b).

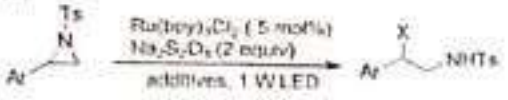
To realize the envisioned ring opening and cyclization reaction, the key reaction of *N*-tasylaziridine **1a** (1.0 mmol) with 1-bromo-1-nitroalkane **2a** (1.0 mmol) in acetonitrile (3 mL) in the presence of a base Cs_2CO_3 (2 equiv) and a catalytic amount of $[Ru(bpy)_3]Cl_2$ (2 mol%) was performed. The reaction mixture was irradiated with

* Corresponding author.
E-mail address: ldsyadav@hotmail.com (L.D.S. Yadav).

http://dx.doi.org/10.1016/j.tetlet.2017.08.042
0040-4039/

Previous work

(a)



Present work

(b)

Scheme 1. (a) Visible light promoted ring opening, and (b) ring expansion of aziridines.

visible light (blue light emitting diode (LED), λ = 447.5 nm) for 18 h at room temperature in an air atmosphere.

We were delighted to get the ring-expanded product 2-nitroazetidine **3a** in an excellent yield of 89% and complete regioselectivity (Table 1, entry 1) and high diastereoselectivity (*E*/*Z* ratio 91:9 as determined by ^{1}H NMR spectroscopy of the crude isolate). The ring expansion of **1a** under visible light photoredox catalysis afforded only the regioisomer derived from opening of the aziridine ring at the benzylic carbon. Then, the control experiments were performed, which show that a base, photocatalyst, air (O_2) and light all are essential for the reaction, because in the absence of any of the reagents/reaction parameters the product was not detected/formed in traces (Table 1, entries 2, 3, 13 and 14). It was noted that the same result was obtained on using O_2 balloon instead of an air atmosphere (Table 1, entry 1 vs 4). The inorganic bases like Na_2CO_3, K_2CO_3 and Cs_2CO_3 were more effective in terms of the yield and reaction time in comparison to organic bases such as DABCO and DBU (Table 1, entries 1, 5 and 6 vs 7 and 8). This is probably because of the involvement of amine bases in photoredox cycle of the catalyst $[Ru(bpy)_3]Cl_2$, which results in a considerable decrease in the yield. The optimum catalyst loading delivering the maximum yield in the shortest reaction time was 2 mol%. On decreasing the amount of photocatalyst from 2 mol% to 1 mol%, the yield was significantly reduced (Table 1, entry 1 vs 12), whereas there was no enhancement in the yield on increasing the catalyst loading from 2 mol% to 3 mol% (Table 1, entry 1 vs 11).

Next, we optimized the reaction for an effective solvent and CH_3CN was found to be the best among tested solvents THF, DMF and CH_3CN, hence it was used throughout the present study (Table 1, entry 1 vs 9 and 10). Notably the reaction was quenched with 2,2,6,6-tetramethylmethylpiperidyl-1-oxyl (TEMPO) (2 mol %), which indicates that a radical intermediate may be involved in the reaction (Table 1, entry 15).

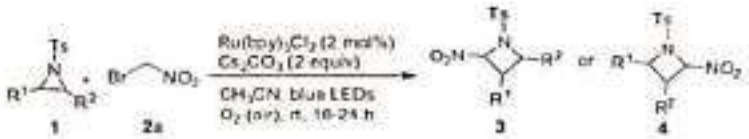
Under the optimized reaction conditions, we examined the generality and scope of the present ring expansion reaction across a range of *N*-tosylaziridines **1** incorporating various substituents like Cl, Br, NO_2, F, Me and MeO, which are well tolerated under the present reaction conditions. The reaction worked well in all cases and afforded *N*-tosylazetidines **3** in moderate to excellent yields with complete regioselectivity and high diastereoselectivity (Table 2). The diastereomeric E:Z ratios in crude isolates were determined by ^{1}H NMR spectroscopy. On subsequent purification by silica gel column chromatography, pure sample of the major diastereomer (*E*) was obtained (Table 2). 2-Arylaziridines bearing an electron-donating group appear to react faster and afford slightly higher yields in comparison to those bearing an electron-withdrawing group (Table 2, entries 8 and 9 vs 1–6). Unsubstituted, alkyl, or fused ring aziridines (Table 2, entries 10–15) are also suitable

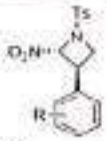
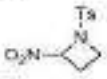
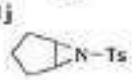
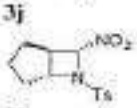
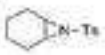
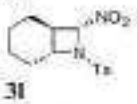
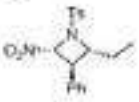
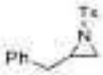
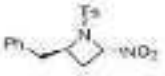
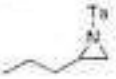
Table 1
Optimization of reaction conditions[a]

Entry	Photocatalyst (mol%)	Base (2 equiv)	Air	Solvent	Time (h)	Yield[b] (%)
1	$Ru(bpy)_3Cl_2$ (2)	Cs_2CO_3	+	CH_3CN	18	89
2	$Ru(bpy)_3Cl_2$ (2)	–	+	CH_3CN	18	Traces
3	–	Cs_2CO_3	+	CH_3CN	24	n.d.[c]
4	$Ru(bpy)_3Cl_2$ (2)	Cs_2CO_3	O_2	CH_3CN	18	85[d]
5	$Ru(bpy)_3Cl_2$ (2)	Na_2CO_3	+	CH_3CN	18	76
6	$Ru(bpy)_3Cl_2$ (2)	K_2CO_3	+	CH_3CN	18	82
7	$Ru(bpy)_3Cl_2$ (2)	DABCO	+	CH_3CN	24	53
8	$Ru(bpy)_3Cl_2$ (2)	DBU	+	CH_3CN	24	66
9	$Ru(bpy)_3Cl_2$ (2)	Cs_2CO_3	+	THF	20	33
10	$Ru(bpy)_3Cl_2$ (2)	Cs_2CO_3	+	DMF	20	71
11	$Ru(bpy)_3Cl_2$ (3)	Cs_2CO_3	+	CH_3CN	18	86
12	$Ru(bpy)_3Cl_2$ (1)	Cs_2CO_3	+	CH_3CN	24	57
13	$Ru(bpy)_3Cl_2$ (2)	Cs_2CO_3	N_2	CH_3CN	18	Traces
14	$Ru(bpy)_3Cl_2$ (2)	Cs_2CO_3	+	CH_3CN	24	Traces[e]
15	$Ru(bpy)_3Cl_2$ (2)	Cs_2CO_3	+	CH_3CN	18	Traces[f]

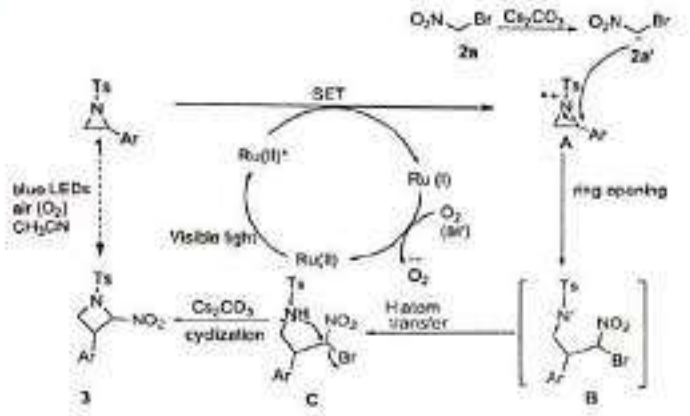
[a] Reaction conditions: *N*-tosylaziridine **1a** (1.0 mmol), halonitromethane **2a** (1.0 mmol), $Ru(bpy)_3Cl_2$ (2 mol%), base (2 equiv), solvent (3 mL), open to air (without bubbling air) irradiation at rt through the flask's bottom side using Luxeon Rebel high power blue LEDs (4.45 W, λ_{max} = 447.5 nm).
[b] Isolated yield of pure product **3a**.
[c] Reaction was carried out without catalyst; n.d. = not detected.
[d] O_2 balloon was used.
[e] Reaction was performed in the dark.
[f] Reaction was quenched with TEMPO (2 mol%).

Table 2
Substrate scope for ring expansion of azridines[a]



Entry	Substrate	Product	Time (h)	Yield[b] (%)	E/Z
					
1	1a, R = H	3a	18	89	91:9
2	1b, R = 2-Cl	3b	22	78	96:4
3	1c, R = 4-Cl	3c	22	85	94:6
4	1d, R = 3-Cl	3d	22	87	95:5
5	1e, R = 4-Br	3e	22	86	94:6
6	1f, R = 4-NO_2	3f	24	71	95:5
7	1g, R = 4-F	3g	24	74	92:8
8	1h, R = 4-Me	3h	18	92	93:7
9	1i, R = 4-OMe	3i	18	94	94:6
10	 1j	 3j	18	86	–
11	 1k	 3k	18	88	93:7[c]
12	 1l	 3l	18	84	92:8[c]
13	 1m	 3m	18	81	93:7[c]
14	 1n	 4n	20	83	95:5
15	 1o	 4o	20	85	93:7
16	 1p	 3p	22	53	96:4[c]

[a] For experimental procedure, see Ref. 22.
[b] Yields of isolated pure major diastereomer (E).
[c] As determined by ^1H NMR spectroscopy of the crude isolates.
[d] E:Z:E ratio.
[e] 1-Bromo-1-nitroethane (2b) was used instead of 2a.



Scheme 2. Plausible mechanism for the formation of 2-nitroazetidines.

substrates for the present protocol as they afford 81–88% yields of a single regioisomer with high diastereoselectivity. Moreover, when 1-bromo-1-nitroethane (**2b**) was used instead of bromonitromethane (**2a**), the yield was significantly decreased (Table 2, entry 1 vs 16). This is probably because of relatively larger size of **2b** than **2a**, which causes steric hindrance in both the nucleophilic ring opening and ring closing steps. The reaction of 2-arylaziridines **1** with 1-bromo-1-nitroalkanes **2** afforded 2-nitroazetidines **3** with complete regioselectivity *via* nucleophilic attack at the benzylic carbon. This is easily understandable in the light of a greater carbocationic character due to resonance effect at the benzylic carbon in the radical cation **A** (Scheme 2), that is, here the electronic factor overrides the steric factor. On the other hand, in the case of 2-alkylaziridines, complete regioselectivity of nucleophilic attack at the less hindered carbon of the aziridine ring was observed to afford 2-nitroazetidines **4**, that is, here the steric factor dominates.

Based upon our observations and literature reports,[6b,20,21] a plausible mechanism is depicted in Scheme 2. On irradiation with visible light Ru(II) undergoes excitation to Ru(II)* followed by single electron transfer (SET) with aziridine **1** to render the radical cation **A** and Ru (I). The photoredox cycle is completed by the oxidation of Ru(I) to Ru(II) with atmospheric oxygen. The formation of superoxide radical anion ($O_2^{\bullet-}$) was confirmed by a test with KI/starch indicator.[22] Nucleophilic ring opening of the radical cation A with the anion **2a'** leads to amine intermediate B, which undergoes hydrogen atom transfer and subsequent 4-*exo*-tet annulation to give the desired product **3** (Scheme 2).

In conclusion, we have developed a convenient, efficient and highly diastereoselective synthesis of 2-nitroazetidines by a complete regioselective ring expansion of *N*-tosylaziridines with 1-bromo-1-nitroalkanes under visible light photoredox catalysis with Ru(II) and an air atmosphere. This is the first synthesis of 2-nitroazetidines. Advantageously, the protocol utilizes green and sustainable natural resources like visible light and atmospheric oxygen at room temperature in a one-pot procedure.

Acknowledgments

We sincerely thank SAIF, Punjab University, Chandigarh, for providing microanalyses and spectra. R. Kapoor is grateful to the DST-SERB, New Delhi, for the award of a Start-Up-Grant project (Ref no. CS-271/2014) and financial assistance.

References

1. (a) Noble A, MacMillan DWC. *J Am Chem Soc*. 2014;136:11602;
(b) Tarnett JA, Cheng MJ, MacMillan DWC. *J Am Chem Soc*. 2014;136:6858;
(c) Pirnot MT, Rankic DA, Martin DBC, MacMillan DWC. *Science*. 2013;339:1593;
(d) Nagib DA, Scott ME, MacMillan DWC. *J Am Chem Soc*. 2009;131:10875;
(e) Nicewicz DA, MacMillan DWC. *Science*. 2008;322:77.
2. (a) Du J, Yoon TP. *J Am Chem Soc*. 2009;131:14604;
(b) Ischay MA, Anzovino ME, Du J, Yoon TP. *J Am Chem Soc*. 2008;130:12886.
3. (a) Koniarczyk MB, Dai C, Stephenson CRJ. *Org Biomol Chem*. 2012;10:4509;
(b) Dai C, Narayanam JMR, Stephenson CRJ. *Nat Chem*. 2011;3:140;
(c) Condie AG, González-Gómez JC, Stephenson CRJ. *J Am Chem Soc*. 2010;132:1464;
(d) Tucker JW, Narayanam JMR, Krabbe SW, Stephenson CRJ. *Org Lett*. 2010;12:368;
(e) Narayanam JMR, Tucker JW, Stephenson CRJ. *J Am Chem Soc*. 2009;131:8756.
4. (a) Hong B-C, Kotame P, Tsai C-W, Liao J-H. *Org Lett*. 2010;12:776;
(b) Zhou J. *Chem Asian J*. 2010;5:422;
(c) Zhong C, Shi X. *Eur J Org Chem*. 2010;25:2999;
(d) Ishikawa H, Suzuki T, Hayashi Y. *Angew Chem Int Ed*. 2009;48:1304;
(e) Jakubec P, Cockfield DM, Dixon DJ. *J Am Chem Soc*. 2009;131:16632.
5. (a) Cumming G. *Science*. 1912;36:385;
(b) Sala X, Romero I, Rodriguez M, Escriche L, Llobet A. *Angew Chem Int Ed*. 2009;48:2842.
6. (a) For seven papers on visible-light-photoredox catalysis, see: Huo H, Wang C, Harms K, Meggers E. *J Am Chem Soc*. 2015;137:9551;
(b) Yadav AR, Yadav LDS. *Tetrahedron Lett*. 2015;56:686;
(c) Hou H, Zhu S, Pan F, Rueping M. *Org Lett*. 2014;16:2872;
(d) Kim H, Kim T, Lee DG, Roh SW, Lee C. *Chem Commun*. 2014;9273;
(e) Cui L, Jia C, Liu J, Dinga H, Fan B. *Chem Commun*. 2014;4643;
(f) Keshari T, Yadav VK, Srivastava VP, Yadav LDS. *Green Chem*. 2014;16:3868;
(g) Srivastava VP, Yadav AK, Yadav LDS. *Tetrahedron Lett*. 2014;55:1788;
(h) Yadav AK, Srivastava VP, Yadav LDS. *RSC Adv*. 2014;4:24498;
(i) Xiea J, Jina H, Xua P, Zhu C. *Tetrahedron Lett*. 2014;55:36;
(j) Nicewicz DA, Nguen TM. *ACS Catal*. 2014;4:355;
(k) Reckenthäler M, Griesbeck AG. *Adv Synth Catal*. 2013;355:2727;
(l) Hu J, Wang J, Nguyen TH, Zheng N. *Beilstein J Org Chem*. 2013;9:1977;
(m) Tucker JW, Stephenson CRJ. *J Org Chem*. 2012;77:1617;
(n) Maity S, Zheng N. *Synlett*. 2012;1851.
7. Zou Y-Q, Chen J-R, Liu X-P, et al. *Angew Chem Int Ed*. 2012;51:784.
8. (a) Testa R, Wittigens A, Maffii G, Bianchi G. Research Progress. In: Gallo U, Santamaria L, eds. *Organic, Biological and Medicinal Chemistry*, Vol. 1. Amsterdam: North-Holl and Publishing Co.; 1964:477;
(b) Okutani T, Kaneko T, Masuda K. *Chem Pharm Bull*. 1974;22:1460;
(c) Kobayashi J, Cheng J, Ishibashi M, Walchli MP, Yamamura S, Ohizumi Y. *J Chem Soc, Perkin Trans 1*. 1991;1135;
(d) Frigola J, Torrens A, Castrillo JA, et al. *J Med Chem*. 1994;37:4195.
9. (a) Cromwell NH, Phillips B. *Chem Rev*. 1979;79:331;
(b) Moore JA, Ayers RS. In: Hassner A, ed. *Small Ring Heterocycles*. New York: Wiley; 1983:1. Part 2;
(c) Davies DE, Starr JC. In: Lwowski W, ed. *Comprehensive Heterocyclic Chemistry*, Vol. 7. Oxford: Pergamon; 1984:237.
10. (a) Evans GB, Furneaux RH, Greatrex B, Murkin AS, Schramm VL, Tyler PC. *J Med Chem*. 2008;51:948;
(b) Honcharenko D, Barman J, Varghese OP, Chattopadhyaya J. *Biochemistry*. 2007;46:5635;
(c) Slade J, Bajwa J, Liu H, et al. *Org Process Res Dev*. 2007;11:825.
11. Zoidis G, Fytas C, Papanastasiou I, et al. *Bioorg Med Chem*. 2006;14:3341.
12. Nishiyama S, Kikuchi Y, Kurata H, et al. *Bioorg Med Chem Lett*. 1995;5:2273.
13. (a) Ungureanu I, Klotz P, Schoenfelder A, Mann A. *Chem Commun*. 2001;958;
(b) Ungureanu I, Klotz P, Schoenfelder A, Mann A. *Tetrahedron Lett*. 2001;42:6087;
(c) Prasad BAB, Bisai A, Singh VK. *Org Lett*. 2004;6:4829;
(d) Yadav VK, Sriramurthy V. *J Am Chem Soc*. 2005;127:16366.
14. Varlamov AV, Suborenko NV, Zubkov FI, Chernyshev AI. *Chem Heterocycl Compd*. 2004;40:1097.
15. Boon GHP, Donovan AR. *Tetrahedron Asymmetry*. 1999;10:591.
16. (a) Aelterman W, De Kimpe N. *J Org Chem*. 1998;63:6;
(b) Barluenga J, Tomas M, Ballesteros A, Kong J-S. *Tetrahedron*. 1996;52:3085.
17. Bai A, Yadav LDS. *Org Biomol Chem*. 2011;9:3058.
18. Malik S, Nadir UK. *Synlett*. 2008;108.
19. Brandi A, Cicchi S, Cordero FM. *Chem Rev*. 2008;108:3988.
20. Sun H, Yang C, Liu R, Xia W. *Adv Synth Catal*. 2014;356:2775.
21. (a) Yadav AR, Yadav LDS. *Tetrahedron Lett*. 2017;58:552;
(b) Singh M, Yadav AK, Yadav LDS. *Tetrahedron Lett*. 2017;58:2206;
(c) Yadav AR, Yadav LDS. *Chem Commun*. 2016;52:10621;
(d) Yadav AK, Yadav LDS. *Green Chem*. 2016;18:4240;
(e) Yadav AR, Yadav LDS. *Green Chem*. 2015;17:3515;
(f) Yadav AK, Yadav LDS. *Tetrahedron Lett*. 2015;56:6696;
(g) Kapoor R, Tripathi S, Singh SN, Yadav LDS. *Synlett*. 2015;26:1201.
22. *General procedure for the synthesis of 2-nitroazetidines* **3** *or* **4**: A mixture of *N*-tosylazinidine **1** (1.0 mmol), 1-bromo-1-nitroalkane (**2**, 1.0 mmol) (1.0 mmol), $Ru(bpy)_3Cl_2$ (2 mol%), Cs_2CO_3 (2 equiv) and acetonitrile (3 mL) was stirred at rt in open air (without bubbling air) under irradiation with blue LEDs (4.45w, λ_{max} = 447.5 nm) for 18–24 h (Table 1). After completion of the reaction (monitored by TLC), water 5 mL was added and the mixture was extracted with ethyl acetate (3 × 5 mL). The combined organic phase was dried over anhydrous Na_2SO_4, filtered and evaporated under reduced pressure. The resulting crude product was purified by silica gel chromatography using a

mixture of hexane/ethyl acetate (4:1) as eluent to afford an analytically pure sample of product **3** or **4**. Characterization data of representative compounds **3** and **4** are given below: Compound **3a**. ^{1}H NMR (300 MHz, $CDCl_3$) δ: 7.77 (d, J = 8.2 Hz, $2H_{arom}$), 7.44 (d, J = 8.2 Hz, $2H_{arom}$), 7.35–7.25 (m, $5H_{arom}$), 6.30 (d, J = 6.7 Hz, 1H, $CHNO_2$), 3.90 (dd, J = 7.9, 6.5 Hz, 1H, NCH_2), 3.75 (dd, J = 7.9, 6.3 Hz, 1H, NCH_2) 3.61 (m, 1H, PhC*H*), 2.39 (s, 3H). ^{13}C NMR (75 MHz, $CDCl_3$) δ: 148.3, 137.7, 136.7, 129.4, 128.5, 128.4, 126.3, 125.8, 106.9, 47.5, 31.2, 21.4. HRMS (EI): cacld for $C_{18}H_{19}N_3O_4S$: 372.0831, found 332.0828. Compound **3h**. ^{1}H NMR (300 MHz, $CDCl_3$) δ: 7.76 (d, J = 8.2 Hz, $2H_{arom}$), 7.42 (d, J = 8.2 Hz, $2H_{arom}$) 7.20–7.15 (m, $4H_{arom}$), 6.27 (d, J = 6.7 Hz, 1H, $CHNO_2$), 3.97 (dd, J = 7.9, 6.5 Hz, 1H, NCH_2), 3.72 (dd, J = 7.9, 6.3 Hz, 1H, NCH_2), 3.52 (m, 1H, ArC*H*), 2.38 (s, 3H), 2.32 (s, 3H). ^{13}C NMR (75 MHz, $CDCl_3$) δ: 145.6, 137.7, 136.8, 135.7, 129.4, 128.8, 128.3, 126.1, 107.0, 47.5, 31.2, 21.4, 21.2. HRMS (EI): cacld for $C_{19}H_{21}N_3O_4S$: 346.0987, found 346.0991. Compound **4h**. ^{1}H NMR (300 MHz, $CDCl_3$) δ: 7.74 (d, J = 8.2 Hz, $2H_{arom}$), 7.42 (d, J = 8.2 Hz, $2H_{arom}$), 7.38–7.26 (m, $5H_{arom}$), 5.76 (dd, J = 7.8, 3.9 Hz, 1H, $CHNO_2$), 3.91 (m, 1H, CH_2-C*H*-CH_2), 2.61–2.85 (m, 4H, 2 × CH_2), 2.38 (s, 3H). ^{13}C NMR (75 MHz, $CDCl_3$) δ: 138.8, 137.7, 136.8, 129.3, 128.5, 128.3, 128.1, 126.0, 98.5, 53.6, 40.0, 23.6, 21.4. HRMS (EI): cacld for $C_{19}H_{21}N_3O_4S$: 346.0987, found: 346.0984

23. Sun H, Huang B, Liu R, Yang C, Xu W. Beilstein J Org. 2015;11:524.
24. Fekarurhobo GK, Angaye SS, Obuotuam NG. J Emerg Trends Appl Sci. 2011;4:394.

