

A Comparative Study on Image Forgery Techniques

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Abstract:

In this paper introduction of a new concept has shown of survey and comparative study for all the researchers and scholars who are going to work with the help of existing papers. This new approach of survey and comparative study will be very much helpful for those who choose their research topic that is forgery for work and really looking for the way to start searching for the related and relevant works in forms of papers which are already published in Journals.

Index Terms: Image Forgery, Detection, copy move, image slicing, re touching.

I. INTRODUCTION

The paper consists of all the relevant research which have either done or ongoing. We have put many numbers of publish papers of different research journals. This paper consists of the summary of the work done by different researchers along with the complete detail of journals and authors name. It will act as a link to see that how many papers have published in this domain. All the authors who are interested to do research in the field of image forgery in different techniques this is very much advantageous to them. We also suggested that kindly see the reference section for detail of journals, issue date and volumes.

II. SURVEY

In the copy and paste image [1], where the content of the image is copied from one image and pasted into another, the inconsistencies in something lateral chromatic aberration (LCA) are cleverly presented. In this paper, author proposes a new way to obtain image regions that are designed to support the LCA differences made at home. To do this, author proposes a mathematical model that captures the imbalance between global and local estimates of LCA. We then use this model to perform a false discovery as a diagnostic problem and then obtain a diagnostic figure, indicating that it is correct if certain conditions are met. To evaluate its clinical effectiveness, authors conducted a series of experiments that showed that their proposed method was highly revealing of original art and looked at the limitations of previous research. In addition, Author proposes a new and efficient LCA algorithm for estimation. To do well this we adapt to a block-matching algorithm, called diamond search that accurately measures the LCA in the local region. Authors show by demonstrating that their proposed estimation algorithm reduces the estimation time by two orders of magnitude without introducing additional measurement error.

In recent years, most data is made in digital form that allows for easy control of preservation and deception due to technological advances [2]. Unfortunately, this progress is likely to cause many risks, especially those related to digital file security. In particular, digital fraud

is becoming a concern in many organizations because it has become easy to create fake images without leaving the obvious trace of interference. A certain type of forgery work called “Copy-move” is considered one of the most difficult problems in detecting fraud. In this case, part of the image is copied and pasted to another part of the same image to hide undesirable material from the scene. In this paper, authors propose a method that automatically detects double regions with the same image. Double detection was performed by showing the local features of the images (points of interest) using the Scale Invariant Feature Transform (SIFT) method and by comparing between the same features using the Singular Value Decomposition (SVD) method. The results obtained indicate that our reduced coordinate method is robust to geometric changes and is able to detect duplicated regions with high efficiency.

Image hashing is one of the methods used to generate the hash value of each image in the database. These image-generated hash hats can be used to retrieve image-based imagery, image data validation, and image validation, to avoid and disrupt digital image interference [3]. In the information age, the increasing availability of multimedia data in digital form has led to a significant increase in digital multimedia tools. To ensure reliability, multimedia authentication strategies have appeared to ensure the authenticity of the content and to prevent fraud. In this paper, novel approach proposed Forgery adoption using Image hashing, Experimental results show that very little is possible with image it would be to find out about the proposed process.

Today the illusion of digital photography has become easier thanks to powerful computers, advanced image editing software packages and high-quality photography devices. Ensuring image reliability and detecting the tendency to be distracted without needing additional information on image content or other embedded watermarks is an important research field [4]. An effort is being made to look at the latest developments in the

digital sector. The discovery of a picture of unity and a complete bibliography is revealed by the blind methods of fraudulent discovery. Blind or landing methods do not require detailed image information. First, various fraud detection techniques are separated and the structure of their structure is still being developed. An overview of the resulting image validation has been introduced and the strategies for detecting existing poverty are being reviewed. For now the nature of the method of obtaining image manipulation is discussed and the recommendation for future research.

Copy-move forgery is one of the most widely used digital signage conversion techniques. Ikypoint-based detection methods have been reported to be very effective in revealing copy-proofing, due to their robustness with geometric modifications [5]. However, these methods fail to handle cases where copy-copying involves only small or smooth regions, where the number of keypoints is very limited. To address this challenge, we propose a simple yet effective way to detect fraud. By lowering the contrast threshold and saving the input image, we first produce a sufficient amount of keypad that is present even in small or slippery regions. After that, a novel comparison strategy was developed to solve keypad matching problems. Finally, a novel approach to measuring the novel's domestic perspective is proposed. Comprehensive assessment results are provided to demonstrate the effectiveness of the proposed program.

In recent years, the acquisition of digital forgery imagery has become an active research field due to the robustness of image editing software. This paper focuses on the detection of fraud detection in disturbed images using a copy-transfer process, better known as Copy Move Forgery Detection (CMFD) [6]. The CMFD method consists of Component Features from the Quick Binary Test and Binary Robust Independent Elementary Features (Used in FAST and BRIEF) as a Feature input and 2 Nearestborger (2NN) with Hierarchical Agglomerative Clustering (HAC) as a

feature comparison feature proposed. An evaluation of the proposed CMFD procedure was performed on images that were attacked by geometrical variations. For the proposed procedure, an overall accuracy rate of 84.33% and 82.79% is obtained for the image-based experiments from the MICC-F600 and MICC-F2000 data sets. Fraud detection achieved the Positive Real Level of more than 91% of images disturbed by object transformation, different degree of rotation and magnification

This paper proposes an automation algorithm for the detection of digital image region multiplication. This algorithm uses the remaining two factors and the structural similarity to improve the performance of the region multiplication. We have also built a local detector to detect duplicate internal objects to avoid false detection. Through several performance analyzes, the composite images are automatically generated for geometrical multiplication and optical illumination by the interfering producer [7]. The test results show our proposed technique is stronger and more efficient than similar functions in the literature.

Image manipulation means the illusion of digital imagery to conceal certain logical or useful details of an image. There are cases where it is difficult to identify a fixed region from the original image. The acquisition of a built-in image is driven by the need for authenticity and maintaining image integrity. This paper looks at the different types of graphic design [8]. The research has been done on existing techniques of composite imagery and has also highlighted various copying techniques - delivering a solid based on their robustness and computational complexity.

Today photo guides play an important role thanks to powerful image editing software such as Picasa, Photoshop to look like original. Such a disruption of the true digital image is called the image of unity. Photographic discovery realistic image forgeries involve a combination of splicing, resampling, cloning,

region removal and other methods [9]. While performing retrieval samples are very effective in detecting cuts and duplication, copy-by-copy recovery algorithms do well in detecting cone extraction and regional removal. In this paper, we combine these complementary approaches in a way that enhances the absolute accuracy of image detection detection. We use the copy-submission method as a pre-filtering process and transfer those images that have been classified as not included in the in-depth sample acquisition. Test results on various databases including the 2017 Nimble Challenge Test database containing approximately 10,000 pure and unadulterated images show a steady increase of 8% -10% in acquisition rates, where a copy copy algorithm is combined with different recovery algorithms. .

With the headset of advanced image management software and conversion tools, a computer image can be effectively managing Identification of image fraud is important because the image can be used as a validation tool, in criminal investigations, and in many different fields. Methods of obtaining image manipulation aim to ensure the reliability of computer-generated images without prior knowledge about the original image. There are many ways to convert an image, for example, resize, print and Copy move. In this paper, we have explored the various forms of graphic design and their acquisition methods; we mostly focus on pixel based image acquisition techniques [10].

In the digital age where everyone is presented with a virtual image on a much larger scale. Digital photos are the most reliable way to share data. Thanks to the fast-growing field of digital photography and the highly sophisticated and computerized editing software that has many advanced features [11]. Digital image manipulation can easily be done with the help of editing tools, which are successfully purchased online or offline and do not leave any appearance of the basis for image disruption. Digital image integration is an inescapable issue of concern for image integrity and image integrity.

Which raises the compulsion to take immediate action on the creation of a digital image to ensure authenticity and maintain integrity. To address the problem of digital image authenticity, this paper proposed a method for the detection of image compression using a blind method i.e., an open-source method for detecting the region used in a digital image. By way of entry, there is no provision for the pre-launch of the watermark and the pre-embedded digital signature during image acquisition. This paper mainly discusses the design of images and then begins with the DWT (Discrete Wavelet Transform) method, which will cut this image into images below and gain the participation of each image. After that feature extraction we will use SURF (Speed-Up Robust Features) and finally SVM (Vector Support Machine) will perform splicing forgery separation to get the digital image.

Virtual image design involves splicing, re-operation, merging, circuit removal and other methods. While reorganizing the detection algorithms is effective in detecting splicing and re-deletion, copy detection algorithms are great for detecting cloning and region deletion. In this paper, we combine these complementary methods in a way that maximizes the overall accuracy of image acquisition. We use the copy acquisition method as a pre-filter step and then pass those images that are classified as having no frame for the remainder of the reading turn [12]. Test results in different data sets including 2017 NIST Nimble Challenge Evaluation data containing approximately

10,000 pristine and disturbed images shows that there is a consistent increase of 8% -10% in adoption rates, where the copy submission algorithms are integrated with different acquisition algorithms.

Today the illusion of digital photography has become easier thanks to powerful computers, advanced image editing software packages and high-quality photography devices. Ensuring image integrity without any special watermark or other previous information is a critical issue [13]. Photo-manipulation techniques such as Cop-paste, which are very easy and efficient to use, can extend the picture's composition. Original image content is copied to your desired locations. Increasing software for image conversion can easily deceive a digital image without leaving a visual trace. It is important to study these issues because violent images can cause social unrest, criminal and non-social consequences. It is very important and in addition it is difficult to get creative with digital photography. The main focus of this paper is to get an image of the multiplication of the SIFT-based multiplication (protected feature of the convergence problem) definitions, which do not require rotation, scaling etc. The clustering algorithm is used for the integration of key points in the images. The results indicate that, by comparing the available MROGH methods, SURF-PHA provides consistent accuracy, recall and F1 statistics about 98.86%, 99.40%, and 99.13% respectively in the data provided.

