

PROJECT REPORT OF MINOR RESEARCH PROJECT

ON

*“Studies on Medicinal Plants of Chhattisgarh region with
Antibacterial, Antioxidant and Antitumour Activities.”*

**SUBMITTED BY
DR. SUDHA AGRAWAL
PRINCIPAL INVESTIGATOR**

**DR. SUDHA CHAUHAN
CO- INVESTIGATOR**

**DEPARTMENT OF ZOOLOGY,
BHILAI MAHILA MAHAVIDYALAYA,
HOSPITAL SECTOR, BHILAI**

Summary

Project entitled “Antibacterial, Antioxidant and Antitumour activities was done. The plant selected for present studies were the more popular ones-namely *Casia fistula*, *Ocimum sanctum*, *Ficus bengalensis*, *Saracaindica*, *Phyianthus emblica*, *Aloe vera* and *Doob grass*.

Appropriate Scientific methods were used to prepare the plant extracts in every case i.e., picking up samples, shade drying for 72 hours of samples after cleaning with deionized water, adding requisite quantity of 50% alcohol and Soxhletting etc. The prepared extract were studied against bacteria *S. aureus*, *E.coli* and *Staphylococcus* for antibacterial activities. Different concentration of extract were used to establish appropriate correlation between activities under study. In case of antibacterial activities mostly such correlation was found to be positive, i.e. with higher concentration of extract the activity was greater barring one exception. This happened in case of studies relating to cassia fistula against *E. coli*. This we feel needs to be further checked.

In case of antioxidant activity using DPPH radical scavenging % method results were found to be in line with findings of other researchers quoted in bibliography. Antioxidant activity was low in case of *Doob grass*. compared to other plants. Results and findings summarized have been tabulated in various tables (tables 1-15) and also presented graphically at appropriate places in report. Antioxidant activity was highest (85%) in case of *Phyllanthus embilica* using DPPH radical scavenging % method.

Proposal for the project was approved by UGC for total financial assistance of Rs.3.55 Lakh . But till date, actual disbursement has been Rs 2.82 lakh. Accounts for the project expenditure have been submitted appropriately in the report. Total grant has not been utilized primarily because .antitumour activity could not be studied due to non availability of animals and hence in vivo studies were not possible. Being a first time project in our institution and no basic facilities/equipment being available, our capital outlay was slightly higher. However money granted has been well spent and we look forward to many more studies of similar nature in future.As explained antitumour could not be taken up.

We thankfully acknowledge the financial assistance extended by UGC in helping us take up the studies done and hope that more researchers would be encouraged to take up work in this field.



40/4

UNIVERSITY GRANTS COMMISSION - CENTRAL REGIONAL OFFICE,Tawa Complex (Bittan Market), E-5, ARERA COLONY, BHOPAL-462 016
Ph.: 0755 - 2467418, 2467892, Fax. : 0755 - 2467893, web site : www.ugc.ac.in

F.No.:MS-70/202002/XII/13-14/CRO

Date : _____

To
The Principal,
Bhilai Mahila Mahavidyalaya
Bhilai Nagar, Bhilai (C.G.)

Code : 202002

Sub : Financial Assistance for undertaking Minor Research Project by Dr. Sudha Agrawal, Asstt. Professor(Zoology) Bhilai Mahila Mahavidyalaya, Bhilai Nagar, Bhilai (C.G.), in ""Studies on Medicinal Plants of Chhattisgarh Region with Antibacterial Antioxidant and Antitumour Activities", for your kind approval".