DOI: 10.1002/adsc.201701559
Advanced Synthesis & Catalysis

Visible Light Activated Radical Denitrative Benzoylation of β-Nitrostyrenes: A Photocatalytic Approach to Chalcones

Shubhangi Tripathi,[a] Ritu Kapoor,[a] and Lal Dhar S. Yadav[a,*]

[a] Green Synthesis Lab, Department of Chemistry, University of Allahabad, Allahabad 211002, India
Fax: (+91)532-246-0533
Tel: (+91)532-250-0652
E-mail: ldsyadav@hotmail.com

Received: December 11, 2017; Revised: December 30, 2017; Published online: February 16, 2018

Supporting information for this article is available on the WWW under https://doi.org/10.1002/adsc.201701559

Abstract: A metal-free, convenient photocatalytic approach to chalcones from β-nitrostyrenes and benzaldehydes via a radical denitrative benzoylation pathway is reported. The salient features of the protocol include the utilization of visible light as an inexpensive and ecosustainable energy source, *N*-hydroxyphthalimide (NHPI) as a tenable organo-photocatalyst and acetonitrile as an acceptable green solvent to afford chalcones in excellent yields at room temperature in a one-pot procedure. Notably, this is the first application of β-nitrostyrenes as readily available substrates for chalcone synthesis and the first example of photocatalysis in this field.

Keywords: C–C bond formation; organic catalysis; photochemistry; radicals; synthetic methods; visible light

Chalcones constitute a privileged family of compounds in the perspectives of medicinal and synthetic chemistry. They exhibit various useful biological activities such as analgesic, anti-viral, anti-inflammatory, anti-ulcerative, anti-fungal, anti-malarial, anti-bacterial and anticancer activities.[1] Some chalcone-based drugs are in clinical use, for example, metochalcone, a choleretic drug and sofalcone as an antiulcer and mucoprotective drug (Figure 1). Chalcones incorporate a very good synthon, which renders them valuable intermediates for the synthesis of flavonoids,[2] flavones[3] and a diverse range of heterocycles namely, thiazine, oxazine, isoxazole, pyrazole, diazepine, pyridine and pyrimidine.[4]

Owing to their tremendous chemical and biological importance, chalcones have been extensively studied, which is evident from the appearance of numerous reviews[5] thoroughly covering their synthesis, applications and biological significances from various angles. Traditionally, acid/bases catalysed homogeneous and heterogeneous Claisen-Schmidt condensation was used for the practical synthesis of chalcones.[6] However, drawbacks of non-appositeness for the substrate bearing acid/base sensitive groups, slow reaction rate and very often generation of complex mixture during the condensation reaction, led to the development of many superior alternative methods for the synthesis of chalcones. In this context, different catalytic systems such as organolithium compounds,[7] modified phosphates,[8] zinc oxide,[9] KF-Al_2O_3,[10] phase transfer catalysts,[11] hydrotalcites and zeolites[12] have been employed for the synthesis of chalcones. Again, these processes suffer from the impediment of difficult catalyst recovery and purification of the desired products.

To overcome the difficulty associated with the foregoing routes, highly efficient, pioneering and

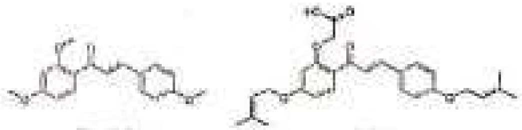


Figure 1. Chalcone-based drugs in clinical use.

celebrated cross coupling methodologies such as Suzuki,[13] Heck[14] and Julia-Kocienski[15] cross couplings have been recently used for the synthesis of chalcones (Scheme 1a). Though these metal-catalysed couplings are very effective for chalcone synthesis, most of them are very expensive and hazardous to the environment. Thus the development of a metal-free, environmentally benign, cost effective and sustainable

NJC

PAPER

View Article Online
View Journal | View Issue

Check for updates

Cite this: New J. Chem., 2018, 42, 3765

Visible-light-enabled denitrative carboxylation of β-nitrostyrenes: a direct photocatalytic approach to cinnamic acids†

Shubhangi Tripathi and Lal Dhar S. Yadav *

Received 23rd November 2017, Accepted 25th January 2018

DOI: 10.1039/c7nj04570f

rsc.li/njc

The first workable application of β-nitrostyrenes and CBr_4 as coupling partners for a highly stereoselective synthesis of (E)-cinnamic acids under visible light photoredox catalysis is reported. The reaction involves a radical denitrative tribromomethylation/hydrolysis cascade to afford (E)-cinnamic acids in excellent yields at room temperature in a one-pot procedure. Moreover, the implementation of visible light as a clean and inexpensive energy source and CBr_4 as the latent source of carboxylic groups makes the protocol reconcilable with the present day scenario of organic synthesis.

Introduction

Cinnamic acids are ubiquitous in green plants and constitute a privileged family of organic acids that are key features of various compounds possessing antifungal,[1] antimicrobial,[2] antioxidant,[3] antitumor,[4] antimycobacterial,[5] anticancer,[6] antimalarial[7] and antiatherogenic[8] activities. The ability of cinnamic acids to alter the potency, permeability and solubility parameters of a selected drug makes them valuable scaffolds from a medicinal standpoint.[9] In addition, substituted cinnamic acids also have a wide range of applications as antiallergic agents,[10] as corrosion inhibitors,[11] in veterinary preparations,[12] in topical formulations,[13] in the synthesis of macromolecules[14] and flavouring agents, in perfume production,[6] and in pharmaceuticals and medicines (viz. ozagrel,[15a] a thromboxane A2 synthase inhibitor; piplartine,[15b] an anticancer drug and cinromide,[15c] an antiepileptic drug) (Fig. 1). Immensely important compounds such as substituted styrenes,[15,16,17] stilbenes, cinnamic esters and cinnamic amides have also be prepared from cinnamic acids.[17,18]

Owing to their diverse biological activities and marvellous synthetic utilities, numerous strategies have been developed for the practical synthesis of cinnamic acids. Traditionally, cinnamic acids are prepared by the Perkin reaction[19] and Claisen–Schmidt condensation.[20] However, very often generation of undesired side products and difficult handling of sodium metal have prompted researchers to devise superior alternatives for the synthesis of cinnamic acids. Consequently, the microwave assisted Knoevenagel

Ozagrel Piplartine Cinromide

Fig. 1 Some cinnamic acid-based therapeutic agents.

condensation,[21] Knoevenagel–Doebner modification,[22] enzymatic method[23] and phosphorus oxychloride method[24] have been developed. Furthermore, the literature has recorded several reports on the remarkable application of the celebrated Heck reaction in the synthesis of cinnamic acids employing various Pd-based catalytic systems.[25] Although cinnamic acids have been synthesised by various aforesaid methods, all of them have their own intricacies such as tedious implementation of the process, lower efficiencies, long reaction times, loss of catalytic activity, lower yields of the desired product and limited substrate scopes.

In recent years, to replace obsolescent synthetic methodologies and to develop ecosustainable, more advantageous and mild reaction conditions, visible light photoredox catalysis has emerged as a burgeoning strategy for chemical transformations.[26–30] The seminal work of the research groups of MacMillan,[26] Yoon[27] and Stephenson[28] has demonstrated the pivotal role of ruthenium- and iridium-based polypyridyl complexes in single electron transfer (SET) processes for the formation of C–C bonds with a minimum number of operations and almost negligible waste generation. However, despite the colossal application of photoredox catalysis in the construction of the C–C bond to yield important scaffolds, a careful survey of the literature reveals that photoredox catalysis has never been applied to the synthesis of cinnamic acids.

During the past few years, several research groups,[24a,31a,b] including our own,[30a,b,c] have employed CBr_4 for the generation of

Green Synthesis Lab, Department of Chemistry, University of Allahabad, Allahabad – 211002, India. E-mail: ldsyadav@hotmail.com; Fax: +91-532-2460533; Tel: +91 5322500652

† Electronic supplementary information (ESI) available: Experimental details, characterization data and copies of ¹H and ¹³C spectra for the products. See DOI: 10.1039/c7nj04570f

Kumar et al. BMC Plant Biol (2021) 21:282
https://doi.org/10.1186/s12870-021-03015-4

BMC Plant Biology

RESEARCH Open Access

Characterization of contrasting rice (*Oryza sativa* L.) genotypes reveals the Pi-efficient schema for phosphate starvation tolerance

Suresh Kumar[1*], Pallavi[1,2], Chetna Chugh[1], Karishma Seem[1], Santosh Kumar[3], K. K. Vinod[4] and Trilochan Mohapatra[5]

Abstract

Background: Phosphorus (P), being one of the essential components of nucleic acids, cell membranes and enzymes, indispensable for diverse cellular processes like photosynthesis/carbohydrate metabolism, energy production, redox homeostasis and signaling. Crop yield is severely affected due to Phosphate (Pi) deficiency; and to cope with Pi-deficiency, plants have evolved several strategies. Some rice genotypes are compatible with low Pi availability, whereas others are sensitive to Pi deficiency. However, the underlying molecular mechanism for low Pi tolerance remains largely unexplored.

Result: Several studies were carried out to understand Pi-deficiency responses in rice at seedling stage, but few of them targeted molecular aspects/responses of Pi-starvation at the advanced stage of growth. To delineate the molecular mechanisms for low Pi tolerance, a pair of contrasting rice (*Oryza sativa* L.) genotypes [viz. Pusa-44 (Pi-deficiency sensitive) and its near isogenic line (NIL-23, Pi-deficiency tolerant) harboring *Phosphorus uptake 1* (*Pup1*) QTL from an *aus* landrace Kasalath] were used. Comparative morphological, physiological, and biochemical analyses confirmed some of the well-known findings. Transcriptome analysis of shoot and root tissues from 45-day-old rice plants grown hydroponically under P-sufficient (16 ppm Pi) or P-starved (0 ppm Pi) medium revealed that Pi-starvation stress causes global transcriptional reprogramming affecting several transcription factors, signaling pathways and other regulatory genes. We could identify several significantly up-regulated genes in roots of NIL-23 under Pi-starvation which might be responsible for the Pi starvation tolerance. Pathway enrichment analysis indicated significant role of certain phosphatases, transporters, transcription factors, carbohydrate metabolism, hormone-signaling, and epigenetic processes in improving P-starvation stress tolerance in NIL-23.

Conclusion: We report the important candidate mechanisms for Pi acquisition/solubilization, recycling, remobilization/transport, sensing/signalling, genetic/epigenetic regulation, and cell wall structural changes to be responsible for P-starvation tolerance in NIL-23. The study provides some of the novel information useful for improving phosphorus-use efficiency in rice cultivars.

Keywords: Rice, Phosphorus starvation, Stress tolerance, Transcriptome analysis, Phosphatase, Transporter, Transcription factor, Root development

Background

Phosphorus (P) is one of the most important macronutrients necessary for the living organisms including plants. It is a vital constituent of several biological

*Correspondence: sureshkumar3_in@yahoo.co.uk; sureshkumar@iari.res.in
[1] Division of Biochemistry, ICAR-Indian Agricultural Research Institute, New Delhi 110012, India
Full list of author information is available at the end of the article

Agric Res
https://doi.org/10.1007/s40003-021-00546-y

FULL-LENGTH RESEARCH ARTICLE

Impact of Seed Applied Rhizobacterial Inoculants on Growth of Wheat (*Triticum aestivum*) and Cowpea [*Vigna unguiculata*] and their Influence on Rhizospheric Microbial Diversity

Anand Kumar[1] · Dinesh Chandra[1,2] · Pallavi[1,3] · Anil Kumar Sharma[1]

Received: 9 July 2020 / Accepted: 22 March 2021

Abstract Current study was planned to demonstrate (Experiment I), the impact of seed bacterization (inoculation dose—10^6, 10^8, 10^{10}, 10^{12} CFU/ml) with two bacterial isolates *Variovorax paradoxus* RAA3 and M11 (Unidentified) on growth and foliar nutrient content (NPK) of wheat (var. H1105 and PBW660) and cowpea (var. PL-1 and PL-2) cultivars under glass house conditions. Strain RAA3 treated plants exhibited most promising results for shoot fresh weight (26.7%, 30.2%), shoot dry weight (44.4%, 63.3%) and chlorophyll content (66.8%, 66.9%) as compared to the control plants of respective varieties. This inoculant also caused significant changes in the foliar nitrogen (14.5%, 14.2%), phosphorus (36.4%, 46.7%) and potassium (20.1%, 65.9%) content in wheat and cowpea, respectively, as compared to the non-inoculated plants. Moreover, the inoculum dose of 10^8 of bacterial inoculum was found to be most effective and thus, considered as an optimum dose for the plant growth promotion. In another study (Experiment II), seed bacterization with RAA3 (10^8 CFU/ml) on nine different varieties of wheat was performed, and significant varietal and treatment effect were observed for many of growth parameters as compared to untreated control plants. Overall results showed maximum response at inoculum dose of 10^8, therefore this dose was taken to assess the influence of PGPR inoculation on rhizospheric microbial diversity of wheat and cowpea. We observed that RAA3 inoculation has led to a shift in microbial population in both wheat and cowpea varieties. Irrespective of varieties, RAA3 (inoculum dose of 10^8 CFU/ml) treated plants of wheat showed dominant microbial groups of siderophores producers, nitrogen fixers and actinomycetes, whereas, in RAA3 treated plants of cowpea the dominant microbial population of only siderophores producers was recorded.

Keywords PGPR · *Variovorax paradoxus* · Seed bacterization · Siderophores · Nitrogen fixers · Actinomycetes · Inoculum dose · Nutrient content

Supplementary information The online version contains supplementary material available at (https://doi.org/10.1007/s40003-021-00546-y)

✉ Anand Kumar
anand91678@gmail.com

Dinesh Chandra
dchandra.009@gmail.com

Pallavi
pallavi.mp08@gmail.com

Anil Kumar Sharma
anilksharma_99@yahoo.com

[1] Department of Biological Sciences, Govind Ballabh Pant University of Agriculture and Technology, U.S. Nagar, Pantnagar-263 145, CBS&H Pantnagar, Uttarakhand, India

[2] GIC Chaukori, Almora, Uttarakhand 263 622, India

[3] J.N.L. College Khagaul Patna, Bihar 801105, India

Published online: 25 April 2021

Introduction

A steady increase in the world population provides new challenges to assure food security. Availability of arable land, poorly managed production factors like water resources and long-term effects are brought up by climatic changes, could all make to possible disastrous consequences [1, 10, 15]. Moreover, the soil is the main prerequisite for crop production. The perpetual application of chemical fertilizers, insecticides, fungicides and herbicides disturb natural soil ecosystem; deteriorate soil condition making it deprive of essential nutrients. Thus, need of the

Int.J.Curr.Microbiol.App.Sci (2019) *8*(11): 1348-1363

International Journal of Current Microbiology and Applied Sciences
ISSN: 2319-7706 **Volume 8 Number 11 (2019)**
Journal homepage: http://www.ijcmas.com

Original Research Article

https://doi.org/10.20546/ijcmas.2019.811.158

Evaluation of Native AMF Population for Drought Stress Ameliorating Potential in Finger Millet

Pallavi* and A.K. Sharma

Department of Biological Sciences, College of Basic Science and Humanities, Govind Ballabh Pant University of Agriculture and Technology, Pantnagar, U.S Nagar-263145, Uttarakhand, India

**Corresponding author*

Keywords

Water uptake, growth, Plant nutritional status, Protein, Fat, Minerals

Article Info

Accepted:
12 October 2019
Available Online:
10 November 2019

ABSTRACT

Finger millet is a very important crop because of its resilience against adverse climatic conditions. It is well adapted to higher elevations, drought tolerant, disease resistant and able to grow on marginal lands with poor soil fertility, which reflects in having highest productivity among millets. Also, it is a good source of protein, fat, and minerals. All these factors make it suitable especially among the segment of low- income group populations. Arbuscular mycorrhizal fungi (AMF) are capable of reducing the adverse effects of drought on plants. Recently, there is a growing interest in the Finger millet-AMF symbiosis in relation to enhancing water uptake, growth, plant nutritional status and yield. However, to our knowledge, there is no study performed related to the application of native mycorrhizal population in improving drought tolerance of finger millet. Native mycorrhiza inoculation resulted enhanced biomass production compared to than non-mycorrhizal finger millet plants, irrespective of soil water status. In addition, AMF inoculation led to significantly higher nutrient and biochemical status of plants. Our results support the idea of exploiting native mycorrhizal population in improving the drought tolerance of finger millet plants.

Introduction

Among all the rhizospheric microbes, arbuscular mycorrhizal fungi (AMF) are the most interesting, incapable of living without their host plants, they form the most abundant of symbiotic association on earth. The AMF belong to the phylum Glomeromycota and are represented by 230 species (Oehl *et al.*, 2011). The mutualistic association of AMF with most of the vascular plant roots results in increased uptake of water, inorganic nutrients, enhanced tolerance to many environmental stress and protection from pathogens for the host and in reward of this, fungus gets the carbon assimilates from host, essential for its survival (Smith and Read, 1997). It is evident by many studies that AMF are crucial for the functioning of terrestrial ecosystems. Not only their presence but also their genetic and functional diversities are of importance: AMF diversity can be decisive for both plant

Advances in Biotechnology & Microbiology
ISSN 2474-7637

Juniper Publishers

Research Article
Volume 14 Issue 4 - August 2019
DOI: 10.19080/AIBM.2019.14.555893

Adv Biotechnol Microbiol

Augmentation of Native Mycorrhizal Population and its Functionality Using *Parthenium* Biochar

Pallavi Suvigya Sharma and AK Sharma*

Department of Biological Sciences, Govind Ballabh Pant University of Agriculture & Technology, India

Submission: July 30, 2019; **Published:** September 11, 2019

*Corresponding author: AK Sharma, Department of Biological Sciences, College of Basic Sciences and Humanities, Govind Ballabh Pant University of Agriculture & Technology, Pantnagar, US Nagar, Uttarakhand, India

Abstract

Parthenium is one of the world's deadliest weeds and its highly allelopathic nature is a major cause of crop yield reduction. There has been growing interest in production of biochar from parthenium by pyrolysis, as a weed control strategy. Biochar is the carbonaceous residue left after pyrolysis, and many studies have found its application in maintaining soil quality by improving its physical, chemical and biological properties. Arbuscular Mycorrhizal Fungi (AMF) are inseparable component of soil microbial community forming mutualistic relationship with almost 80% of plant species. They play an important role in maintaining soil fertility and plant health nutrition. The present study was carried out to study the effect of different application rates of *Parthenium* biochar (0g/kg, 1g/kg, 3g/kg, 5g/kg and 10g/kg) on the native AMF population of three altitudes of Kumaun Himalayas and maize plant growth under greenhouse conditions. The results indicate positive influence of biochar application on AMF population and root colonization. In addition, the integrated application of AMF and biochar also resulted in enhanced plant growth and foliar nutrient content in maize plants when compared to control plants. The study suggests the utility of *Parthenium* biochar as soil management practice with multifaceted ability to promote AMF population of soil as well as plant health.

Keywords: Arbuscular mycorrhiza fungi; *Parthenium*; Biochar; Maize [Zea mays]; Plant growth

Introduction

Sustainable soil fertility management has been suggested as essential to the prosperity. Hilly regions of Uttarakhand have prevalence of rain-fed conditions, resulting in water stress which restricts the optimum plant growth. Also, soils from these regions are shallow and coarse textured thus have a poor soil structure and low water-holding capacity. Batta and Handal, highlighted the nitrogen and organic matter deficiency of soil in South and South East Asian countries. Furthermore, the organic manure used in these areas is made from oak and chir pine leaves which results in the acidification of the soil [1]. Thus, for achieving high agriculture productivity the focus should also be on improving soil health as only then sustainable agriculture system can be achieved.

External carbon input as amendment into these marginalized soil for uplifting the soil organic matter and health has been recommended by many researchers [2]. Traditional soil amendments include farmyard manure, composted manure, poultry manure and cattle manure [3,4]. However, in the recent times soil amendment with biochar has gained interest among the researchers as well as among the farmers because of the inherent advantages associated with it. Biochar is a collective term for carbon rich soil amendments of either plant or animal biomass through heating at 300 to 600 °C under limited oxygen supply [5]. Increased soil water-holding capacity has been observed on biochar addition to sandy-loamy soil [6]. Also, improvement in hydraulic conductivity of soil along with an increased rice yield in low P availability can be achieved after biochar addition [7]. Studies have indicated that plant responses to biochar are indirectly related to biochar effects on soil microbial community [8,9]. Biochar enhances populations and activity in soil by modulating metabolism and growth of soil microorganisms [10,11]. AM fungi provide their host plants with mineral nutrients and receive photosynthetically derived carbohydrates in return [12]. Biochar, especially from wood materials, typically have a large surface area due to porous nature and Cation Exchange Capacity (CEC). Therefore, its addition to soils also increases the CEC of the soil [13]. Higher CEC means more ions will be adsorbed this will prevent leaching of nutrients [14]. However, these nutrients may not be accessible by plants, as most roots are unable to reach the fine porous structure of the biochar due to their large size [15]. On the other hand, AM fungal hyphae being much finer in diameter can easily re-capture some of the adsorbed nutrients and transfer them to their host plants [16]. A combined management of AM fungi and biochar may lead to efficient fertil-

ORIGINAL RESEARCH PAPER

Volume - 12 | Issue - 04 | April - 2023 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

GLOBAL LIFESTYLE DISEASES: LESSONS FOR THE FUTURE

Health Science

Medhavi Sudarshan*	Department of Zoology, J N L College, Khagaul, Patliputra University, Patna, India *Corresponding Author
Sumit Sharan	Department of Community Medicine, Katihar Medical College, Katihar, India

ABSTRACT

Lifestyle illnesses are a major public health concern in the modern world. The way a person lives has an effect on how fit they are. Smoking, unstable diets and weight loss plans, physical inactivity, and alcohol use are four variable lifestyle behaviours that are linked to the development of noncommunicable diseases (NCDs), which tend to last a long time and are the result of the combination of genetic, physiological, behavioural, and environmental factors. Diabetes, most cancers, cardiovascular infection, blood stress/excessive blood strain, and so on are only a few examples. According to several study findings, death from NCDs disproportionately affects the poorest people worldwide as well as low- and middle-income countries. To minimize the effect of way of life ailments on individuals and society, the author attempted to broaden a holistic approach that encompasses all sectors, which include health, finance, training, planning, and others. This review's major focus is on the growing burden of noncommunicable diseases/lifestyle diseases in emerging nations. The other issues include various risk factors, correct diagnosis, screening, and treatment of these diseases, as well as giving comfort care to those who require it. The author right here believes that standard encouraging wholesome behaviours in the population might make a contribution to decreasing the excessive burden of lifestyle diseases.