III. COMPARATIVE STUDY OF DIFFERENT FORGERY TECHNIQUES

Sr.no	Paper	Technique	Detection Domain	Advantage	Limitation
1	Splicing Image Forgery Detection Based on DCT and Local Binary Pattern	LBP, DCT, SVM	Image Splicing Forgery	Attained 97% accuracy with chrominance color space	Less accurate in gray and color channel
2	An Integrated Technique for Splicing and Copy-move Forgery Image Detection	DCT, SURF	Spliced Image and Copy-move Forgery	Successfully localized multiple forged region in the same image	Restricted to specific image format like JPEG
3	Image Splicing Detection with Local Illumination Estimation	Local Illumination Estimation, color inconstancy	Spliced Image	robust over two datasets with good accuracy	Need of human intervention
4	A Forensic Method for Detecting Image Forgery	Code-book, Hash	Spliced image and copy-move image forgery	Generated less complex Codebook with good accuracy	Requirement of source image for splicing detection
5	Detection of Copy-Move Forgery of Images Using Discrete Wavelet Transform	DWT, shift vector	copy-move image forgery	lower computational complexity and detect small size and multiple copy-move forgery	-----
6	Detection of Digital Image Forgery using Wavelet Decomposition and Outline Analysis	DCT, Wavelet decomposition	Spliced Image and Copy-move Forgery	Good accuracy with 81.50%	-----
7	Image splicing detection based on inter-scale 2D joint characteristic function moments in wavelet domain	DWT, PCA, SVM	Splicing forgery detection based on inter-scale 2D joint characteristic function	Attained accuracy 96.2 % for the Columbia image splicing detection evaluation dataset.	Less accurate with color image and better accuracy with gray image.
8	An Effective Algorithm of Image Splicing Detection	Multi-size Block Discrete Cosine Transform (MBDCT), SVM, Image quality metrics (IQMs)	Spliced Image	acquired highest accuracy rate 89.16%	required 80% training for higher accuracy
9	Effective Image Splicing Detection Based on Image Chroma	Gray level co-occurrence matrix (GLCM), SVM	Gray level co-occurrence matrix used for splicing detection	Shown 96.2% of accuracy over the Columbia Image Dataset	-----
10	Pixel Based Digital Image Forgery Detection Techniques	DWT	Copy-move Forgery detection	Robust against rotation	considers only 90 , 180 , 270 angle orientation
11	Fast, automatic and fine- grained tampered JPEG image detection via Discrete Cosine Transform coefficient analysis	DCT	Double quantization effects hidden among histograms of DCT coefficients	Insensitive to the tampering methods	restricted to Image Format

Fig. I: Comparative chart of different existing work on forgery.

With the development of image editing tools and tools for fraud, originality and authenticity of a digital image is often difficult to determine visually. To see the creative of digital images, various types of digital photography techniques have been proposed over the last decade. Compare Functional methods that need to embed additional information, preview methods they are very popular because of their wide program environment, and have attracted increasing number of courses as well industrial research interests [14]. Typically, a forum for digital imagery receives image formulation based on the fact that there are certain patterns of perception in the first image left during image acquisition or storage, or certain patterns in the imagery left over during photo storage or editing. Refreshingly the above patterns, the output of the image can be verified. In this paper, a brief review Digital digital image processing techniques have been introduced to give a complete introduction recent developments in this rapidly evolving field of research. These test methods are separated three categories based on the various types of tracking that can be used for tracking - that is, the remaining traces of the image discovery, tracking left of photo storage, and traces left in photo editing. In each section, the forensicsThe situation, the underlying conflicts, and the state of the art are described. In addition, I major limitations of current image manipulation techniques are discussed in order to identify some directions for research or focus on these areas.

We introduce a novel deep neural architecture of the image copy-submit recovery (CMFD), code-coded Buster Net. In contrast Previous attempts, BusterNet is a pure, never-ending, deep-seated way Solution for ral network. It has a two-branch structure followedfusion module. These two branches are obtained in this way gions with visual art and circuits to distribute a copy in visual comparison, respectively. To the best of our knowledge, this is the first CMFD- rithm and visualization to customize source / target locations [15]. Once again - incorporate simple methods for combining the main

CMFD samples used data for offline data, and clever strategies for the BusterNet operating system training. Our extensive studies show that BusterNet is at a discountstate – of – the - art returns state algorithms for big data going forward two publicly available databases, CASIA and CoMoFoD, and is powerful in combating various known attacks.

IV. CONCLUSION

Many researcher have used so many papers to work on their research of field so this initiative of writing this paper with so many base papers which will definitely help research scholars to make a adequate start. In this case we have started writing about forgery techniques.

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A Study on usage of ICT Based Electronic Banking Services among Customers of Mungeli district in Chhattisgarh

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Abstract:

Advancements in the Information and Communication Technology (ICT) and increased usage of Internet are having an immense impact on banking practices adopted among common people. While such a phenomenon is exhibiting at global level, the adoption and usage of electronic banking in developing economies like India seems to be far behind than that of the developed and western economies. Though, lower level of education and infrastructure are conspicuous reasons impacting the adoption and usage of technology by people in our country, there are some other vital and peculiar psychological/ behavioural factors that perform a very critical and important role in determining people's behaviour towards usage/adoption of electronic banking services. Though technology based modern age banking services have been able to make an impact on the usage behaviour of metro and urban customers, its adoption by semi urban population is still a matter of curiosity and interest among the researchers.

Index Terms: Information and Communication Technology, banking product and service, economic reforms.

I. INTRODUCTION TO CONSUMER DIGITAL LITERACY ON DIGITAL BANKING

In the organized segment of Indian Economy, the Banking Sector occupies an important place in Nation's

Economy. It plays a pivotal role in the economic development of a country and forms the core of the money market in developed country. Banks have to deal with many customers every day and render various types of services to their customer. It's a well known fact that no business can exist without customers. Not so long ago, accessing our own money was about setting aside a couple of hours, getting to the bank before closing time, standing in a queue to get a token and then wait in another to collect the cash. So, the banks are eventually changing their strategies to reach customers worldwide with ease and in a cost effective manner. Therefore banks are adopting the latest Technology in order to deliver their banking and financial service product to the customers with a cost effective manner. Now days the banks provide more benefits to customers to increase their performance [1]. They adopt the cost effective alternative channel to distribute their financial or banking service to the customers through Internet Banking. Banks want to keep the existing customers as well attract new customers for their banking. They aim to provide all banking product and service offering under one roof and their endeavor is to be customer centric. With the emergence of economic reforms across the globe in general and India in particular, today's banks have come up in a big way with prime emphasis on technical and customer focused issues.

- This summary report aims to provide findings of research into identification and analysis of factors that affect the consumer behaviour and adoption process towards usage of ICT based electronic banking

services among customers of Mungeli district in Chhattisgarh.

- The Indian Banking Industry has undergone radical changes due to Liberalization and Globalization measures undertaken since 1991.
- Now days the banks provide more benefits to customers to increase their performance.
- Banks want to keep the existing customers as well attract new customers for their banking. They aim to provide all banking product and service offering under one roof and their endeavor is to be customer centric.
- With the emergence of economic reforms across the globe in general and Mungeli district in the state of Chhattisgarh in particular, today's banks have come up in a big way with prime emphasis on technical and customer focused issues.

A. Internet Banking:

Banking Sector in India has made remarkable progress since independence. Now days many customers are migrating towards the adoption of this distribution channel and in India almost all private and public banks are providing internet banking service facilities to give more value added services to their customers [2]. Digital Revolution has definitely changed almost every phase of daily life as we step into the twenty-first century. The influence of the World Wide Web and global E-commerce are becoming more important with the increasing number of people around the globe connecting to the Internet every day.

Internet Banking is an Online System which enables customers or businesses to access their bank accounts, do their banking transaction online, getting information about banking products and services. The innovative initiation of internet banking has empowered banks with innovative ways of delivering their banking services to customers. Internet Banking facilitates a convenient and successful move towards handling personal finances, as it is accessible 24 x7 hours without visiting the bank and

from any remote locations.

By using the internet platform for providing banking services, the convenience of customers is taken into account and this not only helps the customers but also increases the efficiency of the banking operation. It provides a boundless banking i.e. doing transaction from anywhere in the world or within anywhere in the country. Internet Banking is limited by operational timings and geographical barriers and the services can be offered at a very small cost. Day by day there is an increase in number of users accessing internet banking services. Internet Banking has given an opportunity for banks to find solutions to management problems like saving time, money and energy, reducing/minimizing paper works, abolition of waiting in queues, lack of communication, and lack of efficiency. The Internet Banking is changing the banking industry and is having the major effects on banking relationships. It allows consumers easy access to their bank accounts, lower service charges, and time saving.

B. Customer Satisfaction:

Customer is the very important person in the market. In fact, he is the king of the market. Therefore, it is extremely important for an organisation to satisfy its customers. An organisation cannot survive in the long run if its customers are not satisfied. Thus, customer satisfaction has become a very important construct for an organisation. Customer satisfaction is the sum total of customer's expressions of service and it depends upon customer's own expectations and perception. When a customer expects a certain level of services and if he actually perceives more than what is expected, then he will be satisfied and if he perceives less than his expectation then he will be dissatisfied. Satisfaction is the gap between customer's expectations of service and his perceptions of service experienced [3].

If the customers are satisfied, it will lead to repeated purchases and positive word-of-mouth advertisement to friends, relatives, business colleagues etc. This in turn will enhance the reputation of the bank as well as improve its

profitability. Therefore, the banks should make more efforts to satisfy the customers by providing them what they want, when they want and where they want. Customer satisfaction depends upon the bank's ability of how efficiently it provides service to its customers. It is determined by service quality, service features, service problems and service recovery. Besides these determinants, customer satisfaction also depends upon customer's socio-economic and demographic background, psychographic make-up, employees' attitude etc. With the increase in literacy rate and awareness, customer of the bank is becoming increasingly impatient [4]. Today, Customer is not willing to wait in the long queues and tolerate unresponsive behaviour of the bank employees. They demands for the fulfillment of their expectations timely and efficiently. In contrast to products, services are perishable in nature as these are produced on consumer's demand and consumed simultaneously and the customer cannot evaluate the service before the service process takes place. While interacting with the service provider, the customer becomes able to get an impression of the way the bank provides the services. Customer experience of service, and the attitude and behaviour of service provider determine the level of customer satisfaction with the service and service provider. Therefore, Indian banking sector needs to build up competitiveness through enhanced service quality, thus, making the banks more market oriented and customer friendly. Banking is a service industry which is characterized by high customer contact. Therefore, customer satisfaction is extremely important for its survival in the long run. A satisfied customer is a lifelong asset for an organisation. It will cost more to attract new customers than retaining the existing ones. Thus, it becomes necessary for the banks to know about the customers' level of satisfaction regarding their products and services. Also, the banks should understand and analyse the needs and expectations of customers, and then take necessary steps to keep them satisfied.