Sir,

The Commission on the recommendations of the Selection Committee has approved the research project entitled in ""Studies on Medicinal Plants of Chhattisgarh Region with Antibacterial Antioxidant and Antitumour Activities", for your kind approval." of by Dr. Sudha Agrawal, Asstt. Professor(Zoology) Bhilai Mahila Mahavidyalaya, Bhilai Nagar, Bhilai (C.G.), and has agreed to provide a grant of Rs.355000/-.

| Particular | Allocation | Grant being released * |
|-------------------------|----------------------|------------------------|
| NON RECURRING | | |
| 1. Books & Journals | Rs. 10000.00 | Rs. 10000.00 |
| 2. Equipments | Rs. 200000.00 | Rs. 200000.00 |
| RECURRING | | |
| 3. Travels, Field work | Rs. 30000.00 | Rs. 15000.00 |
| 4. Contingency | Rs. 30000.00 | Rs. 15000.00 |
| 5. Chemical & Glassware | Rs. 75000.00 | Rs. 37500.00 |
| 6. Special Needs | Rs. 10000.00 | Rs. 5000.00 |
| TOTAL | Rs. 355000.00 | Rs. 282500.00 |

I am directed to convey the sanction of the Commission for Payment of Rs. 282500/- as first installment to The Principal, Bhilai Mahila Mahavidyalaya, Bhilai Nagar, Bhilai (C.G.), under following terms and conditions:

1. The effective date of implementation of the Project will be the date of receipt of fund by the institution.
2. The tenure for the Minor Research Project will be 2 years.
3. On receipt of this letter the Principal Investigator must sign and return the Acceptance Certificate as enclosed duly countersigned by the Principal within 3 month of issue of this letter, failing which the approval should stand withdrawn.
4. In case, the grant is not settled within six months from the date of completion of the project, the same will lapse and no representation will be entertained on this behalf and Principal Investigator has to refund the whole grant.
5. Principal Investigator may undertake only one project at a time under UGC funding either by the UGC, H.O., New Delhi or by the C.R.O., Bhopal. The letter of undertaking enclosed may be sent to this office immediately after receiving this sanction. Failure to the submission of this and also in running two parallel projects funded by the UGC (Regional Office/Main Office at New Delhi), the Principal Investigator will be held solely responsible and have to refund the amount as and when it comes to the notice, of the authorities.
6. The College shall maintain proper accounts of the expenditure out of the Grants which shall be utilised only on approved. Item of expenditure as per detailed in XII Plan Guidelines.



BHILAI MAHILA MAHAVIDYALAYA

HOSPITAL SECTOR, BHILAI NAGAR (C.G.) 490 009

(Managed by Bhilai Education Trust)

Affiliated to Durg University, Durg (C.G.)

Recognized Under Section 2(f) and 12(B) of the UGC Act 1956

NAAC Accredited with B Grade

Ph : 0788-2242699

0788-2242078

Website : www.bmmbilai.com

No. BMM /

2018/180

Date :

05/6/18

College Code- 202002

To,

The Educational Officer & Incharge
U.G.C., C.R.O.,
Tawa Complex (Bittan Market),
E-5 Areara Colony,
Bhopal.

File No. MS-70/202002/XII/13-14/CRO, Dated : 16.05.14

Subject: Submission of Final Minor Research Project Report.

Respected Sir,

We are pleased to submit two copies of final report of the Minor Research Project sanctioned by C.R.O., Bhopal vide the above referred letter on "*Studies on Medicinal Plants of Chhattisgarh region with Antibacterial, Antioxidant and Antitumour Activities.*"

Thanking you,

Sudha Agrawal

Dr. Sudha Agrawal
Principal Investigator

Yours faithfully,

Zehra Hasan
Dr. Zehra Hasan 05/06/18

Principal

Bhilai Mahila Mahavidyalaya

To,

The Educational Officer & Incharge
U.G.C., C.R.O.,
Tawa Complex (Bittan Market),
E-5 Areara Colony,
Bhopal.

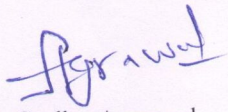
File No. MS-70/202002/XII/13-14/CRO, Dated : 16.05.14
Subject: Submission of Final Minor Research Project Account.