KEYWORDS

Noncommunicable, Diseases, Lifestyle Behaviour, Risk Factor, Treatment

INTRODUCTION

In the past, communicable diseases—also known as infectious and parasitic diseases—were the primary causes of mortality. However, noncommunicable diseases (NCDs) have surpassed them as the leading cause of mortality. Typhoid and cholera are two infectious illnesses that no longer receive much attention since advances in sanitation, housing, and medication have made us more resistant to them. However, today's culture constantly brings up diabetes, hypertension (high blood pressure), obesity, and heart disease. NCDs have superseded them in recent decades as the primary cause of mortality. It is essential to comprehend how these issues are raised. There are some disorders that can develop even while the body is healthy. We are to blame for this due to our poor lifestyle choices. This might be due to changes in food habits and lifestyle choices throughout time, which have influenced people's illness patterns. NCDs are hence frequently referred to as lifestyle diseases. As a result of economic development and globalisation, the prevalence of lifestyle diseases has grown internationally. The main purpose of this review article is to enlighten and educate individuals on the present condition of lifestyle diseases in order to help them live a healthy life in the future.

What are Lifestyle diseases

A person's lifestyle, which includes their behaviours, practices, and habits, has a significant impact on whether or not they develop a lifestyle disease. A person's regular activities are mostly to blame for lifestyle ailments. Distracting individuals from physical activity and promoting sedentary behaviour can lead to a number of health issues, including chronic noncommunicable illnesses with potentially fatal consequences. The phrase "lifestyle diseases" is widely used to characterise NCDs, including cardiovascular disease (CVD), stroke, diabetes, and some types of cancer, because lifestyle decisions have a considerable influence on these conditions. Furthermore, these problems account for 51% of all deaths (Rahimi Foroushani et al., 2014). It may be described scientifically as a set of consistent behaviours that are unique to an individual and determine how they live. These behaviours include activities, manners, behaviours, coping mechanisms, motivation, and mental processes. Every person, family, and community has a lifestyle that they utilise to deal with their daily physical, psychological, social, environmental, and economic circumstances. Changes in lifestyle that affect actions are a requirement to avoid or delay or stop the onset of the disease. Lifestyles are shaped by a variety of factors, including childhood effects, personality makeup, and cultural, physical, economic, and political influences. According to studies undertaken by the World Health Organization (WHO), lifestyle and health behaviours account for roughly 60% of Quality of Life. They have a complicated origin and are noninfectious/ noncontagious in nature. NCDs are chronic diseases that last for a long time. While some NCDs advance slowly or produce chronic symptoms that need long-term care and control, others advance quickly. They attack both men and women, but children are also at risk. People may look to be healthy, but they are nonetheless suffering from these illnesses. Even if people appear to be in good health, they are still suffering from chronic ailments. NCDs harm person throughout their productive years of life, which is one of the most severe problems.

Different types of Lifestyle diseases

Researchers have noted that the wellness-oriented lifestyle is at the heart of the health-conscious lifestyle and that people's conduct affects their health (Hadorovicova et al., 2020). A biological machine's body systems are collections of organs that collaborate to create and sustain life; the primary human physiological functions are breathing, digestion, gas exchange, blood circulation, movement, and the coordination and control of bodily activities. All of these are managed in a way that keeps them functioning as living one. Lifestyle diseases are conditions that emerge gradually as a result of individual decisions and genes rather than being passed from one person to another.

A person's lifestyle has a substantial impact on their health, including their physical, emotional, and social well-being. Arthritis, asthma, Alzheimer's disease, atherosclerosis, cancer, chronic liver disease, liver cirrhosis, heart disease, renal failure, type 2 diabetes, depression, obesity, stroke, and metabolic syndromes are all common lifestyle diseases. The co-existence of two or more serious diseases with a lifestyle condition can result in severe consequences that necessitate hospitalisation, skilled care, and surgery. Later challenges that are too severe, such as cardiac arrest, falls, or strokes, may cause death. The table 1 lists a number of key worrying lifestyle diseases to be aware of.

Major Causes And Risk Factors

A risk factor is a condition or behaviour that increases the probability of getting a certain disease. Because habits that eventually result in lifestyle diseases can begin while we are very young, it is crucial to understand the elements that contribute to these conditions. The great majority of lifestyle diseases have

Table 1. details of some alarming lifestyle diseases

Disease Name	Description	Controllable Risk factors (Which can be avoid in lifestyle)
1. Cardiovascular Diseases	Disorder of heart and blood vessels mainly ischemic attack, stroke, cardiomyopathies, atherosclerosis	Unhealthy diet, Physical inactivity, Alcohol use, Stress
2. Endocrine system	Type 2 Diabetes, Metabolic syndrome, Osteoporosis	Unhealthy diet, Physical inactivity, Alcohol use, Vitamin D/Ca deficiency

Innovations for future ease: Synthetic Biology

Medhavi Sadashiv[1] & Sumit Sharan[2]

[1]Jagat Narain Lal College, Khagaul, Patliputra University, Patna, Bihar, India
[2]Department of Community Medicine, Katihar Medical College, Katihar, Bihar, India

Abstract:

Engineering principles are utilized to construct new biological parts and systems as well as to remodel already existing systems found in nature so that living systems can survive more readily in the future. Synthetic biology is concerned with living systems and animals. This mini review concentrates on taking into account biological breakthroughs that leverage engineering technology to make our lives easier.

Text:

Innovation is the process of effectively putting a novel concept into practice and producing benefits for all people. A convergence of biological scientific advancements with the rapid growth of computing, automation, and artificial intelligence is igniting a new wave of innovation. This Bio Revolution has the potential to have a tremendous influence on economies and our daily lives, ranging from health and agriculture to consumer products, energy, and materials. Natural cells developed from non-living compounds over time to become referred to as "alive." Consequently, creating a live system from non-living components is crucial to comprehending the genesis of life. The phrase "synthetic biology" typically refers to areas of study within the life sciences that are motivated by the synthesis of biological system components or the development of biological system models.[1] Synthetic biology refers to a set of biotechnology concepts, techniques, and instruments that enable the modification or production of biological entities. Thomas Knight is a computer science pioneer and the godfather of synthetic biology.[2] Waclaw Szybalski coined the term "synthetic biology" in 1974 when the idea of making DNA in a lab was first explored.[3]

Genetic components and metabolic pathway design have been employed in synthetic biology to create organisms that can synthesise significant compounds, such as antibiotic and polymer precursors.[4] With applications in food and feed, industrial chemicals, biofuels, and health and well-being, synthetic biology is now firmly on the global agenda as a technology that has the potential to transform our interactions with the living world. Synthetic biologists strive to create biological creatures that adhere to rational design principles. Two subfields make up the expanding study of synthetic biology: i) to replicate emergent characteristics from natural biology and build artificial life, one employs unnatural molecules and ii) looks for interchangeable components from natural biology to put together into systems that behave in an unnatural way.[4]

Synthetic biology, with its emphasis on model-driven biology, also incorporates cyber-physical systems. For example, the production of custom DNA molecules involves a physical process that is guided by many layers of software.[5] Researchers all across the world are using synthetic biology in its applied form - engineering biology - to create new goods, services, and technologies that provide real and significant advantages. Nonetheless, synthetic biologists have investigated additional techniques,

PLOS | NEGLECTED TROPICAL DISEASES

RESEARCH ARTICLE

Determinants for progression from asymptomatic infection to symptomatic visceral leishmaniasis: A cohort study

Jaya Chakravarty[1], Epco Hasker[2], Sangeeta Kansal[3], Om Prakash Singh[1†], Pariloah Malaviya[1], Abhishek Kumar Singh[1], Ankita Chourasia[1], Toolika Singh[1], Medhavi Sudarshan[1], Akhil Pratap Singh[1], Bhawana Singh[1], Rudra Pratap Singh[1], Bart Ostyn[2], Michaela Fakiola[4], Albert Picado[5,6], Joris Menten[2], Jennifer M. Blackwell[4], Mary E. Wilson[7], David Sacks[8], Marleen Boelaert[2], Shyam Sundar[1†*]

1 Department of Medicine, Institute of Medical Sciences, Banaras Hindu University, Varanasi, India, 2 Institute of Tropical Medicine, Antwerp, Belgium, 3 Department of Community Medicine, Institute of Medical Sciences, Banaras Hindu University, Varanasi, India, 4 Cambridge Institute for Medical Research, University of Cambridge, United Kingdom and Telethon Kids Institute, University of Western Australia, Crawley, Australia, 5 Foundation for Innovative New Diagnostics (FIND), Geneva, Switzerland, 6 ISGlobal, Barcelona Ctr. Int. Health Res. (CRESIB), Hospital Clínic-Universitat de Barcelona, Barcelona, Spain, 7 University of Iowa and the Veterans Affairs Medical Centre, Iowa City, Iowa, United States of America, 8 Laboratory of Parasitic Diseases, National Institute of Allergy and Infectious Diseases, National Institute of Health, Bethesda, Maryland, United States of America

† These authors are joint senior authors on this work.
* drshyamsundar@hotmail.com

OPEN ACCESS

Citation: Chakravarty J, Hasker E, Kansal S, Singh OP, Malaviya P, Singh AK, et al. (2019) Determinants for progression from asymptomatic infection to symptomatic visceral leishmaniasis: A cohort study. PLoS Negl Trop Dis 13(3): e0007216. https://doi.org/10.1371/journal.pntd.0007216

Editor: Carlos Franco-Paredes, Hospital Infantil de Mexico Federico Gomez, UNITED STATES

Received: September 14, 2018

Accepted: February 5, 2019

Published: March 27, 2019

Data Availability Statement: The data supporting the findings of this publication are retained at the NIH-TMRC Project, Department of Medicine, Institute of Medical Sciences, Banaras Hindu University, Varanasi, India and will not be made openly accessible due to ethical and privacy concerns. Data can however be made available after approval of a motivated and written request to the TMRC research Project at tmrcresearchdataaccess@gmail.com.

Abstract

Background

Asymptomatic *Leishmania donovani* infections outnumber clinical presentations, however the predictors for development of active disease are not well known. We aimed to identify serological, immunological and genetic markers for progression from *L. donovani* infection to clinical Visceral Leishmaniasis (VL).

Methods

We enrolled all residents >2 years of age in 27 VL endemic villages in Bihar (India). Blood samples collected on filter paper on two occasions 6–12 months apart, were tested for antibodies against *L. donovani* with rK39-ELISA and DAT. Sero converters, (negative for both tests in the first round but positive on either of the two during the second round) and controls (negative on both tests on both occasions) were followed for three years. At the start of follow-up venous blood was collected for the following tests: DAT, rK39- ELISA, Quantiferon assay, SNP/HLA genotyping and *L.donovani* specific quantitative PCR.

Results

Among 1,606 subjects enrolled, 17 (8/476 seroconverters and 9/1,130 controls) developed VL (OR 3.1; 95% CI 1.1–8.3). High DAT and rK39 ELISA antibody titers as well as positive qPCR were strongly and significantly associated with progression from seroconversion to

Immunology
The journal of cells, molecules, systems and technologies
British Society for immunology
IMMUNOLOGY ORIGINAL ARTICLE

HLA-DR Class II expression on myeloid and lymphoid cells in relation to HLA-DRB1 as a genetic risk factor for visceral leishmaniasis

Bhawana Singh,[1] Michaela Fakiola,[2,*] Medhavi Sudarshan,[1] Joyce Oommen,[1] Siddharth Sankar Singh,[1] Shyam Sundar[1] and Jenefer M. Blackwell[2,3]

[1]*Department of Medicine, Institute of Medical Sciences, Banaras Hindu University, Varanasi, UP, India,* [2]*Department of Pathology, The University of Cambridge, Cambridge, UK,* [3]*Telethon Kids Institute, The University of Western Australia, West Perth, WA, Australia*

doi:10.1111/imm.13018
Received 23 August 2018; revised 22 October 2018; accepted 29 October 2018.
*Present address: INGM-National Institute of Molecular Genetics 'Romeo ed Enrica Invernizzi', Milan, Italy
Correspondence: Professor Jenefer Blackwell, Telethon Kids Institute, PO Box 855, West Perth, WA 6872, Australia.
E-mail: jenefer.blackwell@telethonkids.org.au
Senior authors: Shyam Sundar and Jenefer M. Blackwell
email: drshyamsundar@hotmail.com (SS)

[Correction added on 29 November 2018, after first online publication: The fifth author's name Siddarth Sankar Singh was corrected to Siddharth Sankar Singh.]

Summary

Genetic variation at HLA-DRB1 is a risk factor for visceral leishmaniasis (VL) caused by *Leishmania donovani*. The single nucleotide polymorphism rs9271252 upstream of the *DRB1* gene provides a perfect tag for protective versus risk HLA-DRB1 four-digit alleles. In addition to the traditional role of the membrane-distal region of HLA class II molecules in antigen presentation and CD4 T-cell activation, the membrane-proximal region mediates 'non-traditional' multi-functional activation, differentiation, or death signals, including in DR-expressing T cells. To understand how HLA-DR contributes to disease pathogenesis, we examined expression at the protein level in circulating myeloid ($CD14^+$, $CD16^+$) and lymphoid ($CD4^+$, $CD8^+$, $CD19^+$) cells of VL patients (pre- and post-treatment) compared with endemic healthy controls (EHC). Although DR expression is reduced in circulating myeloid cells in active disease relative to EHC and post-treatment groups, expression is enhanced on $CD4^+$ DR^+ and $CD8^+$ DR^+ T cells consistent with T-cell activation. Cells of all myeloid and lymphoid populations from active cases were refractory to stimulation of DR expression with interferon-γ (IFN-γ). In contrast, all populations except $CD19^+$ B cells from healthy blood bank controls showed enhanced DR expression following IFN-γ stimulation. The rs9271252 genotype did not impact significantly on IFN-γ-activated DR expression in myeloid, B or $CD8^+$ T cells, but $CD4^+$ T cells from healthy individuals homozygous for the risk allele were particularly refractory to activated DR expression. Further analysis of DR expression on subsets of $CD4^+$ T cells regulating VL disease could uncover additional ways in which pleiotropy at HLA *DRB1* contributes to disease pathogenesis.

Keywords: HLA-DR; lymphoid lineage; MHC Class II expression; myeloid lineage; visceral leishmaniasis.

Introduction

Visceral leishmaniasis (VL) is caused by *Leishmania donovani* or *Leishmania infantum chagasi*, which are obligate intracellular parasites of myeloid cells. VL is characterized by fever, hepatosplenomegaly and hypergammaglobinemia, and is fatal in susceptible individuals if left untreated. However, only about 10% of people infected with these parasites proceed to clinical VL. Familial clustering[1] and high sibling risk ratios[2] suggested that host genetic factors were important in determining these differences in the outcome of infection with *Leishmania* species causing VL disease. In a genome-wide association study,[3] we demonstrated that the class II gene region

Abbreviations: ANOVA, analysis of variance; CIITA, Class II transactivator; EHC, endemic healthy controls; gMFI, geometric mean fluorescence intensities; HC, healthy control; IFN-γ, interferon-γ; IL-10, interleukin-10; SNP, single nucleotide polymorphism; Th1, T helper 1; Th2, T helper 2; VL, visceral leishmaniasis

International Journal of Scientific & Engineering Research Volume 9, Issue 8, August-2018
ISSN 2229-5518

Diagnosis of Visceral Leishmaniais: Review approach on development of different techniques from invasive to noninvasive nature after more than three decades of research.

Medhavi Sudarshan and Sumit Sharan

Abstract:

For the efficient management of infectious disease, in the present scenario, rapid, sensitive, specific and confirmatory identification of the pathogen is very important. Accurate diagnostic test plays a key role in clinician trust and patient management. Visceral Leishmaniasis (VL) is a neglected tropical infectious disease. Poor access to diagnosis stymies control of VL. In light of the study published regarding the rapid development of Leishmania detection technology and their application in VL diagnosis, in this review, the author discusses critical issues in the development of diagnostic method as well as promises and challenges for validation & transition of new innovations.

Key words: VL, Pathogen, Sensitive, Specific, Diagnosis

Introduction

Diagnostic testing is traditionally considered as a tool to rule out a condition or infection when the clinical presentation in a patient is non-specific [1]. Diagnostic tools " of sufficient sensitivity and specificity to detect levels of infection that can lead to transmission " were identified as one of the essential requirements for disease elimination and eradication [2] . Visceral Leishmaniasis (VL) is a vector- borne disease caused by the Leishmania donovani complex, which includes: L. donovani and L. infantum. This infectious disease is also referred in the category of Neglected Tropical infectious disease. WHO defines the case of Visceral Leishmaniasis as "a person showing clinical signs (mainly prolonged irregular fever, splenomegaly and weight loss) with serological and/or parasitological confirmation". These clinical features can easily be mistaken for other common febrile illness such as malaria, enteric fever, tuberculosis, etc. If left untreated, it is almost always fatal (www.who.int/tdr).

Corresponding Author:
Dr. Medhavi Sudarshan
Nidan Health care and Diagnostic centre,
Shekhpura, Bardy Road,
Patna-800025, Bihar, India
Ph. 9304801325, 8210106434
E-mail: medhavisudarshan@gmail.com
Co Author- Dr. Sumit Sharan
Nidan Health care Diagnostic centre
Patna

The mean period from the onset of the disease symptoms to diagnosis (mean diagnostic lag period) is 7.7 ± 5.96 months [3]. In this period because of multiplication of complications patient not only suffers but also continues to spread the disease. Since humans are the only reservoir for L.donovani in the Indian subcontinent, control of VL programme require early case detection and further treatment . Clinical diagnosis already rely heavily on different techniques for patient disease classification, management and informing treatment & care pathways. The estimated annual global incidence of VL is 200,000–400,000 and >90% of these cases occur in India, Bangladesh, Sudan, South Sudan, Ethiopia and Brazil [4]. The visceral leishmaniasis (commonly called 'kala azar') in the Indian subcontinent has been endemic for many decades of the estimated mortality is 50,000-200,000 per year [5] . From 1987 through 2011, a total of 6,70,897 VL cases were reported officially from Bihar only. Patient management, screening of asymptomatic infections and epidemiological studies are some of the areas where diagnostic tests play a major role. Some time rare presentation of active VL also comes [6, 7]. Evaluating a diagnostic test is particularly challenging when there is no reference gold standard, which is easy to perform. Therefore, at present scenario VL diagnosis remains a challenge. It is essential that the diagnosis should be sensitive as well as specific as much as possible. To be useful, diagnostic methods must be accurate, simple and affordable for the population for which they are intended. Researches are going on in this aspect since decades. Recent developments in new diagnostic tools, however, have opened new avenues for a vast improvement in parasite detection. Recent technological developments have led to the proliferation of new, rapid diagnostic tests that hold promise

IMPACT OF COVID-19 PANDEMIC ON CHILDREN'S PSYCHOLOGICAL WELL BEING: A CASE REPORT

Dr. Kiran Bala
Assistant Professor, Department of Psychology,
J.N.L. College,Khagaul, Patliputra University, Patna

Archana Bharti
Assistant Professor, Department of Psychology,
J.N.L. College,Khagaul, Patliputra University, Patna

This is a case report of 9 years old male, studying in class 5, from urban background had problem of spending more time on mobile game, watching T.V., not attending online class, not doing homework and has become very irritable, not obeying parents. The Coronavirus disease (COVID-19) pandemic is highly communicable disease. To control the spread of this disease government implemented nationwide containment measures or lockdown. Due to lockdown, many children had no physical access to friends, peers, schoolmates and relatives and these impact children adversely, making them easily bored, angry, frustrated, stressed and anxious. Here we report a case of a child who is very much psychologically affected by the measures of lockdown. In this case by using a psychological test, Children's Self -Report and Projective Inventory (CSRPI), we see the impact of COVID 19 lockdown affected almost every aspect of this child like his social, education, physical health, mental health, daily routine and engagement in video games.

Key words: Coronavirus Pandemic (COVID-19), Lockdown, Psychological Health, CSRPI

Coronavirus or COVID-19 pandemic, which broke out at the beginning of December 2019 in the Wuhan city of China has directly and indirectly affected each and every sphere of life across the world. This, being a new viral disease affecting humans for the first time, vaccines were not available for a long time. Thus, the emphasis is on taking extensive precautions such as extensive hygiene protocol (e.g., regularly washing of hands, avoidance of face-to-face interaction etc.), social distancing, and wearing of masks, closing workplace and quarantine to control the spread of this highly communicable disease (Hleem et al.,2020; Amin et al.,2020; Shen et al., 2020;Singh et al.,2020). To combat the spread of COVID-19, the Indian government implemented nationwide containment measures or lockdown and self-isolation policies (Amin et al., 2020) In the Indian context, "lockdown" refers to individuals staying at home while completely restricting the movement of the population inside and outside of specific areas except for essential activities (health visits, purchasing for essential items, and providing essential work) (Lippi et al. 2020). Peoples' lives have been disrupted and negatively affected by COVID-19-related suffering and lockdowns at community and household level (Haleem et al., 2020).

The Coronavirus disease (COVID-

Living with COVID 19 : A Psychological Approach

Archana Bharti and Dr. Kiran Bala
Assistant Professor, Deptt. of Psychology, Jagat Narain Lal College, Khagaul,Patna

ABSTRACT

Corona virus disease 2019 (COVID-19) is an infectious disease. WHO declared COVID 19 outbreak a global Pandemic. COVID 19 induced Lockdown caused temporary closure of everything except grocery shop, medical shop and hospitals. Lockdown is a big shock for everyone. Great number of people has lost their employment. This pandemic and Lockdown have forced entire human being to live in new normal world which is full of restriction, stress and anxiety. People go outside in Mask and with sanitizer. Students are attending their online classes from their home. Doctors are giving tele-consultation. Business is taking form of e commerce. In COVID 19 new normal people are adopting naturopathy for treating minor health problems. Stress affects not only physical health but also mental health. Psychiatric problems like Coronaphobia, Depression, Anxiety, Hypochondriasis, insomnia, panic attack, Screen and game addiction etc. are increasing during COVID 19 period. Masses are adopting Yoga, Meditation, relaxation, Cognitive restructuring, activity scheduling and AYUSH Guidelines to keep themselves fit.