II. SIGNIFICANCE OF THE STUDY

The Financial Institutions are the backbone of the Indian economy. Today Indian Banking Industry is in the midst of an Information Technology Revolution. Nowadays nearly all nationalized banks have implemented Information Technology based solutions for their day to day transactions. The Banks are using new tools and techniques to find out the needs of the customers and accordingly offering tailor made products and services to them.

III. STATEMENT OF THE PROBLEM

In today's digital world, the use of Internet by customers is growing rapidly and this has led to the development of internet banking adopted by the banks all over the world. Internet Banking is a major invention that has changed the business of banking. Internet banking has increased the competition among the banks and both domestic and foreign banks are offering more and more modern ways of e-banking. Internet banking services can not only create new competitive advantages, perhaps, but also improve their relationships with customers for banks. Obviously, Internet Banking can offer better services required by corporations and individuals.

It could be a strategic niche no matter for banks or their customers. Conceivably, how to implement Internet Banking successfully is becoming a critical management issue. Determining the factors affecting customer satisfaction with internet banking is an essential part of a bank's strategy formulation process in an emerging economy like India. It has become imperative for both public and private sector banks to perform to the best of their abilities to retain their customers by catering to their explicit as well as implicit needs. Many times, it happens that the banks fail to satisfy their customers which can cause huge losses for banks. So, the Internet Banking is the only solution for banks to gain competitive edge, operational efficiencies and direct marketing opportunities. It raises to the following research dimensions:

- To what extent are the customers aware of the various Internet Banking services provided by banks?
- What are the factors influencing the customer's satisfaction regarding Internet Banking services?
- What do customers feel about the level of satisfaction regarding Internet Banking services?
- What are the problems faced by customers while using Internet Banking services?

This study makes an attempt to find the answers to the above stated research aspects. Therefore, the main purpose of the study is to know the Internet Banking services provided by the banks in the study area. Besides, this research study makes an attempt to analyze the Overall Satisfaction of the Customers regarding the Internet Banking Services in the select Public and Private Sector Banks in Mungeli District of Chhattisgarh.

IV. SCOPE OF THE STUDY

The research is based on the Customers satisfaction of Internet Banking Services. The research discusses the opinions of the customers regarding the Internet Banking services provided by the selected banks in the Mungeli District.

V. OBJECTIVES OF THE STUDY

Following objectives are determined to prove them in the study:

1. To study the changes made by the bank in digital process and creating an integrated digital eco system.
2. To examine the impact of the digitalization on customer behavior.
3. To find out the relation of customers satisfaction in digital banking than ordinary banking service with age, occupation and education.

VI. HYPOTHESIS

Following research hypothesis are framed and tested in the present study:

Ho1. Consumers do not have positive opinion with respect to the changes made by the bank in **digital process**.

Ho2. There exist no significant differences in the **behavior of consumers** with respect to digital banking.

Ho3. There is no significant difference on **customer satisfaction** between digital banking and ordinary banking services.

VII. LIMITATIONS OF THE STUDY

The study has some limitations that need to be acknowledged and addressed regarding the present study.

- The study is restricted to Commercial Banks located in Mungeli District only.
- The study is based on the Opinion Survey from Customers of Internet Banking and the opinions may differ according to their time and situation.
- The study covers only the common internet banking services provided by the banks in the study area and no distinction is made on the basis of banks.

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Impact of Employee Engagement Practices: A Key towards Sustainable Development of an Organization

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Abstract:

This study enlightens the facts about an employee engagement practices in private organization in Bilaspur, Chhattisgarh. With the help of few literatures, employee engagement practices are perceived as an effective tool for success. On the basis of these different literatures, few objectives and hypothesis has been developed, and 93 respondents found elected as populations, a strong methodology are developed and with the help of SPSS, linear regression analysis performed which support null hypothesis and conclude that various factors are affected to employee engagement and an effective engagement practices found key to success for not only in hospital but for an organization as well.

Index Terms: Endeavour, Gradually, Enthusiasm, Engagement, Sustainable.

I. INTRODUCTION

Employee engagement practices are considered as one of the most effective tools towards the success of an organization. In other words, the development, growth and expansion of an organizations are directly depends upon involvement of their employees towards organizational growth. It is clear from the above statement that the success and failure found positive relationship with the employee engagement practices in

an organization and the responsibility of top management and authority to motivate their employee in such a manner to contribute their full efforts towards the goals of their organization. According to Sarangi (2016), it is a dedication, worship, devotion and enthusiasm of employees with support of an efficient and effective leadership skill from top management. A great endeavor identified and spread gradually all over the world in the form of employee engagement practices.

II. REVIEW OF THE LITERATURE

Author tries to focus that the success of an organization is purely depends upon the employee engagement practices [1]. This research paper enlightens the facts about relevancy of employee engagement practices with the development. With the help of 10c's, researchers try to explore about the facts and ideas of the success of a manufacturing concerns based on employee engagement programmes.

Author tries to describe the relationship between COVID 19 pandemic with labor force. Researchers explore that due to pandemic, extra stress were found among labors and this lead to the negative influence [2]. Therefore, this research paper leads to establish the relationship with employee engagement with their wellbeing with the help of two main consent like

model of boosting employee engagement and its managerial suggestion.

Explain that employee engagement drives as an effective management system in internal and as well as external environment. Efficient employee management policies develop organizational branding and reputation [3]. Researchers try to focus on strength and weakness of employee engagement policies in Ghana. Through this paper, researchers enlighten the facts that satisfactory levels has achieved by the deployment of engagement policies among employees.

III. OBJECTIVES

- To study the requirement of employee engagement practices.
- To study the different factors which affect employee engagement practices.

IV. HYPOTHESIS

- H0: There is a significant relationship between different factors which affect employee engagement practices.

V. RESEARCH METHODOLOGY

- Population: - Population constitutes to the sample from the total respondents are employees of different organization in Bilaspur.
- Sampling Design:-
 - Sampling Design:* Size of actual population is unidentified; therefore, it is decided to adopt nonprobability sampling technique.
 - Sampling Technique:* Convenience sampling method is used for data collection for the purpose of comfortable accessibility of responses from respondents.

C. *Sample Size:* 93 respondents are considered as sample size.

- Research Instrument: - Self Structured questionnaire.
- Sources of Data: - Primary data will be collected with the help of structured questionnaire through survey. Secondary data will be collected from books, online and published journals, research papers etc.

Questionnaires	frequency	Percent
Distributed	100	100
Accepted	93	93
Rejected	7	7

Table I: Sample of the study

Gender (N=93)	Frequency	Percent
Male	66	71
Female	27	29
Age (N=93)		
Upto 25 years	19	20
25 to 35 years	46	49
36 to 45 years	28	30
Education (N=93)		
Graduation	22	24
Post- Graduation	19	20
Others	52	56
Income (N=93) in lakhs		
Upto 2.50/annum	39	42
2.50 to 5.00/annum	31	33
above 5.00/annum	23	25

Table II: Demographic Profile of Respondents

Above table represents the different demographics of respondents. out of 93 respondents, it was found that 66 respondents were male which covers 71% of the total population and 27 respondents were female which covers 29% of the total population. in order to age, 19 respondents found below 25years of age which covers 20% of the total population, 46 respondents found between the age groups of 25 to 35 years of age which is 49% of the total population and 28 respondents found between the age groups of 36 to 45 years of age which is 30% of the total respondents. another classification is based on education and it was found that 22 respondents found graduate which covers 24% of the total population, 19 respondents were post-graduate which is 20% of the population, and 52 respondents which covers 56% of the total population found other than graduate and post-graduate. in terms of education, 39 respondents found in the category up to 2.50 lakh/ annum, 31 respondents found between 2.50 to 5.00 lakh/ annum, whereas, 23 respondents found above 5.00 lakh/ annum.

VI. DATA ANALYSIS AND INTERPRETATION

Data analysis and interpretation is one of the most essential parts of any research. Initially frequency analysis is performed for identification of respondents view in the form of numbers of respondents. Below is the table which signifies different feedback and responses of respondents based on 10 different parameters.

S. NO.	Questions	SD	D	N	A	SA
1	Presence of Better career growth	3	8	2	54	26

2	Fair remuneration policies adopted by employer	7	14	28	34	10
3	Sound working circumstances and surroundings	7	11	3	46	26
4	Presence of professional conflicts	24	40	7	16	6
5	Unsatisfied performance appraisal system	24	39	14	12	4
6	Flexibility towards assigned task	7	4	4	46	32
7	Job recognition and rewards	9	13	7	34	30
8	Liberty to make decision	4	18	12	39	20

Table III: Frequency Distribution

VII. INTERPRETATION

Out of total population, majority believe that their organization provides better growth opportunities due to sound working circumstances and surroundings. Around 34 respondents out of total population believe that the remuneration policies adopted by their employer are fair and 10 respondents found strongly agree on this statement, whereas, majority denies about the existence of professional rivalries and unfair performance appraisal system. in another statement, again majority found agree and strongly agree about flexibility towards assigned task, found satisfied on the basis of job recognition and rewards and liberty to make their own decision.