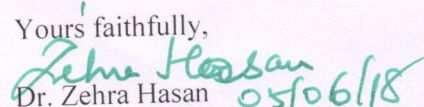
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We are pleased to submit two copies of final report of the Minor Research Project sanctioned by C.R.O., Bhopal vide the above referred letter on "***Studies on Medicinal Plants of Chhattisgarh region with Antibacterial, Antioxidant and Antitumour Activities.***"

The UGC proforma vide Annexure II, III, V and VI (duly filled), Utilization Certificate, Statement of expenditure incurred on Field work, Certificate of Equipment and Books and Expenditure detail and original bills are also being submitted.

Thanking you


Dr. Sudha Agrawal
Principal Investigator

Yours faithfully,

Dr. Zehra Hasan 05/06/18
Principal
Bhilai Mahila Mahavidyalaya

- Enclosure: 1. Annexure II, III, V and VI (duly filled).
2. Utilization Certificate.
3. Statement of expenditure incurred on Field work.
4. Certificate of Equipment and Books.
5. Expenditure detail and original bills of expenditure.

To,

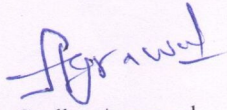
The Educational Officer & Incharge
U.G.C., C.R.O.,
Tawa Complex (Bittan Market),
E-5 Areara Colony,
Bhopal.

File No. MS-70/202002/XII/13-14/CRO, Dated : 16.05.14
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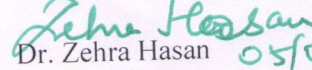
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Dr. Sudha Agrawal
Principal Investigator

Thanking you

Yours faithfully,



Dr. Zehra Hasan

Principal

Bhilai Mahila Mahavidyalaya

- Enclosure: 1. Annexure II, III, V and VI (duly filled).
2. Utilization Certificate.
3. Statement of expenditure incurred on Field work.
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5. Expenditure detail and original bills of expenditure.

UNIVERSITY GRANTS COMMISSION
BAHADUR SHAH ZAFAR MARG
NEW DELHI – 110 002.

Annual/Final Report of the work done on the Major/Minor Research Project. (Report to be submitted within 6 weeks after completion of each year)

1. Project report No. 1st /2nd /3rd /Final FINAL
2. UGC Reference No. F.No: MS-70/202002/XII/13-14/CRO, Dated : 16.05.14
Period of report: from **01/10/2014 to 30/09/2016**
Title of research project allotted to **Dr. Sudha Agrawal** as Principal Investigator on the topic *Studies on Medicinal Plants of Chhattisgarh region with Antibacterial, Antioxidant and Antitumour Activities.*”

(a) Name of the Principal Investigator: **Dr. Sudha Agrawal**

Deptt. and University/College where work has progressed

Bhilai Mahila Mahavidyalaya, Hospital Sector, Bhilai

(b) Effective date of starting of the project - **01/10/2014**

(c) Grant approved and expenditure incurred during the period of the report:

a. Total amount approved- **Rs. 2,82,500/-**

b. Total expenditure - **Rs. 2,99,319/-**

c. Report of the work done: (Please attach a separate sheet)

i. Brief objective of the project -

ENCLOSURE 1

ii. Work done so far and results achieved and publications, if any, resulting from the work
Give details of the papers and names of the journals in which it has been published or accepted for publication – Preparing for publication.

ENCLOSURE 2

iii. Has the progress been according to original plan of work and towards achieving the objective? if not, state reasons:

Antitumour activity could not be studied due to non availability of animals and hence in vivo studies were not possible. Due to animal studies being under ban by UGC and Govt. Antitumour activities have not been taken. We wanted to take both in vivo and vitro studies. Rest all activities were done as per plan.

iv. Please indicate the difficulties, if any, experienced in implementing the project-

Supply of equipment and chemicals and glassware took a long time to materialize. Further despite all efforts no sources for animal supply were available and hence in vivo studies could not be done.

(d) If project has not been completed, please indicate the approximate time by which it is likely to be completed. A summary of the work done for the period (Annual basis) may please be sent to the Commission on a separate sheet.