Key word: ***COVID 19, Lockdown, Psychiatric problem, Cognitive restructuring and AYUSH.***

Introduction:

Corona virus disease 2019 (COVID-19) is an infectious disease caused by Severe Acute Respiratory Syndrome Corona virus 2 (SARS-CoV-2). COVID 19 was first reported in Wuhan, China. China stopped its spread by using Lockdown in Wuhan. Very soon it covered many countries. On March 11, 2020, WHO declared the novel Corona virus (COVID-19) outbreak a global pandemic. In india, first case of COVID 19 was reported on 27th January, 2020, at Thrissur district of Kerala, the patient was a student studying in Wuhan University, China and returned to India. Common sign and symptoms of COVID 19 are fever, Cough, tiredness, shortness of breath or difficulties in breathing, sore throat, loss of taste and smell. It is highly infectious disease. Though we have developed its vaccination, but till now we are without its treatment. We are helpless but not hopeless. Helpless because we are without its medicine. We are hopeful because globally scientists are working hard to develop its medicine. To stop COVID 19 Spread, WHO has proposed certain measures like, such as maintaining physical distancing, wearing a face mask, keeping rooms well ventilated, avoiding crowds, cleaning your hands, and coughing into a bent elbow or tissue. One can get infected, if he / she come into contact with infected person. It spreads primarily from person to person through small droplets that come out from nose or mouth of an infected person, when he or she coughs, sneezes, or speaks. These droplets are relatively heavier, so does not travel far and quickly sink to the ground. People can catch COVID-19 if they breathe in these droplets

from a person infected with the virus. This is why it is important to stay at least 1 meter away from others. These droplets can land on objects and surfaces around the person such as tables, doorknobs and handrails. People can become infected by touching these objects or surfaces, then touching their eyes, nose or mouth. So it's important to practice respiratory etiquette for example, by coughing into a flexed elbow or put cloth over your mouth and nose when one coughs or sneezes. People should wash their hands regularly with soap and water or clean with alcohol-based Sanitizer. The risks of getting COVID-19 are higher in crowded and inadequately ventilated spaces where infected people spend long periods of time together in close proximity. WHO says to Avoid 3Cs – spaces that are closed, crowded or involve close contact. In its advisory WHO also says that one should seek medical attention immediately if one develops fever, cough and difficulty in breathing. WHO says that one should stay at home and self–isolate, if one develops even minor symptoms like headache, mild fever etc. Anybody can get infected with the COVID 19. But, elderly people, children below 10 and person with medical problems like diabetes, Cardio Vascular Disease, Chronic Respiratory disease and Cancer, Health Care Workers like Doctors and nurses and person with poor immune system are in high risk zone.

Indian government announced Lockdown to slow its speed. COVID 19 induced Lockdown caused temporary closure of the Industry, big business houses and all economical and commercial activities. During lockdown period Social gatherings, for example marriage ceremony or funeral rites were allowed on specific terms and condition. Limited number of persons was allowed to be present in such ceremony. Lockdown is a big shock for those who runs petty businesses and who are self employed person like, daily laborer, small farmers, Rickshaw puller and Vendor Vala. Great number of people has lost their employment. They managed to sustain their family anyhow. School, Colleges, Coaching Institutes also remained closed. Examinations were delayed.

The Ministry of Ayurveda, Yoga, Naturopathy, Unani, Siddha, Sowa-Rigpa and Homoeopathy (abbreviated as AYUSH) AYUSH has recommended certain measures for enhancing immunity. It says drink warm water, practice Yogasana, and Pranayama and meditation and use spices like Haldi (turmeric), Jeera (cumin), Dhaniya (coriander) and Lahsun (garlic) in cooking. Ayurvedic immunity boosting measures are take chawanprash (10gm) in the morning, drink herbal tea or decoction (Kadha) made from Tulsi (Basil), dalchini (Cinnamon), Kalimirch (Black Pepper), Shunthi (dry Ginger) and Munakka (Rasin).

Life In New Normal World:

Lockdown has completely changed our life. This new normal world emphasized on online activities, It focuses upon minimal contact of person. People stay at home. They do not go outside if it is not urgent/emergency. People do not visit family, friends or go to market, Park, Restaurant, School, College, office, Theater. At home, they are trying to improve their Quality of Life by doing productive work from home. Now, online classes are going on for students. Business is taking form of e commerce. One can take relish of restaurants food at home by getting home delivery from Restaurants. People go outside in Mask and with sanitizer. Mass gatherings are being avoided. Even people are celebrating festival, like Durga Puja, Chhath Puja, Holi and Id etc. with less contact with their relatives and friends. Marriages are taking place with less number of people. Death ceremonies are taking place with less number of people. Through video calling facility

brought people close to their friends and family, so no need to visit their home to see them and chat with them. Medical facility is not much available, as it was before COVID19 outbreak. Everybody is taking precaution, so that they cannot get infected with COVID 19. Doctors are hesitating to come in contact with patients at the same time patients also wants to avoid doctors contact, due to fear of catching COVID 19 infection. Doctors are giving online consultation (Tele – consultation) to their patient. Ministry of Health and family welfare, Government of India launched e Sanjivini OPD. It is National Tele-consultation Service on 16th June, 2009. Its aim was to provide telemedicine network at rural areas. This service prove beneficial during COVID Pandemic. Doctors are Prescribing medicine to the patient with minimal physical contact. Even though the job is so hazardous that doctors had to come in contact with the patient. As a consequence of which they became victim of COVID 19 infection.

People try to do their work themselves. They do not want to take help of maid, driver or other person. They clean their home, wash their cloth, press it, cooking, drive car themselves. In other word by doing all these work people keep themselves physically active and safe. People are adopting naturopathy. They are doing Yoga and meditation to keep them healthy and fit at home. They opt for home remedies like Dadi ma ke Nuskhe, to cure minor problems, like taking Ajwain for digestion, To improve Immune System Citric food, Kadha, Tulsi, Haldi vala Dhudh etc. are consumed. All educational Institutions are closed. Students are attending their online classes from their home. Students are missing their school activities.

Psychological Impact Of Covid 19:

COVID 19 Pandemic brought not only health emergencies but it also affected our economical infrastructure, social life, and mental health. Due to all these problems people are living in stress. High stress levels affect immunity, says Dr Prabha S Chandra, Psychiatrist at Nimhans. Person with lower immunity is in high risk zone. Three people, who were tested positive for COVID 19 in Tamilnadu, India, ended their life (The times of India, 29 May, 2020). A man, who had returned from Mumbai to his native place in Karnataka was sent to quarantine, reportedly he committed suicide.

Psychologist Hans Selye has given a model of Stress. It is called General Adaptive Syndrome (GAS). It says how organism responds to stress. GAS consists of 3 stages – Alarm Stages is the first stage, in which body prepares itself for immediate action. Here arousal of Sympathetic Nervous System Occurs. Sympathetic Nervous System releases hormones that helps to prepare our body to meet threats or dangers. If stress continues, the Resistance Stage, Second Stage, begins. Our body draws on resources at an above normal rate in order to cope with the stress effectively. Continued exposure to the same stressor leads to the third stage, Exhaustion. It drains the body of its resources. During this stage our capacity to resist is depleted and our susceptibility to illnesses increases. In severe Cases of prolonged physical stress, the result can be death.

Large numbers of People are suffering from mental Disorders which include Coronaphobia, it is fear of contracting COVID 19. Due to COVID 19 Pandemic many people is fearful, anxious and worried. They are under stress. They are not able to do their work due to fear of getting COVID 19 infection. People don't want to go outside to purchase food, medicine or other essential things due to fear of getting infected. They are having errors in

thinking (thinking errors – jumping to conclusion, personalization, Catastrophic thinking, Filtering etc.). If they develop normal coughing, they may Jump to the Conclusion that they got infected with COVID 19. Some causality was reported even person even after getting 2n dose of COVID 19 vaccination. COVID suspect are running from quarantine center due to fear of catching virus. People are likely to develop mental illness like Depression, Generalized Anxiety Disorder, Panic Disorder, Hypochondriasis, Somatization, Dissociation, Obsessive Compulsive Disorder, and Insomnia.

Depression is a mood disorder. It is characterized by low mood, pessimistic view about future, helplessness, hopelessness and worthlessness, irritability, fatigue, suicidal ideation, loss of appetite and disturbed sleep. Generalized Anxiety Disorder involves excessive anxiety and worry about different kinds of topic, events or activities. Hypochondriasis involves persistent preoccupation with the possibility of having one or more serious and progressive physical disorders. Person with Panic disorder experience recurrent anxiety attack in which the person experiences intense terror. Many people are having negative thinking. They are persistently worried about their temporary unemployment, business, future. They are likely to lose their temper easily, on trivial issues. The sense of isolation and financial and medical anxiety coming along with the deadly pandemic and sinking economy have increased the frequency of terror within homes. The national lockdown has reported more than 50% rise in domestic violence. Recent data released by the National Legal Services Authority (NALSA) suggest that the nationwide lockdown has led to a rapid increase in cases of domestic violence.

People spend lots of times on social networking sites or internet. Students are also getting their classes online. All these things have increased our dependency on mobile and internet. Now many people are having mobile addition.

Not only adults but children are also showing maladaptive behaviors. They do not want to go to bed on time and do not want to get up early in the morning. As there is no school. Since they are not allowed to go outside so they spends lots of time on mobile, playing game or watching videos and watching television. They spend time in quarreling with their sibling. In spite of all these negative aspects some positive things are also taking place like it has given us opportunity to spend times with family members. People are getting time to follow their hobbies, like – reading, cooking, dancing, painting, singing etc. Working parents are able to give time to their kids. There are several Psychological techniques which can be helpful in reducing stress like Activity Scheduling (maintaining daily routine activities and keeping oneself busy), Distraction techniques, Relaxation techniques, Deep breathing exercises, Replacing negative thoughts with positive thoughts and by developing and following hobbies and minimizing watching, reading and listening too much COVID 19 related news. One should not be preoccupied with watching COVID 19 related news all the time because it causes unnecessary tension. To decrease domestic violence we should do anger management, Cognitive restructuring. By following all these measures we can stay mentally and physically fit with COVID 19.

Conclusion:

Due to COVID 19 Pandemic many people is fearful, anxious and worried. They are under stress. They are not able to do their work due to fear of getting COVID 19 infection. Due to COVID 19 pandemic many psychological problems are rising including rise in domestic violence. Many people have developed mobile and game addition. This COVID-19 pandemic

and Lockdown have forced entire human being living in a world that is more stressful and full of anxiety. Psychological approaches to live with COVID 19 will reduce our stress, anxiety and domestic violence. Psychological approach will improve our mental health and Psychological well being.

References :

1. Adhikari SP, Meng S, Wu Y-J, et al. (2020). Epidemiology, causes, clinical manifestation and diagnosis, prevention and control of coronavirus disease (COVID-19) during the early outbreak period: a scoping review. Infect Dis Poverty9:29. https://doi.org/10.1186/s4024 9-020-00646-x
2. Arora A., Jha AK, Alat P et al. (2020). Understaning Coronaphobia, Asian Journal of Psychiatry 54; 102384, journal homepage: www.elsevier.com/locate/ajp
3. American Psychiatric Association (2013). Diagnostic and Statistical Manual of Mental Disorders. Fifth Edition, Text Revision (DSM V). Washington, DC: American Psychiatric Association
4. Krishnaswami Narayana (2020). COVID 19: rise in mental health issues indicates need to change our priorities https:// timesofindia.indiatimes.com
5. M. A. Anrews, Binu Areekal, K.R. Rajesh,et al.(2020). First confirm case of COVID 19 infection in India : A case report, Indian Journal of Medical Research ; 151(5) : 490-492.
6. Ministry of Ayush, Government of India. https:/ /www.ayush.gov.in
7. The Economic Times. (2020). 11 Coronavirus suspects flee from a hospital in Maharashtra.https://economictimes. indiatimes.
8. The Hindustan Times (2020) Men send to COVID 19 Quarantine allegedly commits suicide in Karnataka https://www. hindustan times.com/india-news/men-sent-to-covid-19-quarantine-allegedly-commits-suicide-in-karnataka
9. The Times of India (Domestic violence cases in India on the rise during lockdown https:// timesofindia.indiatimes.com.
10. The Times of India (2020) Domestic violence cases in India on the rise during lockown on the rise during lockdown , says report. https:// timesofindia.indiatimes.com/life style/ relationships/love-sex/domestic-violence-cases-in-india-on-the-rise-during-lockdown
11. Sadock, B.J., Sadock, V.A. (2005). Kaplan and Sadock's Comprehensive textbook of Psychiatry-8th edi.New York: Williams and Wilkins.
12. World Health Organization, Coronavirus (COVID 19) Pandemic. http://www.who.int/ covid-19/information
13. World Health Organization (1992). The ICD -10 Classification of Mental and Behavioral Disorder.Diagnostic Criteria for Research. Geneva, WHO.
14. World Health Organization (2020). Coronavirus disease (COVID-19) outbreak situation. https:// www.who.int/emergencies/ diseases/novel coronavirus-2019. Accessed May 4, 2020.

+ + +

ISSN: 0973-0583

Postpartum Depression Common But Undiagnosed and Untreated Mental Disorder

Dr. Kiran Bala
Assistant Professor, Department of Psychology,
Jagat Narain Lal College, Khagaul, (Patliputra University)
Archana Bharti
Assistant Professor, Department of Psychology,
Jagat Narain Lal College, Khagaul, (Patliputra University)

ABSTRACT

Postpartum depression is a condition that occurs in mother after childbirth. It is a unique and often unrecognized disorder, yet its impact can be devastating. This phenomenon affects women universally in countries around the world, making it the most common complication following childbirth, with 10%–15% of women experiencing it. If left untreated, maternal depression can lead to serious health issues for the mother, the infant, and the family as a whole. Moreover, when depression persists in mothers, it puts their children at a higher risk for behavioral problems and later psychopathology, including anxiety, disruptive, and affective disorders. It can be treated through a combination of psychological interventions such as cognitive behavior therapy, interpersonal therapy, and family therapy, along with medical interventions involving antidepressants. However, despite the availability of treatments, postpartum depression is often subject to stigma, similarly to other mental disorders. Unfortunately, this stigma, whether with or without support from family members and health professionals, can deter women from seeking help for their postpartum depression.

Keywords: Postpartum depression, Cognitive behaviour therapy, Interpersonal therapy, Supportive therapy, Family therapy, antidepressant and stigma

Introduction:

Postpartum depression, also known as postnatal depression, is a depressive disorder that may affect mothers following childbirth. This condition is observed universally, impacting women in countries around the globe. The prevalence of this distressing mental disorder ranges from 5% to 60.8% worldwide (Klainin & Arthur, 2009).

Postpartum depression is characterized as non-psychotic depressive episodes, marked by symptoms like loss of interest, insomnia, and decreased energy experienced by mothers within 4 to 6 weeks after delivery, as defined by the World Health Organization (WHO, 2001). The symptoms of postpartum depression, as described by the World Health Organization in 2003, encompass feelings of anxiety, hopelessness, decreased appetite, and difficulty concentrating, reduced interest in the baby or life in general, and altered sleep patterns (Segre & Davis, 2013).

In the immediate postpartum period, approximately 50-80% of women experience various mood disturbances, such as anxiety, heightened emotional sensitivity, feelings of loneliness, fear of unknown, and/or guilt. As time progress and the mother forms a strong bond with her new-born baby, these emotions usually decrease. however, a notable subset of women, comprising 10-15%, goes on to develop severe symptoms of depression or anxiety, which is called postpartum depression (Patel et al, 2015)

Postpartum psychiatric disorders can be categorized into three main types: postpartum blues,

IMPACT OF COVID-19 PANDEMIC ON CHILDREN'S PSYCHOLOGICAL WELL BEING: A CASE REPORT

Dr. Kiran Bala
Assistant Professor, Department of Psychology,
J.N.L. College,Khagaul, Patliputra University, Patna

Archana Bharti
Assistant Professor, Department of Psychology,
J.N.L. College,Khagaul, Patliputra University, Patna

This is a case report of 9 years old male, studying in class 5, from urban background had problem of spending more time on mobile game, watching T.V., not attending online class, not doing homework and has become very irritable, not obeying parents. The Coronavirus disease (COVID-19) pandemic is highly communicable disease. To control the spread of this disease government implemented nationwide containment measures or lockdown. Due to lockdown, many children had no physical access to friends, peers, schoolmates and relatives and these impact children adversely, making them easily bored, angry, frustrated, stressed and anxious. Here we report a case of a child who is very much psychologically affected by the measures of lockdown. In this case by using a psychological test, Children's Self -Report and Projective Inventory (CSRPI), we see the impact of COVID 19 lockdown affected almost every aspect of this child like his social, education, physical health, mental health, daily routine and engagement in video games.

Key words: Coronavirus Pandemic (COVID-19), Lockdown, Psychological Health, CSRPI

Coronavirus or COVID-19 pandemic, which broke out at the beginning of December 2019 in the Wuhan city of China has directly and indirectly affected each and every sphere of life across the world. This, being a new viral disease affecting humans for the first time, vaccines were not available for a long time. Thus, the emphasis is on taking extensive precautions such as extensive hygiene protocol (e.g., regularly washing of hands, avoidance of face-to-face interaction etc.), social distancing, and wearing of masks, closing workplace and quarantine to control the spread of this highly communicable disease (Hleem et al.,2020; Amin et al.,2020; Shen et al., 2020;Singh et al.,2020). To combat the spread of COVID-19, the Indian government implemented nationwide containment measures or lockdown and self-isolation policies (Amin et al., 2020).In the Indian context, "lockdown" refers to individuals staying at home while completely restricting the movement of the population inside and outside of specific areas except for essential activities (health visits, purchasing for essential items, and providing essential work) (Lippi et al. 2020). Peoples' lives have been disrupted and negatively affected by COVID-19-related suffering and lockdowns at community and household level (Haleem et al., 2020).

The Coronavirus disease (COVID-

Living with COVID 19 : A Psychological Approach

Archana Bharti and Dr. Kiran Bala
Assistant Professor, Deptt. of Psychology, Jagat Narain Lal College, Khagaul,Patna

ABSTRACT

Corona virus disease 2019 (COVID-19) is an infectious disease. WHO declared COVID 19 outbreak a global Pandemic. COVID 19 induced Lockdown caused temporary closure of everything except grocery shop, medical shop and hospitals. Lockdown is a big shock for everyone. Great number of people has lost their employment. This pandemic and Lockdown have forced entire human being to live in new normal world which is full of restriction, stress and anxiety. People go outside in Mask and with sanitizer. Students are attending their online classes from their home. Doctors are giving tele-consultation. Business is taking form of e commerce. In COVID 19 new normal people are adopting naturopathy for treating minor health problems. Stress affects not only physical health but also mental health. Psychiatric problems like Coronaphobia, Depression, Anxiety, Hypochondriasis, insomnia, panic attack, Screen and game addiction etc. are increasing during COVID 19 period. Masses are adopting Yoga, Meditation, relaxation, Cognitive restructuring, activity scheduling and AYUSH Guidelines to keep themselves fit.

Key word: ***COVID 19, Lockdown, Psychiatric problem, Cognitive restructuring and AYUSH.***

Introduction:

Corona virus disease 2019 (COVID-19) is an infectious disease caused by Severe Acute Respiratory Syndrome Corona virus 2 (SARS-CoV-2). COVID 19 was first reported in Wuhan, China. China stopped its spread by using Lockdown in Wuhan. Very soon it covered many countries. On March 11, 2020, WHO declared the novel Corona virus (COVID-19) outbreak a global pandemic. In india, first case of COVID 19 was reported on 27th January, 2020, at Thrissur district of Kerala, the patient was a student studying in Wuhan University, China and returned to India. Common sign and symptoms of COVID 19 are fever, Cough, tiredness, shortness of breath or difficulties in breathing, sore throat, loss of taste and smell. It is highly infectious disease. Though we have developed its vaccination, but till now we are without its treatment. We are helpless but not hopeless. Helpless because we are without its medicine. We are hopeful because globally scientists are working hard to develop its medicine. To stop COVID 19 Spread, WHO has proposed certain measures like, such as maintaining physical distancing, wearing a face mask, keeping rooms well ventilated, avoiding crowds, cleaning your hands, and coughing into a bent elbow or tissue. One can get infected, if he / she come into contact with infected person. It spreads primarily from person to person through small droplets that come out from nose or mouth of an infected person, when he or she coughs, sneezes, or speaks. These droplets are relatively heavier, so does not travel far and quickly sink to the ground. People can catch COVID-19 if they breathe in these droplets

from a person infected with the virus. This is why it is important to stay at least 1 meter away from others. These droplets can land on objects and surfaces around the person such as tables, doorknobs and handrails. People can become infected-by touching these objects or surfaces, then touching their eyes, nose or mouth. So it's important to practice respiratory etiquette for example, by coughing into a flexed elbow or put cloth over your mouth and nose when one coughs or sneezes. People should wash their hands regularly with soap and water or clean with alcohol-based Sanitizer. The risks of getting COVID-19 are higher in crowded and inadequately ventilated spaces where infected people spend long periods of time together in close proximity. WHO says to Avoid 3Cs – spaces that are closed, crowded or involve close contact. In its advisory WHO also says that one should seek medical attention immediately if one develops fever, cough and difficulty in breathing. WHO says that one should stay at home and self–isolate, if one develops even minor symptoms like headache, mild fever etc. Anybody can get infected with the COVID 19. But, elderly people, children below 10 and person with medical problems like diabetes, Cardio Vascular Disease, Chronic Respiratory disease and Cancer, Health Care Workers like Doctors and nurses and person with poor immune system are in high risk zone.

Indian government announced Lockdown to slow its speed. COVID 19 induced Lockdown caused temporary closure of the Industry, big business houses and all economical and commercial activities. During lockdown period Social gatherings, for example marriage ceremony or funeral rites were allowed on specific terms and condition. Limited number of persons was allowed to be present in such ceremony. Lockdown is a big shock for those who runs petty businesses and who are self employed person like, daily laborer, small farmers, Rickshaw puller and Vendor Vala. Great number of people has lost their employment. They managed to sustain their family anyhow. School, Colleges, Coaching Institutes also remained closed. Examinations were delayed.

The Ministry of Ayurveda, Yoga, Naturopathy, Unani, Siddha, Sowa-Rigpa and Homoeopathy (abbreviated as AYUSH) AYUSH has recommended certain measures for enhancing immunity. It says drink warm water, practice Yogasana, and Pranayama and meditation and use spices like Haldi (turmeric), Jeera (cumin), Dhaniya (coriander) and Lahsun (garlic) in cooking. Ayurvedic immunity boosting measures are take chawanprash (10gm) in the morning, drink herbal tea or decoction (Kadha) made from Tulsi (Basil), dalchini (Cinnamon), Kalimirch (Black Pepper), Shunthi (dry Ginger) and Munakka (Rasin).