VIII. TESTING OF HYPOTHESIS

H₀: There is a significant relationship between different factors which affect employee engagement practices

- Below is the table of model summary and ANOVA represents the details of dependent and independent variables. Dependent variables are the total of all dimension included in this research and independent variables are each and every variables. on the basis of R Square, it describes that all dependent and independent variables is below at 63.7% and 59.2% both the information is reliable as presented the F score ($F = 38.577$, $p = .000$) & ($F = 31.924$, $p = .000$) as P value is less than 0.05, it represents that all the models significantly related and good to fit the data.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.798 ^a	.637	.620	2.09647

a. Predictors: (Constant), Existence of professional rivalries , Fair remuneration policies adopted by employer, Sound career opportunities are available, Healthy working environment and surroundings

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	678.214	4	169.553	38.577	.000 ^b
	Residual	386.776	88	4.395		
	Total	1064.989	92			

a. Dependent Variable: Per_Sum

b. Predictors: (Constant), Existence of professional rivalries , Fair remuneration policies adopted by employer, Sound career opportunities are available, Healthy working environment and surroundings

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.769 ^a	.592	.573	2.22203

a. Predictors: (Constant), Liberty to make decision, Unfair performance appraisal system, Flexibility towards assigned task, Job recognition and rewards

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	630.495	4	157.624	31.924	.000 ^b
	Residual	434.494	88	4.937		
	Total	1064.989	92			

a. Dependent Variable: Per_Sum

b. Predictors: (Constant), Liberty to make decision, Unfair performance appraisal system, Flexibility towards assigned task, Job recognition and rewards

IX. RESULTS

- On the basis of frequency analysis, majority believe that the career opportunities are excellent along with fair remuneration policies adopted by their employer in his/her hospital.
- Majority believe that the working environment and surroundings are healthy and familiar due to the lack of professional rivalries and unfair performance appraisal system.
- Most of the respondents are satisfied with their job recognition and rewards and feel free to make their won decision.

X. CONCLUSIONS

This research study explores the facts about an effective employee engagement practices results an efficient organizational surroundings. based on this research paper, it was found that the privileged organization always a result of a better employee engagement practices and few responsible factors which influence the staff of any hospital towards the attainment of desired goals. In order to test hypothesis, the outcome reveals that employee engagement practices and different factors and attitude of an organization are significantly related, which directly or indirectly affects the work culture of any organization.

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Utilization of Waste Plastic in Bituminous for Road Construction

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Abstract:

Waste plastics (polythene carry bags, etc.) on heating soften at around 130 °C thermo gravimetric analysis has shown that there is no gas evolution in the temperature range 130–180 °C. Moreover the softened plastics have a binding property. Hence, the molten plastics materials can be used as a binder and/or they can be mixed with binder like bitumen to enhance their binding property. This may be a good modifier for the bitumen, used for road construction. Disposal of waste plastic is a major problem it is non biodegradable Burning of these waste plastic bags causes environmental pollution. It mainly consists of low - density polyethylene we find its utility in bituminous mixes for road construction Laboratory performance studies was conducted on bituminous mixes. Laboratory studies proved that waste plastic enhances the property of the mix Improvement in properties of bituminous mix provides the solution for disposal of plastic waste in a useful way.

Index Terms: Utilization of waste plastic materials, optimum bitumen content, petblends in bitumen, road material standards.

I. INTRODUCTION

Plastic waste recombination is not new recent studies in the direction have shown some hope in terms of using plastic waste in road construction. Le Plate Road Plastic road mainly use plastic carry bags, disposable cups and PET Bottles that are collected from garbage dumps has an important ingredient of the construction material [1] When mixed hot bitumen plastics melt to form an oily coat over the surface and the mixture is laid on the road surface like a normal tar road.

II. OBJECTIVE

A. Physical Properties:

1. Aggregates bitumen and filler
2. Optimum plastic content
3. Optimum binder content
4. Comparison of conventional and modified bituminous mixes.

In this project we are showing use of waste plastic like plastic bags, squeezable detergent bottles bottle caps, credit cards, toys, pipes, pens etc in bituminous mix as an additive in binder for Road Construction and advantage of these plastic roads compared to ordinary bituminous roads [2].

III. HISTORY

This Concept of Utilization of Waste Plastic in Bituminous Mixes for Road Construction has been done since 2000 in India [3]. They can return to the earth as beneficial additives in bitumen roads. One such technologies are reviewed below, two for waste-polymer-modified bitumen roads.

A. What is plastic?

A plastic material is a wide range of synthetic or semi-synthetic organic amorphous solids used in the manufacture of industrial products. They are typically polymer of high molecular mass and may contain other substances to improve performance and/or reduce costs. Monomers of plastic are either natural or synthetic [3-4].

B. Waste plastic as binder and modifier:

Waste plastics (polythene carry bags, etc.) on heating soften at around 130 °C, thermo gravimetric analysis has shown that there is no gas evolution in the temperature range of

130-180°C [5-6]. Moreover the softened plastics have a binding property. Hence, the molten plastics materials can be used as a binder and/or they can be mixed with binder like bitumen to enhance their binding property. This may be a good modifier for the bitumen, used for road construction [7].

IV. MATERIAL USED



V. BULK DENSITY TEST

This test is done by taking aggregates in a open type bucket to know its weight in water and in air then its specific gravity is determined here and of other raw materials as well:- GI-2.7, G2-2.68, G3-2.61, G4-2.54, GS=1.01, Gb-1.022, Gs-0.99 These are apparent specific gravity of all materials.

VI. PROCEDURE OF MARSHALL TEST

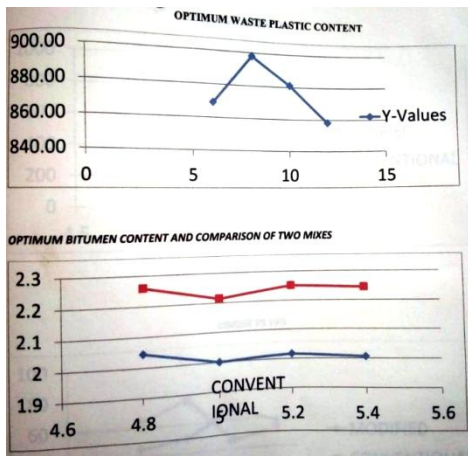
Now this specimen is taken out from mould and kept for 24 hours in room temperature. Then Bulk Density test is carried out by first weighing it in air (i.e. weight in air) then pouring specimen in water weighing it (i.e. weight under water) then taking it out and again weighing it (i.e. wet specimen weight). Now specimen is kept for water bath at 60 °C for 30+5 minutes and then under Iminute which is difficult so up to 2min Marshall stability test should be done in Marshall Testing Machine which gives Marshall stability value ie load at which Marshall specimen fails and flow value is also determined in second dial gauge.

APPARENT BULK DENSITY

Bitu men %	SP % of wt of bitu men	Wt. of speci- men in air	Wt. of speci- men in water	Wet wt. of speci- men in air	Volu- me of speci- men	Appa- rent bulk densi- t- y, Gm	Gt and Gt'	Vb	VMA	VFB	% of air voids, Vv
4.8	6	1187.5	675.3	1201	525.6	2.259	2.264	18.61	40.69	45.73	22.084
5	8	1192.5	661.3	1200	538.6	2.214	2.218	18.16	36.2	50.18	18.034
5.2	10	1189	675.5	1204	528.4	2.250	2.252	18.51	27.39	67.58	8.88
5.4	12	1197	660.3	1194	533.6	2.243	2.246	18.33	31.69	57.85	13.357
4.8	0	1172	600.6	1174	573.3	2.044	2.046	17.06	26.83	63.59	9.77
5	0	1185	596.5	1189	592.5	2.000	2.001	16.51	21.50	76.79	4.99
5.2	0	1180	598.6	1184	585.3	2.016	2.020	16.71	36.51	45.77	19.801
5.4	0	1190	601.4	1195	593.5	2.005	2.008	16.48	31.47	52.45	14.94

MARSHALL STABILITY TEST

P. Ring reading (in KN)	Corrected P.R. reading(in kg)x6.039	Correction factor	STABILITY	FLOW VALUE (in mm)
150(with S.P.)	905.85	.96	869.616	5.5
155	936.045	.96	898.603	5.8
152	917.928	.96	881.21	6
148	893.772	.96	858.021	5.7
120(without S.P.)	724.68	.96	695.692	6.5
125	754.875	.96	724.68	6.9
121	730.719	.96	701.49	7
119	718.641	.96	689.895	6.6



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VII. CONCLUSION

From above data we can see that properties of Modified Bituminous mix are better than Conventional Bituminous mix.

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Role of medicinal plants in peptic ulcer: A review

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Abstract:

Ulcers are lesions of the skin or mucous membrane characterized by superficial inflamed dead tissue. There are different types of ulcers that can develop in the human body in which peptic ulcers are the most common. Peptic ulcers will develop within the lining of the abdomen (gastric ulcer) or the small intestine (duodenal ulcer). Gastric ulcer, one of the widest spreads, is believed to be due to an imbalance between aggressive and protective factors although many medications are currently available for the management of gastric ulcers, prolonged use of these drugs may lead to series of adverse effects such as nephrotoxicity, thrombocytopenia, hepatotoxicity, gynecomastia, and impotence. With the increasing tendency for use of medicinal plants and its Phytoconstituents based medication for the deterrence of various disease conditions, associated with the belief that plants chemical constituents as medication produces less toxic side effects, much research is now being carried out worldwide, to investigate the potential of medicinal plants and it's phytoconstituents to protect against the development of gastric ulcers or relief from the symptoms of an ulcer. In this review, we discussed many medicinal plants and it's phytoconstituents to relieve, healing and control the symptoms of ulcers.

Index Terms: Peptic ulcer, Medicinal plants, phytoconstituents, nephrotoxicity, hepatotoxicity.

I. INTRODUCTION

Peptic ulcer is an associate acid-induced lesion of the digestive tract that is usually stationed in the stomach and sometimes set within the abdomen or proximal small intestine and is characterized by uncovered tissue layer with the defect extending into the connective tissue or muscularis propria [1]. The discovery of *Helicobacter pylori* has greatly modified our approach to peptic ulceration illness. For quite a century, peptic ulceration illness has been a significant reason for morbidity and mortality. Currently there's abundant proof to support the concept that *Helicobacter pylori* infection may be a condition for small intestine and stomachic ulcers [2]. Peptic ulcer may be a fester of the gastric mucosal layer and a submucosal layer or small intestine caused by raised secretion of gastric acid because of alcohol consumption, anti-inflammatory drug medicine, continuous and prolonged hunger, continuing stresses, *Helicobacter pylori* infection, and poor diet. Anticholinergic medicine, medication, proton-pump inhibitors, prostaglandin-like medicine, and anti *H. pylori* antimicrobials and antibiotics square measure want to decrease the gastric acid secretion and endure peptic ulceration. internal organ membrane lesions and also the associated ulcers and injury square measure the foremost common complications that square measure developed by use of those medicines, so NSAIDs square measure the second leading explanation for peptic ulceration once *H. pylori*

[3]. Medicinal plants are used to supply therapeutic resources for getting bioactive molecules within the treatment of gastric or peptic ulcers. In that manner, it becomes essential to improve studies on gastro-protective and ulcer healing effects on plants and its phytoconstituents which are traditionally used to treat gastric diseases [4]. Herbal medicines are permanent and the primary form of treating problems of the many peoples in well-developing countries. Increasing knowledge of physiological process and the effect of medicinal plants on human system has raised the application of medicinal plants and its chemical constituents. Nearly 50% of medicines in the market are made of natural basic matter. Absorbingly, the market demands for medicinal Plants, herbs are likely to remain high because many of the active ingredients in medicinal plants cannot be yet prepared synthetically in laboratory [5].