Completed, Period 01/10/2014 to 30/09/2016

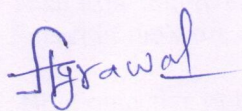
Summary ENCLOSURE 3

v. If the project has been completed, please enclose a summary of the findings of the study. Two bound copies of the final report of work done may also be sent to the Commission –

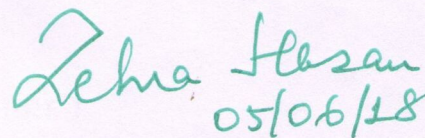
Submitted

vi. Any other information which would help in evaluation of work done on the project. At the completion of the project, the first report should indicate the output, such as (a) Manpower trained (b) Ph. D. awarded (c) Publication of results (d) other impact, if any

Nil



**SIGNATURE OF THE PRINCIPAL
INVESTIGATOR**



REGISTRAR/PRINCIPAL



BHILAI MAHILA MAHAVIDYALAYA

HOSPITAL SECTOR, BHILAI NAGAR (C.G.) 490 009

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Website : www.bmmbilai.co

No. BMM / 2018/222

Date : 02/7/18

TO WHOM SO EVER IT MAY CONCERN

This is to certify that all the equipments, Glasswares, chemicals and books which were purchased by **Dr. Sudha Agrawal** for her minor research project **File No. MS-70/202002/XII/13-14/CRO** entitled "*Studies on Medicinal Plants of Chhattisgarh region with Antibacterial, Antioxidant and Antitumor Activities.*" has been submitted in the college.

Zehra Hasan
02/07/18

Dr. Zehra Hasan,
Principal
Bhilai Mahila Mahavidyalaya
Bhilai

ANNEXURE-V

UNIVERSITY GRANTS COMMISSION

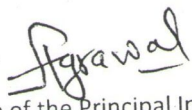
CENTRAL REGIONAL OFFICE

Tawa Complex (Bittan Market), E-5, Arera Colony, Bhopal-462016

STATEMENT OF EXPENDITURE IN RESPECT OF MINOR RESEARCH PROJECT

| | | |
|---|--|--|
| 1 | Name of Principal Investigator | Dr (Mrs) Sudha Agrawal |
| 2 | Name of College | Bhilai Mahila Mahavidyalaya, Bhilai Nagar |
| 3 | UGC Approval No. and Date | F.No.MS-70/202002/XII/13-14/CRO Dated 12/06/2014 |
| 4 | Title of the Research Project | "Studies on Medicinal Plants of Chhattisgarh Region with Antibacterial Antioxidant and Antitumor Activities" |
| 5 | Effective date of starting the Project | 01.10.2014 |
| 6 | a. Period of Expenditure | 01.10.2014 to 28.06.2018 |
| | b. Details of Expenditure | Enclosed hereunder in details |

| S. No. | Particulars | Allocation (Rs.) | Grant being released (Rs.) | Expenditure Incurred (Rs.) | Balance to be Reimbursed by UGC (Rs.) |
|----------------------|------------------------|------------------|----------------------------|----------------------------|---------------------------------------|
| NON RECURRING | | | | | |
| 1 | Books and Journals | 10,000 | 10,000 | 10,001 | 1 |
| 2 | Equipments | 2,00,000 | 2,00,000 | 2,00,043 | 43 |
| RECURRING | | | | | |
| 3 | Travels, Field Work | 30,000 | 15,000 | 24,740 | 9,740 |
| 4 | Contingency | 30,000 | 15,000 | 21,778 | 6,778 |
| 5 | Chemical and Glassware | 75,000 | 37,500 | 37,757 | 257 |
| 6 | Special Needs | 10,000 | 5,000 | 5,000 | - |
| TOTAL | | 3,55,000 | 2,82,500 | 2,99,319 | 16,819 |



Signature of the Principal Investigator

Place : Bhilai, Dated: 27th June, 2018


Registrar / Principal
Principal

Bhilai Mahila Mahavidyalaya
Bhilai Nagar (C. G.)

For Bijoy Barik & Co.
Chartered Accountants
(FRN: 014295C)


(Ca Bijoy Kumar Barik)
Membership No. 058565
(Statutory Auditor)