Life In New Normal World:

Lockdown has completely changed our life. This new normal world emphasized on online activities, It focuses upon minimal contact of person. People stay at home. They do not go outside if it is not urgent/emergency. People do not visit family, friends or go to market, Park, Restaurant, School, College, office, Theater. At home, they are trying to improve their Quality of Life by doing productive work from home. Now, online classes are going on for students. Business is taking form of e commerce. One can take relish of restaurants food at home by getting home delivery from Restaurants. People go outside in Mask and with sanitizer. Mass gatherings are being avoided. Even people are celebrating festival, like Durga Puja, Chhath Puja, Holi and Id etc. with less contact with their relatives and friends. Marriages are taking place with less number of people. Death ceremonies are taking place with less number of people. Through video calling facility

brought people close to their friends and family, so no need to visit their home to see them and chat with them. Medical facility is not much available, as it was before COVID19 outbreak. Everybody is taking precaution, so that they cannot get infected with COVID 19. Doctors are hesitating to come in contact with patients at the same time patients also wants to avoid doctors contact, due to fear of catching COVID 19 infection. Doctors are giving online consultation (Tele – consultation) to their patient. Ministry of Health and family welfare, Government of India launched e Sanjivini OPD. It is National Tele-consultation Service on 16th June, 2009. Its aim was to provide telemedicine network at rural areas. This service prove beneficial during COVID Pandemic. Doctors are Prescribing medicine to the patient with minimal physical contact. Even though the job is so hazardous that doctors had to come in contact with the patient. As a consequence of which they became victim of COVID 19 infection.

People try to do their work themselves. They do not want to take help of maid, driver or other person. They clean their home, wash their cloth, press it, cooking, drive car themselves. In other word by doing all these work people keep themselves physically active and safe. People are adopting naturopathy. They are doing Yoga and meditation to keep them healthy and fit at home. They opt for home remedies like Dadi ma ke Nuskhe, to cure minor problems, like taking Ajwain for digestion, To improve Immune System Citric food, Kadha, Tulsi, Haldi vala Dhudh etc. are consumed. All educational Institutions are closed. Students are attending their online classes from their home. Students are missing their school activities.

Psychological Impact Of Covid 19 :

COVID 19 Pandemic brought not only health emergencies but it also affected our economical infrastructure, social life, and mental health. Due to all these problems people are living in stress. High stress levels affect immunity, says Dr Prabha S Chandra, Psychiatrist at Nimhans . Person with lower immunity is in high risk zone. Three people, who were tested positive for COVID 19 in Tamilnadu, India, ended their life (The times of India, 29 May, 2020). A man, who had returned from Mumbai to his native place in Karnataka was sent to quarantine, reportedly he committed suicide.

Psychologist Hans Selye has given a model of Stress. It is called General Adaptive Syndrome (GAS). It says how organism responds to stress.GAS consists of 3 stages – Alarm Stages is the first stage, in which body prepares itself for immediate action. Here arousal of Sympathetic Nervous System Occurs. Sympathetic Nervous System releases hormones that helps to prepare our body to meet threats or dangers. If stress continues, the Resistance Stage, Second Stage, begins. Our body draws on resources at an above normal rate in order to cope with the stress effectively. Continued exposure to the same stressor leads to the third stage, Exhaustion. It drains the body of its resources. During this stage our capacity to resist is depleted and our susceptibility to illnesses increases. In severe Cases of prolonged physical stress, the result can be death.

Large numbers of People are suffering from mental Disorders which include Coronaphobia, it is fear of contracting COVID 19. Due to COVID 19 Pandemic many people is fearful, anxious and worried. They are under stress. They are not able to do their work due to fear of getting COVID 19 infection. People don't want to go outside to purchase food, medicine or other essential things due to fear of getting infected. They are having errors in

thinking (thinking errors – jumping to conclusion, personalization, Catastrophic thinking, Filtering etc.). If they develop normal coughing, they may Jump to the Conclusion that they got infected with COVID 19. Some causality was reported even person even after getting 2n dose of COVID 19 vaccination. COVID suspect are running from quarantine center due to fear of catching virus. People are likely to develop mental illness like Depression, Generalized Anxiety Disorder, Panic Disorder, Hypochondriasis, Somatization, Dissociation, Obsessive Compulsive Disorder, and Insomnia.

Depression is a mood disorder. It is characterized by low mood, pessimistic view about future, helplessness, hopelessness and worthlessness, irritability, fatigue, suicidal ideation, loss of appetite and disturbed sleep. Generalized Anxiety Disorder involves excessive anxiety and worry about different kinds of topic, events or activities. Hypochondriasis involves persistent preoccupation with the possibility of having one or more serious and progressive physical disorders. Person with Panic disorder experience recurrent anxiety attack in which the person experiences intense terror. Many people are having negative thinking. They are persistently worried about their temporary unemployment, business, future. They are likely to lose their temper easily, on trivial issues. The sense of isolation and financial and medical anxiety coming along with the deadly pandemic and sinking economy have increased the frequency of terror within homes. The national lockdown has reported more than 50% rise in domestic violence. Recent data released by the National Legal Services Authority (NALSA) suggest that the nationwide lockdown has led to a rapid increase in cases of domestic violence.

People spend lots of times on social networking sites or internet. Students are also getting their classes online. All these things have increased our dependency on mobile and internet. Now many people are having mobile addition.

Not only adults but children are also showing maladaptive behaviors. They do not want to go to bed on time and do not want to get up early in the morning. As there is no school. Since they are not allowed to go outside so they spends lots of time on mobile, playing game or watching videos and watching television. They spend time in quarreling with their sibling. In spite of all these negative aspects some positive things are also taking place like it has given us opportunity to spend times with family members. People are getting time to follow their hobbies, like – reading, cooking, dancing, painting, singing etc. Working parents are able to give time to their kids. There are several Psychological techniques which can be helpful in reducing stress like Activity Scheduling (maintaining daily routine activities and keeping oneself busy), Distraction techniques, Relaxation techniques, Deep breathing exercises, Replacing negative thoughts with positive thoughts and by developing and following hobbies and minimizing watching, reading and listening too much COVID 19 related news. One should not be preoccupied with watching COVID 19 related news all the time because it causes unnecessary tension. To decrease domestic violence we should do anger management, Cognitive restructuring. By following all these measures we can stay mentally and physically fit with COVID 19.

Conclusion:

Due to COVID 19 Pandemic many people is fearful, anxious and worried. They are under stress. They are not able to do their work due to fear of getting COVID 19 infection. Due to COVID 19 pandemic many psychological problems are rising including rise in domestic violence. Many people have developed mobile and game addition. This COVID-19 pandemic

and Lockdown have forced entire human being living in a world that is more stressful and full of anxiety. Psychological approaches to live with COVID 19 will reduce our stress, anxiety and domestic violence. Psychological approach will improve our mental health and Psychological well being.

References :

1. Adhikari SP, Meng S, Wu Y-J. et al. (2020). Epidemiology, causes, clinical manifestation and diagnosis, prevention and control of coronavirus disease (COVID-19) during the early outbreak period: a scoping review. Infect Dis Poverty9:29. https://doi.org/10.1186/s4024 9-020-00646-x
2. Arora A., Jha AK, Alat P et al. (2020). Understaning Coronaphobia, Asian Journal of Psychiatry 54; 102384, journal homepage: www.elsevier.com/locate/ajp
3. American Psychiatric Association (2013). Diagnostic and Statistical Manual of Mental Disorders. Fifth Edition, Text Revision (DSM V). Washington, DC: American Psychiatric Association
4. Krishnaswarni Narayana (2020). COVID 19: rise in mental health issues indicates need to change our priorities https://timesofindia.indiatimes.com
5. M. A. Anrews, Binu Areekal, K.R. Rajesh,et al.(2020). First confirm case of COVID 19 infection in India : A case report, Indian Journal of Medical Research ; 151(5) : 490-492.
6. Ministry of Ayush, Government of India. https://www.ayush.gov.in
7. The Economic Times. (2020). 11 Coronavirus suspects flee from a hospital in Maharashtra.https://economictimes. indiatimes.
8. The Hindustan Times (2020) Men send to COVID 19 Quarantine allegedly commits suicide in Karnataka https://www. hindustan times.com/india-news/men-sent-to-covid-19-quarantine-allegedly-commits-suicide-in-karnataka
9. The Times of India (Domestic violence cases in India on the rise during lockdown https://timesofindia.indiatimes.com.
10. The Times of India (2020) Domestic violence cases in India on the rise during lockown on the rise during lockdown , says report. https://timesofindia.indiatimes.com/life style/relationships/love-sex/domestic-violence-cases-in-india-on-the-rise-during-lockdown
11. Sadock, B.J., Sadock, V.A. (2005). Kaplan and Sadock's Comprehensive textbook of Psychiatry-8th edi.New York: Williams and Wilkins.
12. World Health Organization, Coronavirus (COVID 19) Pandemic. http://www.who.int/covid-19/information
13. World Health Organization (1992). The ICD-10 Classification of Mental and Behavioral Disorder.Diagnostic Criteria for Research. Geneva, WHO.
14. World Health Organization (2020). Coronavirus disease (COVID-19) outbreak situation. https://www.who.int/emergencies/ diseases/novel coronavirus-2019. Accessed May 4, 2020.

+ + +

ISSN: 0973-0583

Postpartum Depression Common But Undiagnosed and Untreated Mental Disorder

Dr. Kiran Bala
Assistant Professor, Department of Psychology,
Jagat Narain Lal College, Khagaul, (Patliputra University)
Archana Bharti
Assistant Professor, Department of Psychology,
Jagat Narain Lal College, Khagaul, (Patliputra University)

ABSTRACT

Postpartum depression is a condition that occurs in mother after childbirth. It is a unique and often unrecognized disorder, yet its impact can be devastating. This phenomenon affects women universally in countries around the world, making it the most common complication following childbirth, with 10%–15% of women experiencing it. If left untreated, maternal depression can lead to serious health issues for the mother, the infant, and the family as a whole. Moreover, when depression persists in mothers, it puts their children at a higher risk for behavioral problems and later psychopathology, including anxiety, disruptive, and affective disorders. It can be treated through a combination of psychological interventions such as cognitive behavior therapy, interpersonal therapy, and family therapy, along with medical interventions involving antidepressants. However, despite the availability of treatments, postpartum depression is often subject to stigma, similarly to other mental disorders. Unfortunately, this stigma, whether with or without support from family members and health professionals, can deter women from seeking help for their postpartum depression.

Keywords: Postpartum depression, Cognitive behaviour therapy, Interpersonal therapy, Supportive therapy, Family therapy, antidepressant and stigma

Introduction:

Postpartum depression, also known as postnatal depression, is a depressive disorder that may affect mothers following childbirth. This condition is observed universally, impacting women in countries around the globe. The prevalence of this distressing mental disorder ranges from 5% to 60.8% worldwide (Klainin & Arthur, 2009).

Postpartum depression is characterized as non-psychotic depressive episodes, marked by symptoms like loss of interest, insomnia, and decreased energy experienced by mothers within 4 to 6 weeks after delivery, as defined by the World Health Organization (WHO, 2001). The symptoms of postpartum depression, as described by the World Health Organization in 2003, encompass feelings of anxiety, hopelessness, decreased appetite, and difficulty concentrating, reduced interest in the baby or life in general, and altered sleep patterns (Segre & Davis, 2013).

In the immediate postpartum period, approximately 50-80% of women experience various mood disturbances, such as anxiety, heightened emotional sensitivity, feelings of loneliness, fear of unknown, and/or guilt. As time progress and the mother forms a strong bond with her new-born baby, these emotions usually decrease. however, a notable subset of women, comprising 10-15%, goes on to develop severe symptoms of depression or anxiety, which is called postpartum depression (Patel et al, 2015)

Postpartum psychiatric disorders can be categorized into three main types: postpartum blues,

postpartum psychosis, and postpartum depression. The "postpartum blues" or "baby blues" is a short-term mood disturbance that affects up to 75% of new mothers during the 10 days following childbirth. It is characterized by symptoms like crying, irritability, fatigue, anxiety, and emotional liability. Generally, these symptoms are mild and self-limited, and they do not involve a complete loss of pleasure or interest, persistent low mood, or thoughts of suicide (Beck, 2006).

On the opposite end of the spectrum, postpartum psychosis is a psychintric emergency that demands immediate intervention. It is marked by a rapid onset of severe mood swings, fluctuating consciousness, delusions, hallucinations, or disorganized behaviors, and a relatively high incidence of thoughts of suicide or harm towards the infant (Sit et al., 2006). The Edinburgh Postnatal Depression Rating Scale is a commonly used tool for screening depression specifically related to the postpartum period. It aids in identifying and evaluating postpartum depression symptoms in new mothers.

Epidemiology:

Postpartum depression affects approximately 10-15% of all mothers in western societies. However, recent epidemiological studies have shown varying prevalence rates for postpartum depression across different regions: 15.8% in Arab women,16% in Zimbabwean women, 34.7% in South African women, 11.2% in Chinese women, 17% in Japanese women, and 23% in Goan women in India (Thomas et al., 2018). In India, the prevalence of postpartum depression ranges from 11% to 16% (Hegde et al., 2012).

Postpartum blues, with an incidence of 300 750 per 1000 mothers globally, typically resolve within a few days to a week, causing few negative effects and usually only requiring reassurance. On the other hand, postpartum psychosis, with a global prevalence ranging from 0.89 to 2.6 per 1000 births, is a severe disorder that manifests within four weeks postpartum and necessitates hospitalization. Postpartum depression can begin shortly after childbirth or continue from antenatal depression, and it requires appropriate treatment. The worldwide prevalence of postpartum depression has been estimated at 100 150 per 1000 births. Despite its significance as a health issue for many women, postpartum depression often goes undiagnosed and untreated (Upadhyay et al., 2017).

Postpartum Depression And Stigma:

Postpartum depression remains associated with significant stigma, which can complicate efforts to accurately determine its true prevalence. This stigma surrounding mental health, regardless of whether there is support from family members and health professionals, often acts as a deterrent for women seeking help for their postpartum depression. However, for those who do seek and receive medical assistance, some find the diagnosis beneficial and become advocates for raising awareness of postpartum depression within the health professional community (Halbreich & Karkun, 2006).

Etiology Of Postpartum Depression:

The development of postpartum disorders does not have a clear etiology and may arise from a combination of factors. Several factors are associated with an increased risk of postpartum depression. Genetic susceptibility and hormonal changes plays a role, influenced by various risk factors such as unplanned pregnancy, single parenthood, financial difficulties, stressful life events, child care-related stress, and having a congenitally malformed infant (Chandra, 2009). Hormones like estrogen, progesterone, thyroid hormone, testosterone, endorphins, and cortisol have been associated with this disorder. Additionally, the use of synthetic oxytocin, a drug used to induce labor, has been associated with increased rates of postpartum depression and anxiety (Kroll-Desrosiers et al., 2017).

Personal and family history of depression and the stress of caring for a new baby are also considered contributors to postpartum depression (Schiller et al., 2015; Kim et al., 2014). A history of depression and anxiety, along with reduced social support (emotional, financial, intelligence support, and empathy), experiencing the illness or death of a baby, substance abuse by the husband, complications during the current pregnancy, giving birth to a female baby, and lack of support from the husband are among the significant environmental factors linked to the onset of depression and anxiety disorders (Upadhyay et al., 2017).

Other factors that contribute to postpartum depression include the mother's marital status, an unplanned/unwanted pregnancy, the undesired gender of the baby, having a poor relationship with a partner, experiencing a lack of emotional support within the family, insufficient social support, poverty, and social adversity, previous personal history of depression, prenatal depression or anxiety, childcare stress, poor physical health of the woman or the baby, and chance adverse life events (Patel et al., 2002; Beck, 2001). In a study conducted in Goa, India, depression risk after delivery was found to be higher in cases of economic deprivation, marital violence, and having a female infant (Patel et al., 2002).

Effects Of Postpartum Depression:

Untreated maternal depression has severe repercussions for the well-being of the mother, the infant, and the family system. Numerous studies have highlighted the detrimental impact of prolonged and severe postnatal depression on relationships, families, and children. Such consequences include increased depression in partners, higher rates of divorce, weakened bonding with the infant, and reduced emotional adjustment and cognitive development among children (John, 2011).

Depression significantly impairs a mother's ability to interact appropriately with her child (Logsdon et al., 2006). Depressed women often exhibit diminished responsiveness to infant cues (Murray et al., 1996) and display more negative, hostile, or disengaged parenting behaviors (Lovejoy et al., 2000). These disruptions in maternal-infant interactions have been linked to lower cognitive functioning and adverse emotional development in children. Furthermore, when mothers experience chronic depression, their children are at an elevated risk for behavioral problems (Oberlander et al., 2007) and later psychopathology, including anxiety, disruptive, and affective disorders. On the other hand, the remission of depression in mothers is associated with a reduction or remission in psychiatric diagnoses in their children (Weissman et al., 2006).

In low-income countries, maternal depression has been associated with both malnutrition and higher rates of diarrheal illness in children (Rahman et al., 2008). The consequences of maternal depression extend to social, emotional, and cognitive developmental domains in children. Those growing up in households with depressed mothers face a heightened risk of experiencing psychiatric symptoms, both internalizing and externalizing, and are more prone to developing a wide range of psychiatric disorders, including depressive and anxiety disorders, oppositional defiant disorder, and conduct disorder (Teti & Goodman, 2008).

Management Of Postpartum Depression:

There are two main types of interventions for Postpartum Depression: psychological and medical. Medical interventions involve the use of medications such as anti-depressants, antianxiety drugs, and antipsychotic drugs if necessary. On the other hand, psychological interventions includes psycho-education, cognitive-behavioral therapy, interpersonal therapy, family therapy, and supportive therapy.

Psycho-educational interventions have been consistently effective in managing common perinatal mental disorders. These interventions focus on promoting problem-solving, coping skills, role transitions, interpersonal skills, and addressing the need for support systems. Cognitive-behavioral therapy and interpersonal therapy have shown particular success in helping individuals reframe unhelpful thinking patterns (Appleby et al., 1997).

Both individual social and psychological interventions have demonstrated equal efficacy in treating Postpartum Depression (Dennis, 2007; Pearlstein, 2009). Social interventions include individual counseling and peer support, while psychological interventions involve cognitive-behavioral therapy (CBT) and interpersonal therapy (IPT) (Fitelson et al., 2010). IPT has been particularly effective in fostering a strong bond between the mother and infant (Stuart, 2012; Smith et al., 2016). Other therapy forms, such as group therapy, home visits, counseling, and ensuring adequate sleep for the mother, may also be beneficial (Beck, 2008).

For mild to moderate cases of Postpartum Depression, psychological interventions or

antidepressants are typically used as treatment options. However, for women experiencing moderate to severe PPD, a combination of psychological and medical interventions may yield greater benefits (Langan, 2016).

In addition to traditional treatments, light aerobic exercise has shown promise in managing mild and moderate cases of Postpartum Depression (McCurdy et al., 2017; Prtchett et al.,2017). Moreover, maintaining a nutritious diet with sufficient consumption of vegetables, fruits, legumes, seafood, milk, dairy products, and olive oil has been associated with a potential 50% reduction in postpartum depression risk (Chatzi et al., 2011). Research also suggests that exercise and physical activity offer significant benefits in reducing depression symptoms comparable to medicinal effects (Dinas et al., 2011). Exercise has the added advantage of enhancing self-confidence and aiding in overcoming negative self-assessments related to depression. Furthermore, exercise can help women focus on their environment and improve problem-solving skills (Daley et al., 2007).

Conclusion:

Postpartum depression is a unique and often underestimated disorder, yet its consequences are devastating, significantly impacting maternal mortality and morbidity, making it a critical public health concern for women and their families. This form of depression occurs after childbirth, which is a life-altering experience that can be both exciting and overwhelming for new parents. The good news is that postpartum depression is a medical condition that can be effectively treated with medication and counseling.

Raising public awareness about postpartum depression and its effects on children is of utmost importance; as such awareness could encourage more mothers to seek necessary treatment. The study reveals a high prevalence of depression among postpartum women, but unfortunately, the rate of seeking healthcare for depression remains low. To tackle this issue, it is crucial for health policymakers to incorporate mental health components into reproductive and child health programs. Moreover, health professionals and workers must receive proper training to promptly raise awareness and provide effective treatment for postpartum depression among women.

Reference:

1. Appleby L, Warner R, Whitton A, Faragher B (1997). A controlled study of fluoxetine and cognitive behavioural counseling in the treatment of postnatal depression. British Medical Journal; 314: 932-936.
2. Beck CT. (2006). Postpartum Depression: It isn't just the blues. American Journal of Nursing 106 (5):40–50.
3. Beck CT. (2001). Predictors of postpartum depression: An update. Nursing Res 50:275 85
4. Beck, C.T. (2008). State of the science on postpartum depression: What nurse researchers have contributed—Part 2. MCN: The American Journal of Maternal/Child Nursing, 33(3), 151-156.
5. Chatzi L, Melaki V, Sarri K, Apostolaki I, Roumeliotaki T, Georgiou V, et al. (2011). Dietary patterns during pregnancy and the risk of postpartum depression: The mother child 'Rhea' cohort in Crete, Greece. Public Health Nutrition;14:1663 70.
6. Teti D.M. , Towe-Goodman N. (2008). postpartum depression, effects on children in Encyclopedia of Infant and Early Childhood Development,
7. Daley AJ, Macarthur C, Winter H.(2007). The role of exercise in treating postpartum depression: A review of the literature. Journal of Midwifery Women's Health 52:56 62.
8. Dinas PC, Koutedakis Y, Flouris AD. (2011). Effects of exercise and physical activity on depression. International Journal of Medical Science .180:319 25.
9. Fitelson E, Kim S, Baker AS, Leight K (December 2010). "Treatment of postpartum depression: clinical,psychological and pharmacological options".. International Journal of Women's Health. 3: 1–14.

10. Halbreich U, Karkun S (2006). "Cross-cultural and social diversity of prevalence of postpartum depression and depressive symptoms". Journal of Affective Disorders. 91 (2–3): 97–111

11. Hegde S, Latha K, Bhat SM, Sharma P, Kamath A, Shetty A. Postpartum depression: Prevalence and associated factors among women in India. Journal of Women's Health Issues Care 2012;1:1-7.

12. Kim S, Soeken TA, Cromer SJ, Martinez SR, Hardy LR, Strathearn L (2014). "Oxytocin and postpartum depression:delivering on what's known and what's not". Brain Research. Oxytocin in Human Social Behavior and Psychopathology. 1580: 219–32.