II. MEDICINAL PLANT AND ITS PHYTOCHEMICALS WITH ANTI-ULCER ACTIVITY

Phytoconstituents of medicinal plants exhibit their antiulcerogenic activities via. prophylactic or therapeutic or by both ways. Many researchers studied different medicinal plants species and their extracts to analyse their effect on ulcer treatments. Saussurealappa is an ancient healthful plant having anti- *Helicobacter pylori* properties. This plant also has a rich source of monoterpenes, sesquiterpenes, triterpenes, aromatic compounds, sterols, alkaloid. Besides medicinal plant products or extracts, volatile oils of the plants also play a significant role in the inhibition of ulcer like *Melaleuca bracteata* stem bark extract contains two important constituents' betulinic acid and oleanolic acid, play major role in anti-ulcer impact [6].

Table I: Some ulcer protective medicinal plants and its chemical constituents [6-10]

Name of plants	Common name	Family	Parts used	Phytoconstituents
Mangifera indica	Mango	Anacardiaceae	leaves, bark, roots, fruits, and flowers	Mangiferin
Ocimum sanctum	Tulsi leaf	Lamiaceae	Whole plant	Fixed oil eugenol
Azadirachta indica	Neem	Meliaceae	Leaves	Nimbidin
Annona squamosa	Custard apple	Annonaceae	Bark	Tannic acid
Mimosa pudica	Touch me not, thottal sinungee	Fabaceae	Leaves, seeds	Alkaloid mimosine
Ficus religiosa		Urticaceae	Leaves, bark	Flavonoids- Naringenin
Terminalia chebula	Myrobalan	Combretaceae	Fruits	Tannins, Gallic acid, chebullinic acid, sorbitol
Aegelmarmelos	Bael tree	Rutaceae	Leaves, seeds	Luvangetin
Psidium guajava	Guava	Myrtaceae	Leaves	Quercetin, guajaverin, flavonoids
Sesbania grandiflora	Basna, Akathi	Fabaceae	Leaves	Tannins, saponins
Shorearobusta	Sal tree	Dipterocarpaceae	Bark, Seeds	Ursolic acid, amyrin
Allium sativum	Garlic	Liliaceae	Bulb	Alliin, allicin
Aloe vera	Ghritkumari	Liliaceae	Leaves	Barbaloin, isobarbaloin, saponins
Bacopa moniera	Brahmi	Plantaginaceae	Leaves	Bacoside A
Carica papaya	Papita	Caricaceae	Seed, fruits	Chymopapain, papain
Moringa oleifera	Drum stick	Moringaceae	leaves	Quercetin, beta setosterol, beta carotene
Ficus religiosa	Arasu	Urticaceae	Leaves, bark	carbohydrates, flavanoids, amino acids, steroids, saponins and tannins
Plantago ispagula	Spogel seeds	Plantaginaceae	Seeds	Mucilage, fixed fatty oil, and albuminous matter
Acacia arabica		Mimosaceae	Gum	Catechin, (-) epicatechin, epigallocatechin, epicatechin gallate, epigallocatechin galleterocatechin, phloroglucin, protocatechuic acid, quercetin, poriferasterol glucosides,
Pinus longifolia	Shirsal	Coniferae	Leaves	Flavonoids and tannins
Beta vulgaris	beetroot	Chenopodiaceae	Root	Betin
Achyranthes	Chaff-flower,	Amaranthaseae	Seeds, roots,	Saponins A and B, oleanolic acid, amino

aspera	prickly chaff flower, devil's horsewhip		shoots	acids and hentriacontane, a long-chained carbohydrate, 27-cyclohexylheptacosan-7-ol and 16-hydroxy 26-methyl heptacosan-2- on, Ecdysterone
Adansonia digitata	Baobab tree, monkey-bread tree	Malvaceae	Leaves, bark	Phobaphenes, mucilage, gum, albuminoids, tannin, acid gum, albuminous carbonate, glucoside adansonin
Alpinia allughas	Black Galangal, Wild Ginger	Zingiberaceae	Rhizome	Diarylheptanoids, terpenes triterpenoids, phenylbutanoids, lignans, and flavonoids
Anogeissus latifolia	Axlewood, button-tree, dindiga-tree	Combretaceae	Roots, bark, leaves, fruits.	Quinic and shikmiki acids, gallotannin, tannin, gallic acid, ellagic acid, quercetin and myricetin
Berberis aristata	Indian or Nepal barberry	Berberidaceae	Root, bark	Alkaloid (berberine)
Careya arborea	wild guava, Ceylon oak, patana oak	Myrtaceae	Leaves, bark	Tannins and saponins
Euphorbia neriifolia	Common milk hedge	Euphorbiaceae	Plant	Euphorbon, resin, gum, caoutchouc, malate of calcium
Glycyrrhiza glabra	Liquorice, mulethi	Fabaceae	Stem, root	Flavonoids (liquiritin, glabrol), isoflavones (glabrene, glabridin), chalcones (isoliquiritin), coumarins (liquocoumarin) and stilbenoids
Gymnema sylvestre	Gymnema, Australian cowplant	Asclepiadaceae	Whole plant	Alkaloids, triterpenes, flavonoids, steroids, and saponins
Punica granatum	Pomegranate	Punicaceae	Fruit	flavonoids, ellagitannins and proanthocyanidin, hydrolysable tannins.
Mormodica charantia	bitter gourd, Karela	Cucurbitaceae	Fruit, seed	Glycosides, saponins, alkaloids, sterols, steroidal saponins and mucilages
Musa paradisiacal	Banana	Musaceae	Root, leaves, trunk	Leucocyanidin, quercetin and its 3- O-galactoside, 3-O-glucoside, and 3-O- rhamnosyl glucoside Serotonin, nor- epinephrine, tryptophan, indole compounds, tannin
Oxystelma esculentum	Rosy milkweed vine. It is called as Dudhani and Dugdika in Marathi because of the milky sap.	Asclepiadaceae	Leaves, petiole, stem, root and rhizome	Tannins, flavonoids, terpenoids, cardiac glycosides and alkaloids
Phyllanthus emblica	Indian gooseberry, Malacca tree	Euphorbiaceae	Root, bark	Terpenoids, alkaloids, flavonoids, and tannins

Phyllanthus niruri	Stonebreaker or seed-under-leaf, kizhkaynelli	Euphorbiaceae	Aerial part	Alkaloids-4-methoxy-securinine, ellagic acid, beta sitosterol, gallic acid, and hypophyllanthin
Rhus coriaria	Sicilian sumac, tanner's sumach	Anacardiaceae	Grains	Grains
Solanum melongina	Aubergine, brinjal	Solanaceae	Fruit	Arginine, aspartic acid, histidine, 5-HT, delphinidine-3 bioside (nasunin), oxalic acid, solasodine, ascorbic acid, tryptophan, tropane, pyrrolidine, quinazolidine, steroid alkaloids and glycoalkaloids
Sophora subprostrata	Shandougen: mountain bean root	Leguminaceae	Root	Sophoradin, quercetin, naringin, silymarin, anthocyanosides
Terminalia arjuna	Arjuna or arjun tree	Combretaceae	Bark	Arjunetosides I-IV, arjunine, arjunetein, Co-enzyme Q10, tannins viz., ellagic acid, gallic acid, beta-sitosterol; flavonoids viz., arjunone, arjunolone, luteolin, triterpenoid saponins viz., arjunolic acid, arjunic acid, arjungenin

Table II: Synthetic drugs used for treatment of peptic ulcer and their side effects [6]

Class of drugs	Drug used	Mechanism of action	Side effects
Anti-Muscarinic	Pirenzepine	Blocks M1 muscarinic receptor, Decrease vagal stimulation, Inhibits gastric secretion, Decrease pepsin secretion	Blurred Vision, Dry mouth, Tachycardia, Photobia
Antacids	Sodium bicarbonate, Calcium bicarbonate	Neutralize the HCl, Reduces pepsin formation	Hypokalemia, Diarrhoea, Constipation
H2-receptor blockers	Ranitidine, Cimetidine, Famotidine	Inhibitor of H2 receptor (CYP450)	Headaches, impairment, Myalgia Renal Confusion, Diarrhoea
Prostaglandins	Misoprostol	Inhibits the acid secretion Promotes mucus and bicarbonate secretion	Abdominal pain, Vomiting and nausea, Headache, Diarrhoea
Proton pump inhibitors	Pantoprazole, Omeprazole, Esomeprazole	Inhibits H ⁺ /K ⁺ ATPase in parietal cells	Risk of Pneumonia, Weakness, Headaches, Diarrhoea, Nausea
Mucosal protective agents	Bismuth Subsalicylate, Sucralfate	Forms a protective layer by binding with proteins found in base of the ulcer, antimicrobial activity against H. pylori, stimulates angiogenesis for healing, Inhibits pepsin activity	Dry mouth, Severe Constipation Skin rash, Headaches, Darkening of stools

III. FUTURE PERSPECTIVE OF THE TREATMENT OF ULCERS BY MEDICINAL PLANTS

According to the traditional hypothesis, acid secretion was thought to be the only real explanation for peptic ulcer formation and reduction in acid secretion was thought to be the most important approach towards medical care. However, within the light weight of recent evidences, this idea has been modified. Currently treatment of ulceration in the main targets the synergy of the defensive system in conjunction with lowering of acid secretion. The oldest healthful systems within the world offer result in realize therapeutically helpful compounds from plants. Therefore, ethno healthful information supported by fashionable science is critical to isolate, characterize, and standardize the active constituents from flavourer. This combination of ancient and trendy information will turn out higher antiulcer medicine with fewer aspect effects. it's apparent that experimental analysis of flavouring medicine for the treatment of peptic ulceration is very spectacular however only a few have reached clinical trials and still few are marketed. This shows that the advantages of analysis aren't reaching the individuals to whom medical analysis is directed and thus the time, manpower, and resources aren't with efficiency utilized. Hence, pharmacognosist got to take an additional active interest in the analysis of healthful plants and herbal medicine for potential antiulcer activity and standardization of such flavouring medicine to be clinically effective and globally competitive [11, 12].

IV. CONCLUSION

A peptic ulcer is a disease of the gastrointestinal tract that mainly affects the inner walls of the stomach. A peptic ulcer is caused by spicy food, emotional stress, smoking which causes increased gastric secretion and disturbs the acid-base balance, pepsin level, etc. It also causes due by *Helicobacter pylori* infection with symptoms like abdominal discomfort, abdominal pain,

nausea, etc. Mainly proton pump inhibitor and Histamine type 2 receptor antagonist are used to treat peptic ulcer, but various drug shows several side effects hence as an effective alternative herbal or medicinal plants and its phytoconstituents as a drug are used. In this article, we have studied the literature on medicinal plants having antiulcer activities such as *Mangifera Indica*, *Carica Papaya*, *Aloe vera*, *Azadirachta Indica*, *Terminalia Chebula*, and *Phyllanthus Emblica* these are popular herbal medicines used all over the world for the treatment of ulcers.

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A Critical Study of Monkey Man by Usha K. R.

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Abstract:

Usha K. R., the novelist, tries to symbolize the transformation of a peaceful, hustle-less city which was considered as a paradise. She plots the whole story in her native place, Bangalore. The city is a computer hub. She portrays the transformation of this city into a pensioner's ecstasy and resident's paradise into one of the most prominent information technology hubs of India. Bangalore is one of the materialistic and busiest cities.

Usha K.R has been writing fiction for more than two decades, she writes short fiction and has bagged for prestigious 'Katha Award' for her short story 'Sepia Tones' in 1995. Her debut novel was published in 1998 'sojourn' and the second one, 'The chosen,' came in 2003. 'A Girl and a River' is the third novel which was acknowledged.

'Monkey man' is nominated for DSC prize for South Asian Literature in 2012. She is resident of Bangalore. She thinks that the privatization and globalization in information technology has altered the way of thinking. Bangalore was considered to be the 'pensioner's paradise'. It was peaceful and hustle free. Its climatic conditions and weather has always fascinated people from all over India. But gradually, the things have been changed. It is now modernized. It is India's fastest growing city.

Index Terms: Globalization, paradise, materialistic, crazy traffic, metaphor.

I. INTRODUCTION

According to Usha, the complexion of Bangalore is altered in the last two decades. The novelist tries to portray the changing city through different characters. Today, it is one of the highly commercialized city, the real estate price is roaring and crazy traffic is always there.

The novel is about four characters residing in Bangalore. There is Shrinivas Moorthy; A senior professor covers a journey from 1960s to 2000. Shrinivas, Jairam and his wife Gets, were college friends. They always debate on political issues. Shrinivas is thrifty and somewhat timid. He uses his intellectualism in a safe and secure way. The fourth character in the novel is Preeti Vaidya, an English lecturer, is a different kind of person. Her husband was the head of a multinational company, She has already cleared that she doesn't need a job. Her husband's salary is enough to run the house. She loves English literature, so, she is in job. Neela Mary Gopalrao is an original character. She indulges in petty games, She treats her colleagues shabbily. She is also a representative of 'old economy' as Shrinivas. She has struggled for government job as she thinks it is the most secured job [1].

Bali Brums is the hot-shot RJ and Pushpa Rani, who leaves a temporary government job to work in a call

centre-can be considered as the representatives of the new emerging new generation, with new and modern ideas about career and life. Pushpa Rani is an important character, comes from a disadvantaged economic class, eager to prove her family.

The novel, 'Monkey man' symbolizes hazy, mythic and shadowy image of a creature. She has used it as a metaphor for the changing, overwhelming transformation of the city. The novel tells that a dark, monkey-like creature had invaded the country. No one could tell exactly whether it was an animal or a human being, but everyone is horrified, as they have reported to be attacked by it. It is the fear of the unknown. Bangalore has rapidly converted into Silicon Valley. The book is about a strange creature unleashing chaos on an unsuspecting city, but in reality the creature is just a red herring and the story revolves around a few characters in a city (Bengaluru) that is transforming from a quiet town to a bustling metropolis. Add to that, there is a radio-jockey whose show spins a thread across these myriad characters. There is no story or plot to speak of but a series of anecdotes in each of character's lives.

Over population, concentration of human population in urban spaces in the name of development and progress is a historical phenomenon that has been happening for years in all over the globe. The writer captures the historical changes that have taken place around the temple when she writes that there are no trees on Ammangudi streets in James Hunter's late eighteenth century sketch of the Pagoda of the Amma. You could even say it is not the same street, except for the temple.

The environmental crisis created as a result of urbanized pollutants is addressed in Aravind Adiga's *The White Tiger* [1], in which he spells out the devastated ecosphere in Delhi. In Balram's narration, Adiga points out, "There was a good reason for the face masks; they say the air is so bad in Delhi that it takes ten years off a man's life"

(133). Even the holy water of River Ganga is disgusting – ". . . I urge you not to dip in the Ganga, unless you want your mouth full of faeces, straw, soggy parts of human bodies, buffalo carrion, and seven different of industrial acids" (15). The material world sacrifices the purity of nature at the altar of greed and wealth accumulation.

The conditions of cities are very bad due to urbanization. Cosmopolitan cities have denatured the delight of living and everywhere the landscape is replete with filth, slums, homeless people, hungry children, inferior living, all characterized as the postcolonial experience of a third world nation like India. Environmental degradation is linked with poverty and scarcity, which make man to suffer in abundance. Associated with poverty and anguish are antisocial activities like political corruption, prostitution, shoplifting, stealing from masters, murders etc which are all rampant in Gurgaon and Delhi. Aggression of man is the origin of all tensions, and violence becomes the norm for establishing his power on nature and on all urban territories. Parallel to nature, Balram murders his master to overcome the angst of the generation that traps young men and Adiga offers no redemption to this nexus of interconnected social issues.

Another work with a lot of environmental consciousness is Kiran Desai's *The Inheritance of Loss* [2]. The novel is set at Kalimpong, a peaceful place admired by many.

The postcolonial angst is felt by the lonely retired judge Jemubai Patel who admires nature, but feels no emotions for the suffering of his native Indian people. On a visit to the judge's garden, the officer says, "Beautiful blossom, Judge Sahib. If you see such a sight, you will know that there is God". The novel is discussed about the abuse of the Himalayan landscape, which reveals the victimization of nature in the hands of man.

As author opines, Nature really exists out there beyond ourselves, not needing to be ionized as a concept by enclosure within knowing inverted commas but actually

present as an entity which affects us, and which we can affect, perhaps fatally, if we mistreat it [3-4]. (252)

Destroying nature is equivalent to destroying mankind.

The novel *The God of Small Things* by Arundhati Roy also unfolds the exploited nature and emphasizes the aftermath of maltreatment and denial of nature in terms of civilization [5]. For instance, changing trends and encroachment of the river Meenachal utterly ruin the mellifluous atmosphere of the village Ayemenem. Roy points out it as, "... the water was thick and toxic. No Swimming signs had been put up in stylish calligraphy. They had built a tall wall to screen off the slum and prevent it from encroaching on Kari Saipu's estate" (125). Man corrupts nature as he wishes and callously damages it. Man's political assault on nature creates a kind of maladjustment between nature and him. Ayemenem is a distinctive example of the victim village, where nature is disrupted after the settlement of the British colonizers in Kerala. The plight of Velutha, who is beaten by the Police to death, is parallel to the plight of the landscape there.

Likewise, Usha K.R.'s *Monkey Man* magnificently depicts the scenic beauty of Bangalore which has become an emblem of dirt, due to urbanization and cosmopolitanism. The cultural transformation has greatly affected the lives of the groundlings and the innumerable plants there, and has caused environmental disintegration. Shrinivas Moorthy, the protagonist of the novel, witnesses how industrialization and urbanization profusely tear down the congenial atmosphere of the village called Ammanangudi. The development of the industries and the cultural changes in the village create "the noise, the traffic, even the sludge of brown mud that flowed in from the excavations on the main road, silting its monsoon drains" (13). Usha in the novel evidently points out that modern civilization which has made a rift between man and nature has utterly alienated him from it [6-7].

The Better Man which seeks geological justice against ecocritical doctrines. In this novel [8], author depicts the character Bhashi who is a profound lover of nature and mongrel medicine practitioner. He in his garden grows a number trees and plants with utmost love and care, and develops a boundless fondness for them. Nair magnifies the catastrophe brought on both the entropic and dystrophic factors on the environment – how the entropic factors or the energy level of equilibrium on the soil becomes disturbed, and dystrophic destruction shows the disastrous effect of man on the living organisms. She describes the character Power House Ramakrishnan who is a big shot of the village Kaikurussi and has brought the idea of building a community hall in Bhashi's pastoral landscape. He joins hands with Mukundan, the protagonist, and his community people and demolishes the house and the garden of Bhashi and chases him out of the village. Destroying the pastoral field, they establish the community hall as an emblem of their community. Man's oppressive nature harms the course of nature and the lives of subalterns like Bhashi. Finally, Mukundan, having realized his guilt, transfers his wealth to Bhashi and breaks down the community hall. This is a success given to nature. Only when nature is given its sanctity, man can restore his peace.

Man has constantly by his efforts tries to conquer nature and the nature gains its upper hand in the geopolitics that occurs there. Victory of nature is indirectly a victory for man too, as he is dependent on nature for all his pursuits in life. The title *The Better Man* becomes apt for the novel and it testifies that when man retains his harmony with nature, he can be a better man. Without nature, man becomes worthless, even though he may be a millionaire. Bhashi proves his worth in the novel by his adherence to nature.