13. Klainin P, Arthur DG. (2009). Postpartum depression in Asian cultures: A literature review. International Journal of Nursing Student; 46:1355 73

14. Langan R, Goodbred AJ (2016). "Identification and management of Peripartum Depression". American Family Physician. 93 (10): 852–8

15. Logsdon MC, Wisner KL, Pinto-Foltz MD.(2006).The impact of postpartum depression on mothering.Journal of Obstetric Gynaecology Neonatal Nursing. ;35: 652–658

16. Lovejoy MC, Graczyk PA, O'Hare E, Neuman G. Maternal depression and parenting behavior: A meta-analytic review. Clinical Psychology Review. 2000;20:561–559

17. McCurdy AP, Boulé NG, Sivak A, Davenport MH (2017). "Effects of Exercise on Mild-to-Moderate Depressive Symptoms in the Postpartum Period: A Meta-analysis". Obstetrics and Gynecology. 129 (6): 1087–1097

18. Murray L, Fiori-Cowley A, Hooper R, Cooper PJ.(1996). The impact of postnatal depression and associated adversity on early mother infant interactions and later infant outcome. Child Dev. 67:2512–2526.

19. Patel V, Rodrigues M, DeSouza N. (2002). Gender, poverty, and postnatal depression: a study of mothers in Goa, India. American Journal of Psychiatry. 159: 43–47.

20. Pearlstein, T., Howard, M., Salisbury, A., &Zlotnick, C. (2009). Postpartum depression. American journal of obstetrics and gynecology, 200(4), 357-364.

21. Prabha S Chandra (2009) Contemporary topics in women mental health.(1st edn), A John Wiley &sons Ltd, UK, 198- 213.

22. Pritchett RV, Daley AJ, Jolly K (2017). "Does aerobic exercise reduce postpartum depressive symptoms? A systematic review and meta-analysis". The British Journal of General Practice. 67 (663): e684–e691.

23. Rahman A, Patel V, Maselko J, Kirkwood B. (2008). The neglected 'm' in MCH programmes – why mental health of mothers is important for child nutrition. Trop Medicine Int Health.13(4):579–583

24. Schiller CE, Meltzer-Brody S, Rubinow DR (2015)."The role of reproductive hormones in postpartum depression". CNS Spectrums. 20 (1): 48–59.

25. Sit D, Rothschild AJ, Wisner KL. (2006). A review of postpartum psychosis.Journal of Womens Health. 15(4):352–368

26. Smith, E. K., Gopalan, P., Glance, J. B., &Azzam, P. N. (2016). Postpartum depression screening: a review for psychiatrists. Harvard Review of Psychiatry, 24(3), 173-187.

27. Stuart S (2012)."Interpersonal psychotherapy for postpartum depression". Clinical Psychology & Psychotherapy. 19 (2): 134–40.

28. Upadhyay et al. (2017). Postpartum depression in India: a systematic review and meta-analysis . Bulletin World Health Organization ;95:706–717

29. World Health Organization (2001). The World Health Report 2001: Mental health: new understanding, new hope. World Health Organization

❖❖❖

IIJ Impact Factor : 3.178 ISSN-2349-364X

वेदाञ्जली

अन्तर्राष्ट्रीय विद्वत्समीक्षित षाण्मासिकी शोधपत्रिका

(International Peer Reviewed Refereed Journal of Multidisciplinary Research)

वर्ष-७ अंक-१४ भाग-१

जुलाई-दिसम्बर, २०२०

प्रधानसम्पादक

डॉ0 रामकेश्वर तिवारी

सह सम्पादक

श्री प्रसून मिश्र

प्रकाशक

वैदिक एजूकेशनल रिसर्च सोसाइटी

वाराणसी

गीता के संदर्भ में तनाव और कर्मयोग

डॉ० अनामिका कुमारी*

सार : मनुष्य जब अपने जीवन का लक्ष्य निर्धारित नहीं कर पाता है, तो वह अपने कर्तव्य पथ से दिग्भ्रमित हो जाता है। कर्म के अभाव में वह तनाव का शिकार हो जाता है। जिसे दूर करने के लिए मनुष्य को कर्म योगी बनना पड़ता है।

मूल्य बिन्दु : कर्मयोग, तनाव, सत्कर्म, भागवत रोचा मार्ग, मोक्ष आदि।

भूमिका : मानव जब अपने कर्म के फल के विषय में चिंतन करना आरंभ करता है, तभी तनाव का प्रादुर्भाव होता है। अपने स्वार्थ की चिंता में किया गया कर्म तनाव रुपी वृक्ष का मूल जड़ हैं और निःस्वार्थ भाव से किया गया कर्म ही कर्म योग है।

मनुष्य सांसारिक सुख और दुखों के माया जाल में फंसता है, तो चिंता की उत्पति होती है। कोई भी कार्य आरम्भ करने से पहले फल की चिंता करना, तनाव का मुख्य कारण हैं। भगवान श्रीकृष्ण ने भी गीता में कहा है, "कर्मण्येवाधिकारास्ते मा फलेषु कदाचन।"[1]

मूल तत्व : भगवद्गीता एक सर्वश्रेष्ठ और सबसे प्राचीन मनोविज्ञान है, जिसमें युद्ध क्षेत्र में तनाव ग्रस्त तथा टूटे हुए मनोबल युक्त अर्जुन को उत्साह प्रदान कर युद्ध के लिए प्रेरित किया गया है। गीता में कर्म योग का ही उद्देश्य दिया गया है। गीता जैसे पवित्र ग्रथ का श्रेय अर्जुन को ही जाता है, जिसने युद्ध भूमि में भगवान कृष्ण को कर्मयोग की शिक्षा अर्थात अमृत उपदेश देने के लिए विवश किया। सम्पूर्ण गीता का उदेश्य ही कर्मयोगी बनाना है लोक में एक कहावत प्रचलित हैं, "जैसा कर्म करोगे, वैसा देंगे भगवान यह है गीता का ज्ञान।"

विस्तृत वर्णन : इस संसार में दो प्रकार की जीवन पद्धति हैं पहला ज्ञानयोग और दूसरा कर्मयोग। ज्ञानयोग में मनुष्य व्यावहारिक ज्ञान तथा दर्शन द्वारा संसार का चिंतन और मनन करना चाहते है, अर्थात आत्मा और परमात्मा को अभेद मानकर स्वंय को ब्रह्म से अभिन्न समझते है। कर्मयोग अर्थात भक्ति योग में मनुष्य परमेश्वर को सर्वशक्तिमान संपूर्ण जगत के कर्ता और स्वामी मानकर स्वयं को प्रभु का सेवक मानकर भक्ति में लीन होकर परमात्मा से साक्षात्कार का प्रयत्न करते हैं।[2]

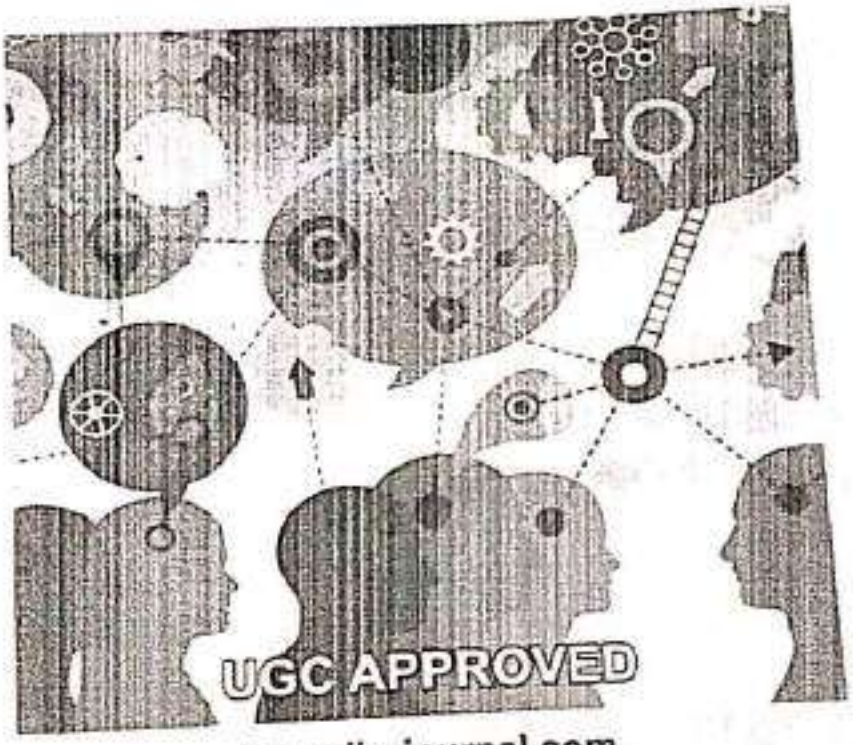
वर्ण, आश्रम, स्वभाव और परिस्थिति के अनुसार जिस मनुष्य के लिए जिन कर्मो का शास्त्र किया गया है, उन शास्त्र विहित स्वाभाविक कर्मो का न्यायपूर्वक अपना कर्तव्य मानकर उन कर्मों का फल और सिद्धि की व्यर्थ चिंता, मोह, माया से पृथक् होकर समस्त कर्म और फल भगवान को समर्पित करते हुए अपने कर्तव्य में लीन होना कर्मयोग है।[3]

कर्मयोग की स्थिति में मनुष्य राग द्वेश और काम क्रोधादि अवगुणों से मुक्त रहता है। संपूर्ण जगत उसे भगवान् का स्वरुप प्रतीत होते लगता है। सब प्राणियों में प्रभु दिखाई देने लगता है। इस स्थिति में व्यक्ति स्वतः तनाव मुक्त हो जायेगा, जब उससे यह आभास हो जायेगा कि सर्वत्र प्रभु की सत्ता विराजमान है।[4]

अज्ञानता और अज्ञातभय के कारण मनुष्य जब कर्म के फल का शुभ और अशुभ की अत्यधिक चिंता करने लगता है, तब तनाव की स्थित उत्पन्न होती है। तनाव की स्थिति में मनुष्य अकर्मण्य हो जाता है। उसमें शारीरिक और मानसिक गतिविधियाँ क्षीण हो जाती हैं। उचित–अनुचित का निर्णय शक्ति का

*सहायक आचार्या 'संस्कृत', जगत नारायण लाल कालेज पटना, पाटलिपुत्र विश्वविद्यालय, बिहार

Journal of Interdisciplinary Cycle Research



www.jicrjournal.com

ISSN NO: 0022-1945

A Monthly Double - Blind Peer Reviewed Refereed Open Access and Indexed International Journal included in the International Serial Directories.

मानव जीवन में वर्ण व्यवस्था का महत्व

Email- awantikapatna@gmail.com

सार- समाज को सुनियोजित ढंग से संचालित करने के लिए इसे चार वर्गों में वर्गीकृत किया गया है। समस्त मानव-जाति का वर्गीकरण उनके आंतरिक और मानसिक क्षमताओं के अनुसार किया गया है। सभी वर्गों के लिए भिन्न भिन्न कर्म (कर्तव्य) निर्धारित किये गये है।

मुख्य बिन्दु- सृष्टि, समाज, कर्म, स्वभाव, ब्राह्मण, क्षत्रिय, वैश्य और शूद्र।

भूमिका- मानव जाति ब्रह्मा की सृष्टि का अनुपम और सर्वश्रेष्ठ कृति है। अन्य प्राणियों की अपेक्षा मानव की रचना अनेक धार्मिक उद्देश्यों के लिए की गयी है। मानव को जन्म से लेकर मृत्युपर्यन्त अनेक दायित्वों का निवहण करना पड़ता है। इन दायित्वों और उद्देश्यों के निर्वहण के लिए ब्रह्मा ने समस्त मानव-जाति को चार भागों में विभक्त किया है। ताकि सृष्टि का संचालन सम्यक् पूर्वक हो सके। गीता में एक प्रसंग आता है-

चातुर्वण्य मया सष्ट गुणकर्म विभागश: (1)

अर्थात् सत्व, रज और तमोगुण एवम् पूर्व जन्म के कर्मों के फलानुसार ब्राह्मण, क्षत्रिय, वैश्य और शूद्र ये चार विभाग किये गये है।

विस्तृत वर्णन- समाज रुपी शरीर की सुव्यवस्था के लिए 'वर्ण धर्म' मनुष्य द्वारा नही अपितु ईश्वर द्वारा किया गया विभाजन है। भारत के दिव्य द्रष्टा महर्षियों ने इसज्ञान ईश्वर से साक्षात प्राप्त कर समाज का निर्माण किया।

महर्षि मनु ने कहा है-

"यथर्तुलिङान्यतवः स्वयमेवर्तुपर्यये।

स्वानि स्वान्यमिपद्यन्ते तथा कर्माणि देहिनः।। (2)

अर्थात जिस प्रकार ऋतुए परिवर्तन होने पर स्वयं ही अपने-अपने चिन्हो को प्राप्त करती है, उसी प्रकार देहधारी अपने-अपने कर्मों को स्वयं ही प्राप्त करते है।

वसन्त ऋतु का प्रतीक है, आम में मंजर आना, खेतों में सरसों का मनमोह

सूरदास के काव्य में प्रेम की परिकल्पना

डॉ सरिता सिन्हा

असिस्टेंट प्रोफेसर (हिंदी)

जगत नारायण लाल कॉलेज , खगौल ,पटना

हिंदी साहित्य का भक्तिकाल अपनी विशिष्टता, महत्ता और लोक संस्कृति के संरक्षण के कारण स्वर्णयुग की अभिधा से मंडित किया गया है। इस काल के कवियों ने अपनी कविता के माध्यम से एक नया साहित्य संसार रचते हुए भारतीय समाज व संस्कृति से जुड़कर जनमानस को सन्देश भी दिया। मध्यकालीन भक्तिकाव्य वह काव्य है जो मात्र वैराग्य , निवृति अथवा परलोक की चिंता तक सीमित नहीं है बल्कि इसमें जीवन के प्रति असीम अनुराग लोकजीवन के प्रति निष्ठां तथा प्रवृतिमय जीवन के प्रति असीम प्रेम भी दिखाई पड़ता है।

भक्तिकाव्य में भक्ति की दो धाराएं थीं -- निर्गुण भक्तिकाव्य और सगुण भक्तिकाव्य। प्रत्येक धारा की पुनः दो -दो उपधाराएं थी। निर्गुण भक्ति काव्य ज्ञान मार्गीय काव्य व प्रेम मार्गीय काव्य तथा सगुण भक्ति काव्य रामभक्ति काव्य व कृष्णभक्ति काव्य में विभक्त था। सगुण कवियों ने राम और कृष्ण को अपने काव्य का विषय बनाकर उनके शील , शक्ति व सौंदर्य का वर्णन किया साथ-ही साथ उनकी लीलाओं व शौर्य पराक्रम के माध्यम से अपने तात्कालीन समाज के भी चित्र उकेरे थे। प्रस्तुत शोध पत्र के माध्यम से कृष्ण भक्ति काव्य के प्रणेता महाकवि **" सूरदास के काव्य में प्रेम की परिकल्पना "** विषय को आधार बनाकर उनके काव्य के अंतरंग व बहिरंग पक्ष को उद्घाटित करने की कोशिश है।

सूरदास प्रेम के कवि हैं। जिस प्रेम के वे गायक हैं ,उसका प्रसार मानव जीवन से लेकर प्रकृति जगत और ईश्वर तक है। उनके काव्य में मानवीय प्रेम की अपार व्यापकता और विविधता है। यही मानवीय प्रेम ईश्वरीय प्रेम या भक्ति के रूप में भी व्यक्त हुआ है। । मानवीय संबंधों में प्रेम के दो व्यक्त रूप हैं -- वात्सल्य और दाम्पत्य । " भारतीय भक्ति दर्शन और काव्य में वात्सल्य के दो रूप हैं। एक में भक्त बालक बनकर भगवान से वात्सल्य स्नेह की कामना करता है और दूसरे में वह बालक रूप भगवान पर स्वयं वात्सल्य स्नेह की वर्षा करता है। " (१) सूरदास अपने काव्य के माध्यम से कृष्ण के बाल्य रूप पर वात्सल्य प्रेम की वर्षा करते हैं।

कृष्ण जन्म की आनंद बधाई के साथ ही बाल लीला का आरम्भ हो जाता है। जितने विशद व विस्तृत रूप में बाल्य जीवन का चित्रण सूरदास ने किया है , उतना किसी अन्य कवि

ISSN 2320-5342

परिषद्-पत्रिका

(शोध एवं आलोचना त्रैमासिक)

अक्टूबर २०२१ से मार्च २०२२

वर्ष : ६९ ❖ अंक : ३-४

क्रमांक : २३२

बिहार-राष्ट्रभाषा-परिषद्

उच्च शिक्षा विभाग, बिहार सरकार

आचार्य शिवपूजन सहाय मार्ग

सैदपुर, पटना-८०० ००४ (बिहार)

बिहार-राष्ट्रभाषा-परिषद्

उच्च शिक्षा विभाग, बिहार सरकार

आचार्य शिवपूजन सहाय मार्ग

सैदपुर, पटना-८०० ००४ (बिहार)

विषय-प्रस्तुति

स्वाध्याय-कक्ष

मधु-संचय

●

'परिषद्-पत्रिका' में प्रकाशित विचारों में प्रतिपादित विचारों एवं तथ्यों का उत्तरदायित्व लेखक-लेखकों का है, सम्पादक का नहीं। सम्पादक

निवेदन : लेखकों से निवेदन है कि वे अपनी रचनाएँ मौलिक एवं अप्रकाशित तथा टाईप कराकर केवल मूल प्रति में पूर्ण पता, अपनी मातृभाषा सह एवं पिनकोड (अनिवार्य रूप से) सहित ही भेजने की कृपा करें।

• नाथों का मानना है कि जो शरीर में है वही ब्रह्मांड में है । अर्थात् ब्रह्मांड में जितनी भी चीजें हैं उन सब में ब्रह्म का अंश है। गोरखनाथ ने लिखा भी है कि **'जोई-जोई पिंडे सोई ब्रह्मांडे।'**

• नाथों का तंत्र बौद्ध सिद्धों का वीभत्स तन्त्र नहीं था । चमत्कार वे भी करते थे, पर उनका चमत्कार योगजन्य था । वे **ब्रह्मचर्य** और **योगाभ्यास** पर अधिक बल देते थे ।

• नाथ सम्प्रदाय की मुख्य विशेषताएँ (प्रवृत्तियाँ)—

ब्रह्मचर्य का पालन, जाति-पाँति, कर्मकाँड का विरोध, चारी भोग का विरोध, शून्य समाधि, गाड़ी साधना, कुंडलिनी, इंगला, पिंगला, षटचक्र आदि की साधना का प्रचार-प्रसार, रहस्यात्मकता, प्रतीक और रूपक का प्रयोग, संधुक्कड़ी भाषा का प्रयोग । ❐

—डा० व जे० ज्योत
जिला : करनाल,
हरियाणा :132036,
मोबाइल सं० : 7988414315

संदर्भ :

१. आचार्य रामचंद्र शुक्ल, हिन्दी साहित्य का इतिहास ।
२. डॉ० बच्चन सिंह, हिन्दी साहित्य का दूसरा इतिहास ।
३. डॉ० डॉ० नगेंद्र, हिन्दी साहित्य का इतिहास ।
४. डॉ० रामकुमार चतुर्वेदी, हिन्दी साहित्य और संवेदना का विकास ।
५. डॉ० लक्ष्मीसागर वार्ष्णेय, हिन्दी साहित्य का इतिहास ।
६. डॉ० विवेक शंकर, हिन्दी साहित्य ।
७. उमेश तिवारी, सृजनात्मक हिन्दी साहित्य ।
८. सरस्वती पाण्डेय, गोविन्द पाण्डेय, हिन्दी भाषा एवं साहित्य का वस्तुनिष्ठ इतिहास
९. लोक सागर, आधिकालीन हिन्दी साहित्य (वस्तुनिष्ठ) ।

'तीसरी कसम के सेट पर' : आलोचनात्मक समीक्षा

❐ डॉ० सरिता सिन्हा

बिहार की धरती हमेशा से क्रांतिकारी, सृजनात्मक, नयी सोच, नयी संवेदना और मानवीकता के नवांकुरों से समृद्ध रही है । इसी पावन धरती पर ४ मार्च १९२१ ई. को औराही हिंगना (अररिया जिलान्तर्गत) में हिन्दी के अप्रतिम साहित्यकार फणीश्वर नाथ 'रेणु' का जन्म हुआ था । फणीश्वर नाथ 'रेणु' ने अपने समृद्ध रचनात्मक ऊर्जा के सहारे हिन्दी साहित्य में एक अलग पैठ बनाई । इन्होंने न केवल कथा साहित्य लेखन में ख्याति प्राप्त की बल्कि संस्मरण, रेखाचित्र और रिपोर्ताज आदि विधाओं में भी अपनी लेखनी चलाई ।

सन् १९५७ ई. में पटना से नरेश्वर प्रसाद के सम्पादन में प्रकाशित होने वाली पत्रिका 'अपरम्परा' में फणीश्वर नाथ 'रेणु' की एक कहानी 'मारे गए गुलफाम' प्रकाशित हुई थी । बाद में सन् १९६६ ई. में इसी कहानी पर 'तीसरी कसम' नामक फिल्म बनाई गयी थी जिसके निर्देशक बासु भट्टाचार्य, गीतकार शैलेन्द्र, नृत्य निर्देशक लच्छु महाराज और कैमरामैन सुब्रत मिश्र थे । इस फिल्म के सिलसिले में एक पटकथा लेखक के तौर पर फणीश्वर नाथ 'रेणु' को कई बार बम्बई की यात्रा करनी पड़ी थी । अपने अनुभव को उन्होंने एक फिल्मी यात्रा 'तीसरी कसम के सेट पर तीन दिन' स्मृति की एक शैली में व्यक्त किया है । 'रेणु' की यह रचना धर्मयुग नामक एक साप्ताहिक पत्रिका (जो टाइम्स ऑफ इंडिया समूह द्वारा मुंबई से प्रकाशित होती थी) में २६ अप्रैल १९६४ ई. को प्रकाशित हुई थी । (स्रोत- अंतराजाल, रचना उपलब्ध Limmeed.com) अपने विधागत तत्वों जैसे तथ्यात्मकता,

वातावरण की जीवंतता, भावनात्मक संवेदना, मानवीय दृष्टिकोण एवम् नाटकीयता के कारण 'रेणु' की यह कृति 'रिपोर्ताज' की श्रेणी में रखी जा सकती है ।

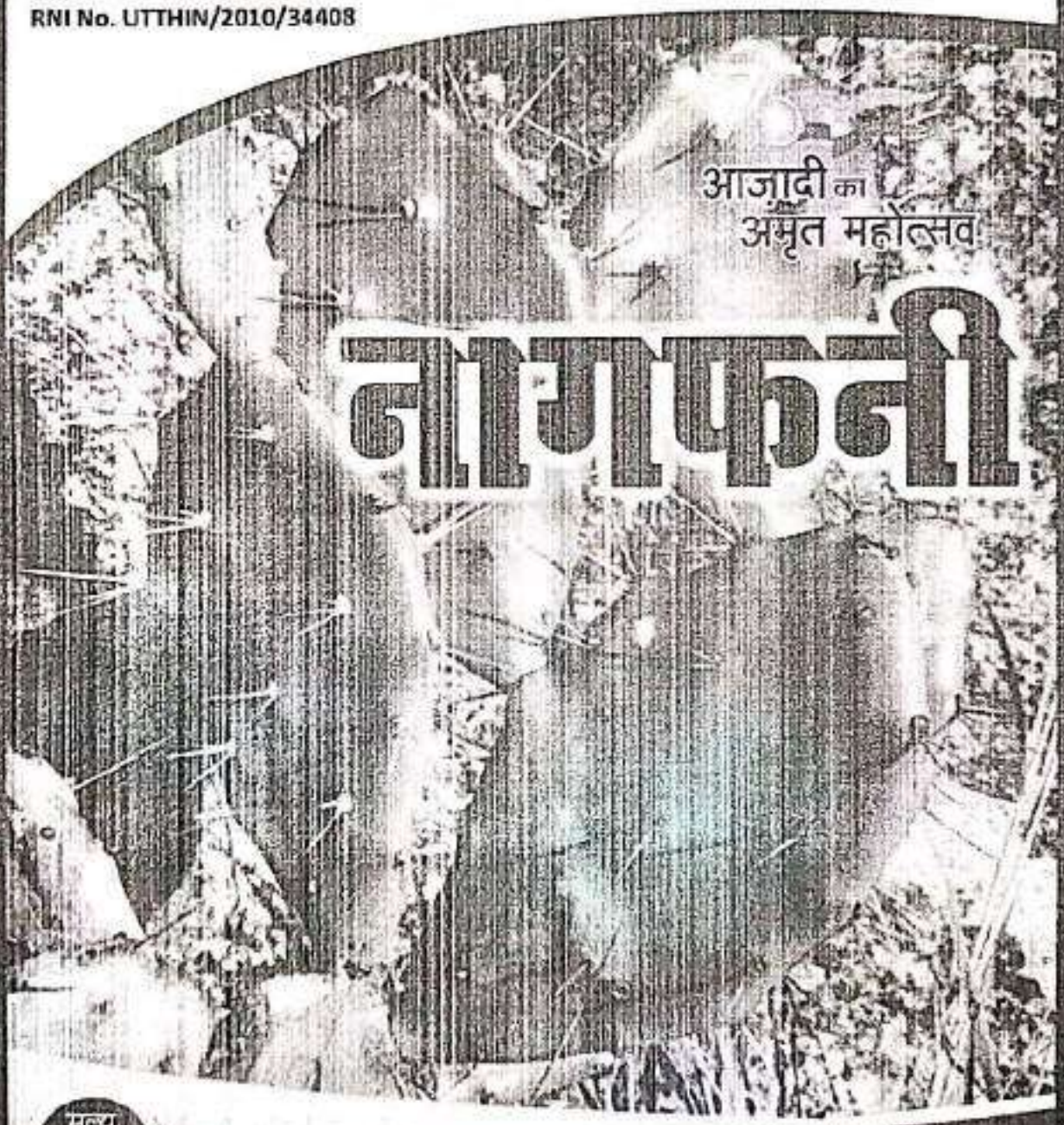
इस फिल्म की शूटिंग की शूटिंग परकाया लेखक फणीश्वर नाथ 'रेणु' के गाँव औराही हिंगना के आँगन में हुई थी । यह गाँव अररिया जिले में है । फिल्म की यादें पुर्णिया जिले से जुड़ी है, जैसे—गुलाब बाग मेला की ए ग्रेट भरत नौटंकी कंपनी, गदबनैली रेलवे स्टेशन आदि.....।

पटकथा लेखक 'रेणु' को फिल्म 'तीसरी कसम' की शूटिंग देखने के लिए बम्बई आमंत्रित किया गया था । बम्बई के कमाल स्टूडियो में शूटिंग चल रही थी । लगभग आधी फिल्म बन चुकी थी तब 'रेणु' बम्बई पहुँचे थे । वहाँ पहुँचकर सेट पर अर्जित अपने तीन दिनों को व्यक्तिगत अनुभव को भावप्रवणता के साथ वे इस रूप में प्रस्तुत करते हैं कि पाठकों के समक्ष घटनाएँ सचित्र उपस्थित होने लगती है ।

'रेणु' के रिपोर्ताज की सबसे बड़ी विशेषता यही है कि उसमें बिहार की राजनीतिक, सामाजिक एवं सांस्कृतिक चेतना पूरी तरह उपस्थित हो गयी है । पहले शूटिंग के दृश्य को आत्मीय संस्मरण के सहारे शब्दबद्ध करते हुए 'रेणु' कहते हैं कि प्रोडयूसर, डायरेक्टर और अन्य असिस्टेंट्स ने शूटिंग से पहले ही लोकेशन देख लिया था । परिणाम स्वरूप सेट हू-ब-हू वैसा ही लग रहा था जैसे पुर्णिया के गुलाब-बाग मेले में था । एक ओर नौटंकी का सेट लगा हुआ था और स्टेज के पीछे करीब आधे दर्जन तम्बू । दूसरी ओर गाड़ीवान, पटरी के एक किनारे एक टप्पर गाड़ी खुली पड़ी थी । गाड़ी के पास गोबर, गोमूत्र के कीचड़ में घुटना टेक कर भक्तिभाव से अभिनेता डायलॉग और एक्शन की रिहर्सल कर रहा था । शूटिंग के दौरान इन दृश्यों से जुड़ी हुई साहित्यकार की स्मृतियाँ यह बताती हैं कि एक फिल्म बनाने के लिए साधन, संसाधन, मेहनत, तार्किकता और सृजनात्मकता बहुत महत्त्वपूर्ण होती है । यही वजह रही होगी कि कैमरामैन सुव्रत बाबू थोड़े असंतुष्ट होते हुए कहते हैं—"मेला में हम वैसा फॉगी इवनिंग (कुहरा भरी संध्या) देखा है, वैसा इफेक्ट कहाँ.....?"" आखिरकार तीनों डायरेक्टर्स की मदद से सुव्रत मित्र के मन के अनुसार धुप, गुग्गुल आदि के सहारे पश्चिम सुगंधमयी कोहरा भरी साँझ फिर आई । इसी बीच रंगीली रंग की फूलदार साड़ी पहने फिल्म की नायिका हीराबाई (वहीदा रहमान) का प्रवेश होता है । वह टप्पर में जा कर बैठ जाती है । दृश्य के अनुसार उसके पाँव टप्पर से बाहर थे । अभिनेता पलटदास इन पैरों को सेंक करने को आतुर और डायरेक्टर साहब पैरों के पोज के लिए परेशान थे । गीतकार व प्रोडयूसर शैलेन्द्र दूर से ही पैरों के दिश्य को वहाँ सोच रहे थे । लगभग पैंतालीस मिनट बाद संवाद और अभिनय का रिहर्सल शुरू हुआ—"क्या है ? बोलो. ...हाँ-हाँ-कहो.....अरे क्या ? बाज बनाना चाहते हो ?.....जी.....चरण सेवा. .....आप छिया सुकुमारी..... मैं सेवक.....।" "हीराबाई लपककर पैर छुड़ाती है, अरे, भाग !.....भाग जा यहाँ से । पलटदास देखता है..... छिया सुकुमारी की आँखों में चिनगारी ?"" सेट का यह दृश्य हमें उस आंचलिक दुनिया की सैर कराता है जो भारतीय गाँवों का प्रतिनिधित्व करते हैं । लेखक इस सेट का वर्णन करते हुए इतने तन्मय हो जाते हैं कि उनके शब्द, चित्र और चेतना का एकाकार हो जाता है ।

इस फिल्म में लेखक की कल्पना में हीराबाई को हू-ब-हू उतारा है। ऐसा लेखक स्वयं भी मानते हैं । पहले दिन की शूटिंग के दौरान असिस्टेंट डायरेक्टर बासु चटर्जी (जो बम्बई के एक मशहूर कार्टूनिस्ट भी थे) ने 'रेणु' के पास आकर भीड़ से कहा "जरा कैमरा के 'व्यू फाईडर' में आँख सटाकर देखिये, तब पता चलेगा कि गाड़ी में कैसा 'चाँद का फूल' है ।"" 'रेणु' ने मना करते हुए कहा—"मैंने जिस चश्मे से हीराबाई को देखा है, देख रहा हूँ ।"" बासु चटर्जी के आग्रह करने पर 'रेणु' तीन वर्ष पहले की उस एक स्मृति का जिक्र करते हैं जब सुब्रत बाबू के साथ आउटडोर के लिए लोकेशन देखने और गुलाब बाग मेले की शूटिंग के लिए 'तीसरी कसम' फिल्म की यूनिट पुर्णिया आयी थी । ये लोग 'रेणु' के साथ करीब एक

UGC Care Listed
त्रैमासिक साहित्यिक पत्रिका
ISSN-2321-1504 Nagfani
RNI No. UTTHIN/2010/34408
वर्ष-12, अंक-42, जुलाई - सितम्बर 2022



आज़ादी का
अमृत महोत्सव

नागफनी

मूल्य
₹ 150/-

अस्मिता, चेतना और स्वाभिमान जगाने वाला साहित्य

वैचारिक साहित्यिक पत्रिका- 'नागफनी' वर्ष -12 अंक-42 जुलाई सितंबर 2022

नागफनी

वर्ष-12 अंक-42,जुलाई -सितंबर 2022

अनुक्रम — पृष्ठ क्रमांक

दिखाई दे रही हैं। तब इनको जचगियां होंगी। इन्हें छोटे-छोटे बच्चे पैदा होंगे। हमारे कुछ भी नहीं होगा"।[12]इस तरह पूरी की पूरी कथा एक सपन आत्मीयता और भोलेपन के साथ पाठक के सामने घटती चली जाती है। सांगवीकर का आंतरिक और बाह्य दोनों ही पाठकों के सामने खुला हुआ रहता है। यूं तो पूरी कथा 'फ्लैश बैक' में चलती है लेकिन पाठक को कहीं आभास भी नहीं हो पाता कि वह पुरानी घट चुकी घटनाओं को सुन रहा है। चूंकि सांगवीकर आरम्भ से लेकर अन्त तक पाठक के साथ रहता है इसलिए कथा में एक निरन्तरता बनी रहती है और पाठक को यह आभास भी नहीं हो पाता कि सांगवीकर के आस पास की दुनिया कितनी तेजी से बदल रही है। कथा में सांगवीकर तथा उसके परिवार के कुछ- एक सदस्यों को छोड़कर कोई पात्र ऐसा नहीं है जो आरम्भ से लेकर अंत तक मौजूद हो। पूरे उपन्यास में पच्चासों पात्र हैं जो कथा के विकास के साथ-साथ अचानक बड़े सहज भाव से प्रकट हो जाते हैं और फिर अपनी भूमिका निभा कर लुप्त भी हो जाते हैं। कुछ पात्र तो ऐसे हैं जिनकी सृष्टि उपन्यास के अंतिम भाग में हुई है, ऐसे पात्रों में बाबा बंनास, बाबा झालानाथ के साथ- साथ जगन बाबा जैसे पात्र भी हैं जिनका जिक्र केवल दो पृष्ठों (285-86) पर हुआ है लेकिन ऐसे जैसे कि वे कथा में आरम्भ से मौजूद रहे हों। इन दो पृष्ठों में ही जगन बाबा सांगवीकर को अपने हिस्से का ज्ञान देकर गायब हो जाते हैं।

निष्कर्ष :-

संक्षेप में कहें तो बीस-पच्चीस वर्ष का सांगवीकर, जिन्दगी की कठिनाइयों से जूझता, नये नये अनुभवों को प्राप्त करता और अपनी पहचान की तलाश में लगा सांगवीकर हममें से कोई भी हो सकता है, बल्कि और ठीक-ठीक कहें तो वह 'सौ में से निन्यानवें' के भीतर मौजूद है। वह हमारा इतना परिचित है कि उसका कुछ भी अजीब नहीं लगता न तो व्यक्तित्व न ही कृतित्व और न ही उसकी भाषा। दरअसल इस उपन्यास और उसके नायक सांगवीकर में कुछ भी विशिष्ट नहीं है लेकिन चूंकि 'कोसला' के पहले के उपन्यासों की परम्परा विशिष्टता पर ही आधारित थी इसीलिए 'कोसला' की यह 'सामान्यता' उसे विशिष्टों में भी विशिष्ट बना देती है और इसीलिए मराठी उपन्यास की परम्परा में 'कोसला' मील का पत्थर है।

******

सन्दर्भ: -

1. उपन्यास- वि. कासीनाथ राजवाड़े, आलोचना, जनवरी- मार्च 88, पृ.26
2. कोसला- भालचंद्र नेमाड़े, नेशनल बुक ट्रस्ट, हिन्दी अनुवाद, 1993, भूमिका, पृ.12
3. कोसला- भालचंद्र नेमाड़े, नेशनल बुक ट्रस्ट, हिन्दी अनुवाद, 1993, पिछला फ्लैप
4. कोसला- भालचंद्र नेमाड़े, नेशनल बुक ट्रस्ट, हिन्दी अनुवाद, 1993, पृ. 298
5. कोसला- भालचंद्र नेमाड़े, नेशनल बुक ट्रस्ट, हिन्दी अनुवाद, 1993, पृ. 297
6. मराठी साहित्य : परिदृश्य -चंद्रकांत बांदीवडेकर, वाणी प्रकाशन-1997, पृ.366
7. कोसला- भालचंद्र नेमाड़े, नेशनल बुक ट्रस्ट, हिन्दी अनुवाद, 1993, पृ.-13
8. कोसला- भालचंद्र नेमाड़े, नेशनल बुक ट्रस्ट, हिन्दी अनुवाद, 1993, पृ.-12
9. कोसला- भालचंद्र नेमाड़े, नेशनल बुक ट्रस्ट, हिन्दी अनुवाद, 1993, पृ.-1
10. कोसला- भालचंद्र नेमाड़े, नेशनल बुक ट्रस्ट, हिन्दी अनुवाद, 1993, पृ.4
11. कोसला- भालचंद्र नेमाड़े, नेशनल बुक ट्रस्ट, हिन्दी अनुवाद, 1993, पृ.19
12. कोसला- भालचंद्र नेमाड़े, नेशनल बुक ट्रस्ट, हिन्दी अनुवाद, 1993, पृ.39

साहित्य : एक सामाजिक उत्पादन

डॉ. सरिता सिन्हा

असिस्टेंट प्रोफेसर(हिंदी)

जगत नारायण लाल कॉलेज, खगौल

(पाटलिपुत्र विश्वविद्यालय) ,पटना

साहित्य एक सामाजिक उत्पादन है क्योंकि यह अपने अंदर समाज की वस्तुस्थिति, यथार्थ और अपने से जुड़े व्यक्ति तथा वस्तु की झलकियां या यूं कहें की झांकियां प्रस्तुत करता है। यह बात अपने आप ही स्पष्ट हो जाती है जब हम साहित्य की परिभाषा को (जो शुरू से ही आलोचकों द्वारा दी जाती रही है) अपने ध्यान में लाते हैं। उन्नीसवीं सदी में समाजशास्त्रीय चिंतन साहित्य से समाज को दो स्तरों पर जोड़ता था – (i) एक शक्ति के रूप में समाज को साहित्य की उत्पत्ति मानते हुए उसके स्वरूप को निर्धारित करने में और (ii)साहित्य को समाज के दर्पण के रूप में। महावीर प्रसाद द्विवेदी के युग में साहित्य की दर्पणवादी दृष्टिकोण का बहुत प्रचलन था। उस युग के लेखकों ने बार-बार साहित्य को समाज का दर्पण कहा। साहित्य को समाज का दर्पण मानने वाला यह दृष्टिकोण रचनाकार की चेतना की क्रियाशीलता की उपेक्षा करता है । लेखक अपनी रचना में समाज को सिर्फ प्रतिबंबित ही नहीं करता बल्कि अपनी रचना में वह समाज को नए सिरे से रचता भी है। इस प्रक्रिया में उसकी कल्पनाएं और आकांक्षाएं भी व्यक्त होती है। इसके साथ-साथ यह भी मानना होगा कि समाज उस साहित्य या रचना की अंतर्वस्तु में ही नहीं होता, उसके रूप और शिल्प में भी होता है। **"दर्पणवादी दृष्टिकोण में न तो शिल्प की विशेषताओं का विवेचन होता है और न ही विशेषताओं में अभिव्यक्त समाज की खोज होती है"**[1]इस मान्यता से हम इंकार नहीं कर सकते कि रचना के बेहतर समझदारी के लिए उसके सामाजिक संदर्भ की जानकारी जरूरी है। अधिकांश साहित्यिक समाजशास्त्री यह मानते हैं कि किसी रचना की अंतर्वस्तु में ही समाज नहीं होता बल्कि समाज तो रचना के हर स्तर में अर्थात भाषा, संरचना, शिल्प आदि में भी अभिव्यक्त होता है। जरूरत है रचना की उन विशेषताओं को पहचानने की जो उसकी संपूर्णता में समाज की खोज में मदद करे। इसके लिए गेल्थम ने 'अर्थ के मर्म' तथा गोल्डमैन ने 'विश्वदृष्टि' के विश्लेषण पर बल दिया। अद्योनों के अनुसार 'अंतर्वस्तु के सत्य' का बोध आवश्यक है तो रेमंड विलियम्स के अनुसार 'अनुभूति की संरचनाओं' की पहचान। प्रो. मैनेजर पांडेय के अनुसार मार्क्सवादी साहित्य को सामाजिक चेतना का विशिष्ट रूप मानने वाले व्यक्ति विचारधारा के रूप में उसका (साहित्य का) विश्लेषण करते हुए साहित्य में समाज की खोज करते है।

आज के साहित्य शास्त्री रचना की अस्मिता को स्वीकार करते हुए समाज से उसके संबंध का विश्लेषण करते हैं। आचार्य रामचंद्र शुक्ल जब यह कहते हैं कि 'प्रत्येक देश का साहित्य वहां की जनता की चित्तवृत्ति का ही संचित प्रतिबिंब होता है' , तो उनका अर्थ भी यही है कि साहित्य और समाज एक ही सिक्के के दो पहलू हैं। रचनाकार अपनी रचना में जनता की चित्तवृत्ति को स्थान देता है। सवाल यह कि क्या वह सामाजिक उपज नहीं है ? रचनाकार अपनी निजीं वैयक्तिक एवं सांस्कृतिक संवेदनाओं और अनुभूतियों को ही अपनी रचनाओं में व्यक्त करने हेतु प्रयासरत नहीं होता , बल्कि वह समाज के सन्दर्भ में निजी अनुभूति को अथवा अनुभूत सामाजिक यथार्थ को अपनी साहित्यिक कृति में प्रतिबिंबित करके उसकी पुनः सृष्टि में सक्रिय होता है। प्रेमचंद ने गोदान में जिस समाज को अभिव्यक्ति दी है , वह उनकी अनुभूति से अलग नहीं लगता। अपनी वैयक्तिक अनुभूति को समस्त किसान वर्ग (समाज) की अनुभूति में ढालकर उन्होंने एक नए समाज की सृष्टि की है। इसमें अगर समाज का दुःख यथार्थ है तो यथार्थ को परखने के बाद उसी के गर्भ में उन समस्याओं का निजात भी है। यही तो सृष्टि है जो रचनाकार की रचना में सक्रिय होता है। विश्वम्भर अनुसार साहित्य सर्जन स्वयं में एक सामाजिक प्रक्रिया है

IMPACT FACTOR – 4.23

LangLit

ISSN 2349-0169

An International Peer-Reviewed Open Access Journal

UGC Approved Journal – Arts & Humanities – Sr. No. 49124

Langlit Latur (MS) India AIPROAJ

MARATHI DALIT POETRY: AN ANALYTICAL EXPLORATION

MANNI RAM
Research Scholar
Department of English
J.P.University,
Chapra

ABSTRACT:

This paper is devoted to the critical study of some representative modern dalit poems written in different lanagues specially in Marathi, Gujarati and Bhojpuri languages. The main purpose of this study is to dive deep into the theme of various dalit writers and their respective responses against the caste mentality, planted since the time immemorial. The poets of marathi languages have done the tremendous work for work upgrading the position of women and dalits in their different poems. Dalit poetry which appeared during the 70s was a reaction against the traditional and conventional caste mentality and social justice. In their works we get the spirit against social discrimination and fanaticism.

Keywords :- *Dalit literature, Miserable plights, Dr. Ambedkar, Legends and histories, Manusmriti.*

The Dalits have been suffering from the untold plights and persecutions from the time immemorial. *Manusmriti*, the famous religious decumentury book of the social lives of the Hindu, made several ifs and buts and put various obstactles in the path of the dalit sentiments. After the publication of this book, it created a great havoc in the field of thinking. Now the untouchables have been treated as an object. They have also been debarred from gaining knowledge particularly the Sanskrit and Vedic knowledge. According to this book an untouchable has no right to go to the temples; no freedom at all the listen to the incantations of the Vedas and scriptures. Sanskrit is supposed to be the richest language of the Aryan society but unfortunately the untouchbales are deprived of the right of the reading and studing the language Sanskrit. As a matter of fact it is also one of the reasons for the deterioration of the language. Mahatma Gandhi and Dr. Ambedkar, Tagore and Vivekanand, Dayanand and Tilak have given a scathing attack on the castist mentality of India. Legends like Mahatma Gandhi even went the extent of saying the untouchable *Harijan*, the man of God; but in spite of all their efforts and several other constitutional provisions, dalit's condition is even more miserable. Their persecution and plight can be well seen in the famous novel *Untouchable* by M.R.Anand. The protasgonist of the novel *Untouchable* bursts out in a fit of anger saying :-

> *Why are we always abused? The sanitary inspector that day abused my father. They always abuse us. Because we are sweepers. Because we touch*

IMPACT FACTOR – 4.23

LangLit

An International Peer-Reviewed Open Access Journal

ISSN 2349 3429

Latur (MS) India

AIPROAJ

THE REPRESENTATIVE DALIT POEMS OF HARISH MANGLAM AND M.B. GAIJAN: A STUDY IN THEME AND TECHNIQUE

DR. AMAR NATH PRASAD
Associate Professor & Head
Jagdam College(J.P.University),
Chapra

MANNI RAM
Research Scholar (English)
J.P.University,
Chapra

ABSTRACT:-

The contribution of Gujarati Dalit poetry to Dalit literature is immense. A number of Gujarati Dalit poets have expressed their inner feelings and subdued desires and aspirations in the form of poetry in a very poetic and asthetic manner. They have tried their best to portray a very truthful presentation of the plights and persecutions of the dalit and deserted. Their autobiographical presentations are even more truthful and poetic. Their rebellious feelings against the upper caste mentality are not simply the collection of only facts and figures, rather they are suffused with the various colours of poetic beauty and aesthetic pleasure. The poetry of Harish Manglam and M.B. Gaijan contains both feeling and form, matter and manner. This present paper is devoted to a critical and objective study of some selected poems of the aforesaid poets. It explores not only their theme but also the beautiful poetic language and style.