Gift in Green shows how nature is mangled from the past days to the present day and its depletion is endless [9]. Author, who finds the environmental exploitation

unethically practised in her own ways. He wants to replenish the village and Thampuram's temple. He tries to build a bridge to connect the village to the metropolitan city, which ruins not only the land and the livelihood of the people, but also the other living and non living species in the land. At last, nature reveals its destructive face and establishes its authority over the oppressive powers.

II. CONCLUSION

Ecological consciousness and awareness is spreading everywhere and have gained much importance in today's world, because we need nature to protect ourselves from disaster. The selfishness of man and his greed for material wealth and power has led to the deterioration of his values, and consequently to the defilement of the surrounding ecosystem along with the living and non-living aspects. The study undertaken reveals the victimhood of nature and the environment with the victimized ecosystem that suffers due to globalization and its varied hazards. It advocates that true love for fellow men as well as on nature and a humanized yearning to protect them will create a mighty forte for man to dwell on in this planet.

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A Comparative study of Different Dimensions of Teachers Effectiveness among Male and Female Teachers of Secondary Schools

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Abstract:

The term effectiveness refers to the measure of success of teacher in carrying out institutional and other specified duties demanded by the nature of his/her position. Teacher effectiveness include efficiency in strategies of student instruction and classroom management , their subject knowledge, teachers characteristics , interpersonal relations, evaluation and feedback etc. which is the of hour because the academic achievement of the students is in the hand of effective teacher. The Objective on grow are happiness has been 120 students class IX CAT toos the measure teacher effectiveness. It has been recent found that the study of the effectiveness of male and Female teachers of the secondary school teachers is very practical objectives. With the help of this study the whole system of the education can be corrected and the level of understanding, inter-personal relations, preparation and classroom management are very important factors which we need in every schools and classrooms. The most important study in this dissertation is the study of characteristics which implies the characteristics of a teacher is a wholesome of the knowledge, he/she impart with the students. When it is found that there is no significant mean difference between the male and female teachers then the hypothesis of finding the significant mean difference is accepted.

I. INTRODUCTION

Effectiveness of a teacher in different dimensions of teaching is an important study of male and female teachers. As both male and female teachers are working in schools and colleges, either it's a boy school, girl's school or co- educational institutions in the town and country. The term effectiveness is based on the quality of teacher's role. How the teacher is imparting their knowledge of the subject, behavior they treat with the students, their understanding, interpersonal relationship, knowledge of subject matter, teacher characteristics, attitudes, empathy, accountability, kindness and their moral support with the students. A child looks the role of their parents in a teacher, and then grants a teacher as their role model. If a teacher fulfils the expectations of student the child respect that teacher and this impression of teacher in students mind remain effectively in their whole life and this is because of effectiveness of the teacher. These qualities in a teacher either male or female and Government or Private make him/ her effective teacher.

- ❖ **Teacher Effectiveness:** The term effectiveness refers to the measure of success of teacher in carrying out institutional and other specified duties demanded by the nature of his/her position. Teacher effectiveness include efficiency in strategies of student instruction and classroom management, their subject knowledge,

teachers characteristics, interpersonal relations, evaluation and feedback etc.

The teacher's effectiveness is made up of two familiar words 'teacher' and 'effectiveness'. Teacher is a person who teachers i.e., impart knowledge or skills to the learner. Effectiveness is the quality of being successful in producing and intended result (Collin's English Dictionary).

II. SIGNIFICANCE OF STUDY

It is a need and important factor to know the approach of a teacher and student for inculcating the worth of the teachers' teaching the students which shows the right direction for the objectives of the teachers, if any possibility of improvement found while imparting the subject matter with the students. Therefore the study for all the factors to make the class and teacher more effective we should review this parameter time to time. The enthusiasm of the students is to know that who is the most effective teacher a female teacher or a male teachers. Even this is a question of great interest for every age group either a parent or management or even for the head of the institutions. This question also influenced to work out against this matter so as the concept will be very clear to understand the effectiveness of the male or female teachers.

III. OBJECTIVES

1. To compare the teacher effectiveness between male and female teachers of secondary schools.
2. To study the effectiveness of preparation and planning for teaching of male and female teachers of secondary schools.

3. To study the teaching effectiveness of classroom management of male and female teachers of secondary school.

IV. HYPOTHESIS

1. There is no significant mean difference of teacher effectiveness among male and female teachers of secondary schools.
2. There is no significant mean difference of preparation and planning for teaching of teacher effectiveness among male and female teachers of secondary schools.
3. There is no significant mean difference of classroom management of teacher effectiveness among male and female teacher of secondary schools.

V. RESEARCH METHODOLOGY

Research methodology involves such general activities as identifying problems, review of the literature, formulating, hypothesis, procedure for testing hypothesis, measurement, data collection and analysis of data, interpreting result and drawing conclusions, thus research methodology consists of all general and specific activities of research.

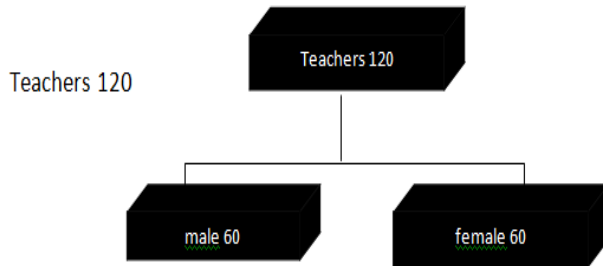
VI. POPULATION OF THE STUDY

The population of the study of this research is selected the higher secondary school teachers working in Bilaspur and surrounding area. Population of the study means the category of the people who belongs to the certain group in the universe for which a certain area and the number of population is assigned.

A. Sample:

In this study "A comparative study of different dimensions of teacher's effectiveness among male and

female teachers of secondary schools.” from Bilaspur city and surrounding areas. From the various schools of this area 60 male and 60 female teachers had been selected randomly.



Ho1: There is no significant mean difference of teacher effectiveness among male and female Teachers of secondary schools.

The method of sampling used in this study is simple random sampling.

B. Tools:

The questionnaires for the measurement of their effectiveness used from National Psychological Cooperation meant for teacher effectiveness scale by, TES-KU Dr. (Mrs.) Umme Kulsum, the reader of Department of Education in Bangalore University, Bangalore (Karnataka).

C. Findings:

Table I: Effectiveness of male and female teachers of secondary schools

S.N.	Teacher	N	Mean	SD	SED	T	Df	Significance level	Interpretation
1	Male	60	505.30	56.34	23.14	0.60	118	0.05=>1.98	Ho1 Accepted
2	Female	60	519.17	175.02				0.01=> 2.62	

- Interpretation**

The above table:I shows the study of 60 male and 60 female teacher of secondary schools with mean of male $\bar{X}_M=505.30$ and mean to female $\bar{X}_F = 519.17$ and standard deviation of male $\sigma_M= 56.34$ and standard deviation of female $\sigma_F = 175.02$. Standard Error Deviation **SED** = 23.14 and value of **t** =0.60 and Degree of Freedom **df** = 118 and the significant level at 0.05 level is **t** = 1.96 and at 0.01 level is **t** = 2.62 in which calculated value of **t** is lesser than the table value, hence the hypothesis **HO1** is Accepted.

- Result**

It has been found that there is no significant mean difference of effectiveness of male and female teacher in secondary schools.

- Ho2:** There is no significant mean difference of preparation and planning for teaching of teacher effectiveness among male and female teacher of secondary schools.

Table II: Effectiveness of preparation and planning for teaching of male and female teachers of secondary schools.

S.No.	Teacher	N	Mean	SD	SED	T	Df	Significance level	Interpretation
1	Male	60	92.70	9.72	1.74	1.80	118	0.05=>1.98	Ho2 Accepted
2	Female	60	95.83	9.36				0.01=> 2.62	

- Interpretation:**

The above table:II shows the study of 60 male and 60 female teacher of secondary schools with mean of male $\bar{X}_M=92.70$ and mean to female $\bar{X}_F = 95.83$ and standard deviation of male $\sigma_M= 9.72$ and standard deviation of female $\sigma_F = 9.36$. Standard Error Deviation **SED** = 1.74 and value of **t** =1.80 and Degree of Freedom **df** = 118 and the significant level at 0.05 level is **t**

= 1.98 and at 0.01 level is $t = 2.62$ in which calculated value of t is lesser than the table value, hence the hypothesis **HO2** is Accepted.

- **Result:**

It has been found that there is no significant mean difference of preparation and planning for teachers is noticed among male and female teachers of secondary school.

- **Ho3:** There is no significant mean difference of classroom management of teacher effectiveness among male and female of secondary schools.

Table III: Effectiveness of Classroom Management of male and female teachers of secondary schools

S.No.	Teacher	N	Mean	SD	SED	T	Df	Significance level	Interpretation
1	Male	60	116.83	13.96	2.41	0.63	118	0.05=>1.98	Ho3 Accepted
2	Female	60	118.16	12.45				0.01=> 2.62	

- **Interpretation:**

The above table shows the study of 60 male and 60 female teacher of secondary schools with mean of male $\bar{X}_M = 116.83$ and mean to female $\bar{X}_F = 118.16$ and standard deviation of male $\sigma_M = 13.96$ and standard deviation of female $\sigma_F = 12.45$. Standard Error Deviation $SED = 2.41$ and value of $t = 0.63$ and Degree of Freedom $df = 118$ and the significant level at 0.05 level is $t = 1.98$ and at 0.01 level is $t = 2.62$ in which calculated value of t is lesser than the table value, hence the hypothesis **HO3** is Accepted.

- **Result:**

It has been found that there is no a significant mean difference of Classroom Management found among male and female teachers of secondary school.

VII. CONCLUSION

A comparative study of different dimensions of teachers' effectiveness among male and female teachers of secondary schools of Bilaspur city and surrounding areas involving 120 teachers containing 60 male and 60 female teachers is honestly administered using the role and functions of teachers commonly used in their teaching profession such as preparation and planning for teaching, classroom management, knowledge of the subject – matter, teachers characteristics and their said to be the best teachers or most effective teachers. The questionnaires for the measurement of their effectiveness used from National Psychological Co-operation meant for teacher effectiveness scale by, TES-KU Dr. (Mrs.) Umme Kulsum, the reader of Department of Education in Bangalore University, Bangalore (Karnataka). It has been found the study that there is no significant difference

between government and private teachers in different dimensions.