Keywords:-*Dalit Poetry, Cacophonic sound, Euphonic sound, Untouchability,*

Social consciousness, Tyranny and injustice.

Harish Mangalam is a great name in the present dalit literature in Gujarat. He has to his credit a number of dalit books of great significance. His novel *Tired* has been published in Hindi in 1992. His other short stories collection *Talap* has been published in Hindi and English. Most of his short stories have been published in English, Hindi,Urdu, Bengali, Oria, Marathi and Telgu. On the other hand his short stories *Dayan* (The Mid Wife) has been selected for a tele film. He runs Gujarat Dalit Sahitya Akademi and edits a quarterly dalit journal *Hayati*. This Gujarati Dalit Sahitya Akademi has organised several national and international seminars and conferences related to dalit literature. It has also published more than 25 books.He has developed his own notion about the dalit poetry and literature. In one of his interviews he rightly defines Dalit literature:

> Dalit literature is written for the downtrodden communities, i.e. the untouchables, the poor, the women, the marginal and the deprived, the neglected sections of the people etc... It depicts sorrows, sufferings, and injustice, and seeks to raise a strong protest against irrational deeds. The aim is to focus on rational thoughts.[1]

RNI : CHHBIL/2021/80395
ISSN : 2583-0775 (P)

AMOGHVARTA

September to Novwember 2021
Year- 01, Volume - 01, Issue - 02

A Double - blind, Peer-reviewed, Quarterly,
Multidisciplinary and Bilingual Research Journal

Editor in Chief

Dr. (Smt.) **Shobha Agrawal**
M.Com., M.Phil., Ph.D.
Assistant Professor & Head of Management Department
Agrasen Mahavidyalaya, Raipur (C.G.)

मुद्रक, प्रकाशक एवं स्वामी अजय कुमार अग्रवाल द्वारा अदिति पब्लिकेशन के लिये, नया पाञ्चजन्य विद्या मंदिर के सामने, तिरंगा चौक के पास, कुशालपुर, रायपुर तहसील व जिला रायपुर छत्तीसगढ़ से प्रकाशित तथा अदिति पब्लिकेशन, नया पाञ्चजन्य विद्या मंदिर के सामने, तिरंगा चौक के पास, कुशालपुर, रायपुर, तहसील व जिला रायपुर छत्तीसगढ़ से मुद्रित किया गया है, संपादिका डॉ. (श्रीमती) शोभा अग्रवाल, मो॰ 9425210308

RNI : CHHBIL/2021/80395
ISSN: 2583-0775 (P)

AMOGHVARTA

SEPTEMBER TO NOVEMBER 2021
YEAR-01,VOLUME-01, ISSUE-02

The Rebellious Theme of Modern Dalit Poetry : An Exploration

ORIGINAL ARTICLE

Authors

Dr. Amar Nath Prasad,
Professor and Head, Department of English,
Jagdam College (Jai Prakash University),
Chapra, Bihar, India

Manni Ram,
Research Scholar of English,
J.P. University, Chapra, Bihar, India

Abstract

Modern Dalit poetry written in different languages and vernaculars is now taking the shape of a new discipline in the field of Indian poetry in English. It has started taking its deep root in the fertile land of the Indian culture and civilization, myths and legends. Now the tree of this new poetry is blooming and blossoming with a new verve and gusto. Modern Dalit poets have presented a very realistic and truthful picture of contemporary society, the tyranny and injustice imposed on the dalit, the miserable plights and persecutions of the downtrodden, the multifarious aspects of human society, the unsatisfied desires and aspirations of the poor and the deserted and, above all, a conservative Indian society in which there is a little place of the marginalized.

Keywords

Dalit Sentimants, Rebellions poetry, Search for individuality Marginalization, Untouchability.

The general poetry of Indian writing in English is generally supposed to be superior to dalit poetry, a new discipline developed recently. But a thorough and thoughtful study of dalit poetry clearly shows that it is not inferior to general poetry in any angle. If we minutely dive deep into its theme and technique, language and style, we come to the conclusion that Dalit poetry is rich in both theme and technique, feeling and form. Some of the poets in Marathi and Gujarati Dalit Poetry have presented ideas, views and vision in such a brilliant manner that they often remind us of the great giants of the modern poetry like Eliot and Yeats. Their images and symbols are very suggestive and up to the mark. Their psychological presentation with beautiful images and symbols and some new coinages is really very noteworthy. Their poems are not simply the collection of facts and figures, rather they are highly integrated and fully aesthetic appealing to the feelings and sentiments of a poetic man. In other words, their poems have a fine fusion of both feelings and forms. In the words of Matthew Arnold, they are fine examples of both 'poetic beauty' and 'poetic truth'.

UGC Approved Journal No – 40957
(IIJIF) Impact Factor- 4.172
Regd. No. : 1687-2006-2007 ISSN 0974 - 7648

JIGYASA

AN INTERDISCIPLINARY PEER REVIEWED REFEREED RESEARCH JOURNAL

Volume 12 June 2019 No. II

Published by
PODDAR FOUNDATION
Taranagar Colony
Chhittupur, BHU, Varanasi
www.jigyasabhu.com
E-mail : jigyasabhu@gmail.com
Mob. 9415390515, 0542 2366370

हिंसा, अहिंसा और गांधीः एक अध्ययन

अनुप कुमार झा*
अविनाश कुमार झा**

अद्यतन अकादमिक परिपेक्ष्य में गाँधी एवं उनके विचार ज्वलंत और प्रासंगिक विषय के रूप मे विभावित है। अहिंसा पर विचार करने के लिए आवश्यक प्रतीत होता है कि जो समाज विज्ञान में अबतक विचार किए गए है उनके लेखा–जोखा कुछ हद तक किया जाय। यह इसलिए भी आवश्यक है कि यह दोनों अवधारणाए एक दूसरे से सम्बद्ध है– भाषा के स्तर पर और ऐतिहासिक परिपेक्ष्य में। भाषा के स्तर पर अहिंसा का अर्थ साधारणतरू वो है जो "हिंसा" का नहीं है– यह नहीं का संबंध ऐसा होता है जिससे हम अगर हिंसा को जान पातेहै तो "अहिंसा" या अहिंसक क्रिया के बारे मे अनुमान लगाते है और अनुमान के आधार पर उसे जानने की कोशिश करते है या साथ ही साथ समाज में अपने आसपास हुई घटनाओ को हिंसा या अहिंसा का नाम देते हैं। ऐतिहासिक परिपेक्ष्य में "हिंसा" मानव सभ्यता के साथ कब से रहा है, कहना कठिन हैय प्रायरू सभ्यता के अरम्भिक जीवन से संबद्ध रहा है और साथ ही मनुष्य अहिंसा के तरफ प्रेरित भी रहा है, समय समय पर इस प्रसंग में विषद विचार भी प्रस्तुत किए जाते रहे हैं। ज्यादातर ऐसे विचार "हिंसा" की अवधारणा, सामाजिक या राष्ट्रीय स्तर पर उसका प्रकोप, उससे उत्पन्न क्षोभ, इत्यादि को ध्यान में रखकर ही प्रकट किए गए हैं। इसलिए जब हम गाँधी के अहिंसा जन्य विचार की व्याख्या, उसकी प्रासंगिकता एवं आज के अपने राष्ट्रीय राजनीतिक तथा सामाजिक जीवन में उसके औचित्य का विश्लेषण करना चाहते है तो यह उचित ही है कि "हिंसा" के प्रसंग मे विद्वानो ने अंतर्राष्ट्रीय स्तर पर क्या विचार किया है, यह जानने और तब उसके साथ अहिंसा सम्बन्धी विचार कुछ विद्वानो के द्वारा किस प्रकार उभरा है और उन विचारो में गाँधी का स्थान कहाँ है, उनमे कितनी गरिमा है, वह कितना सार्थक है। प्रस्तुत आलेख द्वारा इन पक्षो की विवेचना का एक प्रयास है।

गाँधी के अहिंसा मूलक विचारो को प्रायरू टाल्यरटय और क्रिश्चयन धर्म ग्रंथ से प्रेरणा मिली। मुख्य प्रेरणा केन्द्रोत वैष्णव मत और गीता का भी योगदान रहा। आज की परिस्थिति में जब हिंसा राजनीति को आक्रांत किए हुए है, समाज इससे आतंकित हो रहा है। मै समझता हूँ कि गाँधी के अहिंसा जन्य अनुशासन पर अगर बल दें, हम कम से कम कोशिश तो करें कि अनाशक्ति भाव आए– कोशिश से कुछ न कुछ तो अवश्य परिवर्तन

* एसोसियेट प्रोफेसर, जगत नारायण लाल कालेज खागौल, पटना
** एसोसियेट प्रोफेसर, जगत नारायण लाल कालेज खागौल, पटना

UGC Approved Journal No – 40957
(IIJIF) Impact Factor- 5.172
Regd. No. : 1687-2006-2007 ISSN 0974 - 7648

JIGYASA

AN INTERDISCIPLINARY PEER REVIEWED REFEREED RESEARCH JOURNAL

Volume 11 June 2018 No. II

Published by
PODDAR FOUNDATION
Taranagar Colony
Chhittupur, BHU, Varanasi
www.jigyasabhu.com
E-mail : jigyasabhu@gmail.com
Mob. 9415390515, 0542 2366370

JIGYASA, ISSN 0974-7648, Vol. 11, No. II, June, 2018

Contents

डॉ. अबेडकर के आर्थिक विचार एवं दर्शन : आधुनिक भारत के विशेष सदर्भ में

*शशि कान्त प्रसाद**

सारांशः–

डॉ0 भीमराव अंबेदकर एक विख्यात शिक्षाविद प्रभावशाली वक्ता, संविधान निर्माता, योग्य प्रशासक, अर्थशास्त्री एवं विश्व के उन आधुनिक विचारकों में से एक है जिन्होने आधुनिक भारत के निर्माण में देश को एक नई दिशा दी। वे भारत में समानता, सामाजिक, राजनीतिक एवं आर्थिक न्याय के पक्षधर थे। डॉ0 अम्बेडकर का मुख्य अध्ययन का विषय अर्थशास्त्र ही था। उनके आर्थिक विचार जिनमें सार्वजनिक वित्त, भूमी सुधार, सहकारी कृषि,रूपये की समस्या, आर्थिक विषमता, पूंजीवाद, मुद्रास्फुर्ति, औद्योगीकरण, कराधान, दलितो की आर्थिक स्वंतत्रता, श्रम सुधार, जल प्रबंधन एवं राज्य समाजवाद इत्यादि है। जल प्रबंधन एवं भूमी सुधार वर्तमान एवं भविष्य के लिए एक चूनौती है एवं शोध का विषय है साथ ही आजादी के बाद अनेको आर्थिक नीतियो में परिर्वतन हुआ है जैसे उदारीकरण नीजिकारण, एवं भूमडंलीकरण जिससे कई आर्थिक अवसर एवं विषमताऐं भी उत्पन्न हुऐ है। इस शोधपत्र का मुख्य उद्देशय अंबेदकर की आर्थिक विचार का आधुनिक भारत के निर्माण में कितना प्रभाव एवं प्रांसगिक है और वर्तमान में जो आर्थिक विषमताऐं है उसे अंबेदकर के आर्थिक विचार से कैसे हल किया जा सकता है

मूलशब्दः– सामानता, आर्थिक न्याय, पूजींवाद, राज्यसमाजवाद विशमता।

प्रस्तावना

'गुलाम को यह अहसास करा दो कि वह दास है, फिर वह स्वंय ही विद्रोह कर देगा'।

'डॉ0 बी0 आर0 अम्बेदकर खोए हुए अधिकार भीख माँगने से नही मिलते बल्कि संघर्ष करने से प्राप्त होते हैं'।

भारत रत्न डॉ0 बी0–आर0 अम्बेडकर की पहचान मूख्य रूप से समाज सुधारक, दालितों और अभिवचतो के हितैसी तथा भारतीय सविंधान की रचना में मूख्य भूमिका निभाने वाले विधि विशेषज्ञ तथा राजनीतिज्ञ के रूपमें होता है। वे एक महान विचारक, इतिहासकार, समाजशास्त्र, मानवशास्त्र, राजनीतिज्ञः कानुन, धर्म, एवं एक महान अर्थशास्त्री थे। शताब्दियों से उपेक्षित, शोषित, उत्पीड़ित देश के करोड़ों अभिवंचितों के लिए डॉ0 अम्बेदकर ने दो सौ वर्ष से अधिक गुलामी के बाद आजाद हुए भारत में

* सहायक प्राचार्य, अर्थशास्त्र विभाग, जगत नारायण लाल कॉलेज खगौल, पाटलिपुत्र विश्वविद्यालय पटना।

UGC Approved Journal No – 48728
(IIJIF) Impact Factor - 3.034

ISSN 2249 - 8893

Annals of Multi-Disciplinary Research

A Quarterly International *Peer Reviewed* Refereed Research Journal

Volume 8 **Issue 1** **March 2018**

E-mail : annalsmdresearch@gmail.com www. annalsmdresearch.com

Annals of Multi-Disciplinary Research, ISSN 2249–8893, Volume 8, Issue I, March 2018

(IIJIF) Impact Factor- 4.172
Regd. No. : 1687-2006-2007 ISSN 0974 - 7648

JIGYASA

AN INTERDISCIPLINARY PEER REVIEWED REFEREED RESEARCH JOURNAL

Volume 12 March 2019 No. 1

Published by
PODDAR FOUNDATION
Taranagar Colony
Chhittupur, BHU, Varanasi
www.jigyasabhu.com
E-mail : jigyasabhu@gmail.com
Mob. 9415390515, 0542 2366370

04.05.23

JIGYASA, ISSN 0974-7648, Vol. 12, No. I, March, 2019

04.05.22

ISSN : 2319-6297/Vol.6/Issue-21

Factors Determining Household Income In Rural Bihar: A Micro Evidence from Gaya District

Rikil Chyrmang[1], Raviranjan Kumar[2], Preetam Kumar[3], Rahul Prakash[4], Rishi Raj[5], Rajnandan Kumar Marandi[6], *

Abstract

This study analyse the determining factors of rural household's income in four selected villages of Gaya district. The primary data was collected randomly from 94 sample households through a structured questionnaire. We have used the semi-log multiple regression model to examine the role of education, employment, land, and livestock in affecting the rural household's per capita income and wages. The study found that land has led to a 36 per cent increase in annual income of the rural households followed by employment, while livestock has affected the annual income of rural households by only 2 per cent. Education has a minimal impact on the annual income of households with only a 3.5 per cent improvement in the total annual income with one unit change in the level of education. The study finds that skilled and educated peoples generated more income from farm and non-farm sectors. Based on our result, we conclude that the promotion of public employment schemes is very essential for rural households to overcome the hindrance.

Keywords: Household income, income per capita, farming and non-farming activities, semi-log multiple regression analysis.

Affiliation

Introduction

In India, 68.8 per cent of the total population are still living in the villages (Census, 2011). Agriculture is the main occupation and source of livelihood for the majority of the people who are living in the villages. So, the first option for livelihood is farming and the second option is non-farming activities. For farming, landholding and livestock are the determining factors, whereas, for non-farming: employment, occupation, and educational level is another important factor. Rural households are divided into three main categories: 1.) Households doing only farming. 2.) Household doing only non-farming activities; and 3.) Households doing both farm and non-farm activities (Akram, Irum, and Ali, 2011). There are so many studies related to agriculture and income done in the past but to our knowledge, there are few studies that include both farming and non-farming activities as the determining factors for rural income. In the current period, most of the households engaged in farming as well as non-farming activities to earn their livelihood in rural areas. The present study attempts to fill this gap and the aim to explore the relationship of farm and non-farm sources of rural income and its determinant.

The land is the main asset of the agriculture sector, but it is unequally distributed all over India. The maximum portion of the farmers is small and marginal. This creates disguised unemployment in the agriculture sector. There is a positive relationship between landholding and household income (Malik, 1996; Choudhary, 2003). At present, farmers in India are using High Yielding Varieties (HYV) seeds and Technology aiming to increase production as well as their income.

Livestock has also a positive relationship with rural household income in India. It has a complementary relationship with agriculture. People in Pakistan derived 30 - 40 per cent of their income from livestock, and this

* 1 Assistant Professor, Department of Economic Studies & Policy, Central University of South Bihar, Gaya, Bihar. rikil@cusb.ac.in. (corresponding author)

2 Ph.D. Scholar, Department of Economic Studies & Policy, Central University of South Bihar, Gaya, Bihar. r.ranjan95048@gmail.com

3 Ph.D. Scholar, Department of Economics, Sikkim University, Gangtok, Sikkim.

4, 5 & 6 are PG Students, Department of Economic Studies & Policy, Central University of South Bihar, Gaya, Bihar.

No. 1 (Jan. - Mar.) 2019 ISSN : 2350-0611

Research Review

CONTENTS

"Research Highlights"

Self attested
Anju Kumari Sinha
21/10/2020

91

IMPACT FACTOR GIF 2.3409 ISSN-2278-3911

SHODH-PRAKALP

A Quarterly Research Journal

शोध-प्रकल्प

त्रैमासिक रिसर्च जर्नल

A Peer Reviewed Refereed Research Journal

www.shodhprakalp.com

Volume - XCI
April-June, 2020

Editor
Dr.Sudhir Sharma

Email- shodhprakalp@gmail.com

25 वर्षों से नियमित प्रकाशित

January-June 2020

काशी हिन्दू विश्वविद्यालय पत्रिका

प्रज्ञा

PRAJÑĀ

Self Attested
Anju Kumari Sinha
21/10/2020

Links for Paper

Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISSN number	Link to article / paper / abstract of the article
Screening and discovery of novel carbamate compounds for cancer therapy	**Shubhangi Tripathi et al.**	**Chemistry**	Journal of Cardiovascular Disease Research	**2023**	0975-3583,0976-2833	http://jcdronline.org/search.php#
A Concise Review of Natural Derivatives for Breast Cancer Treatments	**Shubhangi Tripathi et al.**	**Chemistry**	Journal of Cardiovascular Disease Research	**2023**	0975-3583,0976-2833	http://jcdronline.org/search.php#
Visible Light Activated Radical Denitrative Benzoylation of b-Nitrostyrenes: A Photocatalytic Approach to Chalcones.	**Shubhangi Tripathi et al.**	**Chemistry**	Advanced Synthesis and Catalysis	**2018**	3814-3818.	https://doi.org/10.1002/adsc.201701559
Visible-light-enabled denitrative carboxylation of b-Nitrostyrenes: A direct photocatalytic approach to cinnamic acids	**Shubhangi Tripathi et al**.	**Chemistry**	New Journal of Chemistry	**2018**	3765-3769	https://doi.org/10.1039/C7NJ04578F
Visible light triggered regioselective ring expansion of N-tosylaziridines: An efficient approach to 2-nitroazetidine	**Shubhangi Tripathi et al**.	**Chemistry**	Tetrahedron Letter	**2017**	1407-1413.	https://doi.org/10.1016/j.tetlet.2017.08.042
Characterization of contrasting rice (Oryza sativa L.) genotypes reveals the Pi-efficient schema for phosphate starvation tolerance.	**Kumar, S., Pallavi**, Chugh, C. et al.	**Botany**	BMC Plant Biol	**2021**	1471-2229	https://doi.org/10.1186/s12870-021-03015-4

Impact of Seed Applied Rhizobacterial Inoculants on Growth of Wheat (Triticum aestivum) and Cowpea [Vigna unguiculata] and their Influence on Rhizospheric Microbial Diversity.	Kumar, A., Chandra, D., **Pallavi** et al.	**Botany**	Agric Res	**2021**	2249-7218	https://doi.org/10.1007/s40003-021-00546-y
Global Lifestyle Diseases: Lessons For The Future,	**Medhavi Sudarshan**, Sumit Sharan	**Zoology**	International Journal Of Scientific Research	**2023**	2277-8179	Journals.com/international-journal-of-scientific-research-(IJSR)/recent_issues_pdf/2023/April/global-lifestyle-diseases-lessons-for-the-future_April_2023_0605241489_8656029.pdf
Innovations for future ease: Synthetic Biology.	**Medhavi Sudarshan**, Sumit Sharan	**Zoology**	Journal of Interdisciplinary cycle Research	**2023**	0022-1945	DOI:18.0002.JICR.2023.V15I4.008301.31712373450326

Determinants for progression from asymptomatic infection to symptomatic visceral leishmaniasis: A cohort study.	Jaya Chakravarty, Epco Hasker, Sangeeta Kansal, Om Prakash Singh, Paritosh Malaviya, Abhishek Kumar Singh, Ankita Chourasia, Toolika Singh, **Medhavi Sudarshan**, Akhil Pratap Singh, Bhawana Singh, Rudra Pratap Singh, Bart Ostyn, Michaela Fakiola, Albert Picado, Joris Menten, Jenefer M Blackwell,	**Zoology**	PLoS neglected tropical diseases	**2019**	1935-2727	https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0007216

	Mary E Wilson, David Sacks, Marleen Boelaert, Shyam Sundar					
HLA-DR Class II expression on myeloid and lymphoid cells in relation to HLA-DRB 1 as a genetic risk factor for visceral leishmaniasis.	Bhawana Singh, Michaela Fakiola, **Medhavi Sudarshan**, Joyce Oommen, Siddharth Sankar Singh, Shyam Sundar, Jenefer M Blackwell	**Zoology**	Immunology	**2019**	1365-2567	https://onlinelibrary.wiley.com/doi/full/10.1111/imm.13018

Diagnosis of Visceral Leishmaniais: Review approach on development of different techniques from invasive to non-invasive nature after more than three decades of research.	**Medhavi Sudarshan**, Sumit Sharan	**Zoology**	International Journal of Scientific and Engineering Research	**2018**	2229-5518	https://www.ijser.org/researchpaper/Diagnosis-of-Visceral-Leishmaniais-Review-approach-on-development-of-different-techniques-from-invasive-to-noninvasive-nature-after-more-than-three-decades-of-research.pdf
Living with Covid-19. A Psychological approach.	**Kiran Bala &** Archana Bharti	**Psychology**	Ideal Research Review.	**2021**		https://journalirr.com/wp-content/uploads/2021/10/Archana-Bharti-10.pdf
Living with Covid-19. A Psychological approach.	Kiran Bala & **Archana Bharti**	**Psychology**	Ideal Research Review.	**2021**		https://journalirr.com/wp-content/uploads/2021/10/Archana-Bharti-10.pdf