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छत्तीसगढ़ी साहित्य में डॉ. रमाकांत सोनी का अवदान

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²शोध निर्देशक, विभागाध्यक्ष, हिन्दी विभाग, डॉ. सी. वी. रामन् विश्वविद्यालय, कोटा, बिलासपुर (छ.ग.)

सारांश :

साहित्य सृजन की प्रक्रिया सामाजिक परिवेश एवं प्रवृत्ति की गर्भ से निकली नवजात शिशु है, जो कि समयान्तर्गत फूलती फलती रहती है। अनेक साहित्यकारों का उदय कालक्रमानुसार हुआ एवं अपनी अमिट लेखनी से समाज को दिशा निर्देश, शिक्षित एवं परिपक्व करते हुए आगे बढ़ी। इसी क्रम में प्रसिद्ध छत्तीसगढ़ी एवं हिन्दी साहित्यकार, माटी पुत्र, शोध लेखक, कवि एवं समीक्षक के साहित्यिक अवदानों का अनुशीलन समाज की दृष्टि से सार्थक एवं अमूल्य है। सरल लोक व्यवहार के धनी, कर्तव्यनिष्ठ, परदुःखकातर एवं आंतरिक अभिव्यक्ति का प्रणयन करने वाले डॉ. रमाकांत सोनी का छत्तीसगढ़ी साहित्य में अमूल्य छाप है। छत्तीसगढ़ी संस्कृति, लोकगीत एवं लोककथाओं का अद्भुत मिश्रण सोनी जी के साहित्यिक अवदानों में परिलक्षित होती है। वैसे तो डॉ. सोनी ने हिन्दी एवं छत्तीसगढ़ी दोनों भाषा में अपनी लेखनी चलायी एवं गद्य एवं पद्य दोनों विधा पर इनका समान अधिकार रहा है साथ ही साथ बिहारी एवं कबीर काल के अंदाज में दोहा एवं छंद का भी प्रणयन किया जो आज के युग में विलुप्तप्राय है। समाज का युवा साहित्यकार मुक्तक शैली में अपनी कविता को उद्धृत करना चाहता है, वह छंद के पास में बंधना नहीं चाहता, ध्वनि साम्य एवं शब्द सीमा का तनिक चिंता किये अपनी पीड़ा, अनुभूति को अभिव्यक्ति देना चाहता है। वही आज के युवा पीढ़ी के लिए अपवाद बनकर डॉ. सोनी जी ने दोहा एवं कुण्डली संग्रह का सृजन कर उदाहरण प्रस्तुत किया है। छंद की शैली अपनाकर एक पुस्तकाकार रूप दे देना हर साहित्य सृजक की बस की बात नहीं है। छंदों बद्ध होकर

साहित्य का प्रणयन करना एवं अभिव्यक्ति देना समाज के युवा पीढ़ी के लिए प्रत्यक्ष उदाहरण छत्तीसगढ़ी भाषा साहित्य का आधुनिक युग लगभग 1900 ई. से शुरू होता है। इस युग में साहित्य की अलग-अलग विधाओं का विकास बहुत ही अच्छी तरह से हुआ है। छत्तीसगढ़ी भाषा में जो साहित्य रचा गया वह करीब एक हजार साल से हुआ है। डॉ. नरेन्द्रदेव वर्मा ने इसे निम्नप्रकार से विभाजित किया है –

1. गाथा युग – सन् 1000 से 1500 ई. तक
2. भक्ति युग (मध्य काल) – सन् 1500 से 1900 ई. तक
3. आधुनिक युग – सन् 1900 से आज तक

अतः उपरोक्त तथ्यों के अनुसार यह पुष्ट होती है कि, छत्तीसगढ़ी भाषा में साहित्य का विकास लगभग 1900 ई. से हुआ है। छत्तीसगढ़ी पूर्वी हिन्दी की तीन विभाषाओं में से एक है एवं छत्तीसगढ़ी भाषा उड़िया और मराठी भाषाओं से भी प्रभावित हुई है। डॉ. सत्यभामा आड़िल अपनी पुस्तक “छत्तीसगढ़ी भाषा और साहित्य” में लिखती है “यद्यपि इस आधुनिक युग में गद्य के भी विविध प्रकारों का संवर्धन हुआ है तथापि काव्य के क्षेत्र में भी महती उपलब्धियाँ दृष्टिगोचर हुई हैं।” ¹

I. प्रस्तावना

छत्तीसगढ़ी साहित्य में भारतीय संस्कृति के तत्व तथा इसमें अनेक साहित्य, लोककथाएँ भी हैं। जिनके केन्द्रिय भाव भारत के अन्य भाषाओं में भी पाए जाते हैं। जिसमें इस परिवेश विशेष की संस्कृति की झलक स्पष्ट दृष्टिगत होती है। छत्तीसगढ़ बौद्ध धर्म का एक महान केन्द्र माना जाता था।

इसीलिए गाथा युग के पहले यहाँ पालि भाषा का प्रचार हुआ था। गाथा युग में अनेक गाथाओं की रचना हुई। वस्तुतः ये गाथाएँ प्रेम प्रधान तथा वीरता प्रधान गाथाएँ हैं। जिसमें अहिमन रानी, केवला रानी व रेवा रानी की गाथाएँ प्रमुख हैं। गाथा युग के प्रमुख धार्मिक व पौराणिक गाथाएँ फुलबासन एवं पण्डवानी गाथाएँ हैं, जो क्रमशः सीता और लक्ष्मण संवाद एवं महाभारत कथा पर आधारित हैं। इस तरह प्रमुख रचनाएँ गाथा युग के प्रवृत्ति को सिद्ध करती हैं। इस काल में जो रचना उद्भूत हुई, उसमें वीरता का भाव संचित है जो कि धार्मिक पृष्ठभूमि को दर्शाती है। वीरगाथा युग में जो रचनाएँ सामने आयी उसमें वीर पुरुषों एवं विरांगनाओं की स्पष्ट छाप मिलती है।

इसी प्रकार सन् 1500 – 1900ई तक जिस कालक्रम की गाथाएँ प्रमुख थीं। वह मध्य युग या भक्ति युग के नाम से जाना गया। इस युग में जो गाथाएँ प्रमुख थीं वे फुलकुँवर की गाथा, कल्याणसाय की गाथा, गोपल्ला गीत, पँवारादेवी गीत, ढोलामारु, नगेसर कइना जो कि लघुगाथा के रूप में हैं प्रसिद्ध थीं। फुलकुँवर की गाथा में फुलकुँवर को राजा जगत की पुत्री बताया गया है। परंतु अध्येताओं का कहना है कि, इतिहास में इस बात का कोई सबूत नहीं मिला है। इस गाथा में फुलकुँवर का मुगलों से किये गये युद्ध का वर्णन है। फुलकुँवर झॉसी की रानी की तरह वीरांगना के रूप में प्रस्तुत हुई है।

वस्तुतः साहित्य के स्वरूप पर नजर डाले तो भाषा के माध्यम से अंतरंग की अनुभूति एवं अभिव्यक्ति कराने वाली कला ही साहित्य है, साहित्य का अर्थ सहित परिप्रेक्ष्य में ले सकते हैं। साहित्य की व्युत्पत्ति की दृष्टि से इसके कई अर्थ हो सकते हैं। परंतु कई विद्वानों ने हितकारक रचना का नाम ही साहित्य माना है। इसी तरह अनेक आर्य, अनार्य भाषा का क्रमवत विकास होते हुए छत्तीसगढ़ी भाषा साहित्य का विकास भी फलीभूत हुई।

इस युग वीर रस एवं श्रृंगार रस से ओत प्रोत रचनाओं की प्रमुखता थी एवं मध्य युग की रचनाओं में कबीरपंथी की स्थापना रही, जिसमें धर्मदास प्रमुख हैं। जिसने भक्तिपरक

साहित्य का सृजन किया जैसे—पहले गवन पिया लवले, सुतली मैं रहली अपना, कते हे दूर गुरु कुलवाड़ी। उसी प्रकार गोपाल मिश्र, माखन मिश्र, रेवाराम एवं प्रहलाद दुबे जिन्होंने इस काल प्रवृत्ति विशेष पर आधारित साहित्य सृजन किये हैं। गोपाल मिश्र जो कि कल्चुरी राजा राजसिंह के दरबारी कवि रहे थे इनकी रचनाएँ खूब तमाशा, सुदामा चरित्र, चिंतामणि रतनपुर माहात्म्य एवं रामप्रताप (अधूरी) हैं जिसे माखन मिश्र ने पूरा किया बाबू रेवाराम ने गीतामाधव, गंगालहरी, सार रामायण, विक्रम विलास, आदि एवं प्रहलाद दुबे की रचनाएँ प्रमुख हैं। जो कि मध्यकालीन साहित्य की विशेषताओं की पूर्णतः सार्थक करती हैं।

इसी प्रकार आधुनिक छत्तीसगढ़ी साहित्य का कालक्रम लगभग सन् 1900 से अब तक है आधुनिक काल के साहित्य की तरह ही छत्तीसगढ़ी में भी काव्य साहित्य, गद्य साहित्य, उपन्यास, कहानी, निबंध, नाटक आदि फलीभूत हुई हैं एवं अनवरत विकास हुआ है। डॉ. भोलानाथ तिवारी ने लिखा है – “छत्तीसगढ़ी भाषा भाषियों की संख्या अवधी की अपेक्षा कहीं अधिक है और इस दृष्टि से यह बोली की स्तर से ऊपर उठकर भाषा का स्वरूप प्राप्त किया है।”² छत्तीसगढ़ी भाषा साहित्य अतीत से वर्तमान तक अनवरत गतिशील एवं विकासशील रही है। जैसे समाज की प्रवृत्ति में परिवर्तन होता गया साहित्यकार की दृष्टिगत प्रवृत्ति भी परिवर्तनशील रही। प्यारेलाल गुप्त जी ने कहा है – “तथापि विशिष्ट युग की प्रवृत्तियाँ साहित्य के पक्ष पर अपने चरण चिह्न भी छोड़ती हैं प्रवृत्त्यानुरूप नामकरण को देखकर यह नहीं सोचना चाहिए कि किसी युग में किसी विशिष्ट प्रवृत्तियों से युक्त साहित्य की रचना ही की जाती थी। तथा अन्य प्रकार की रचनाओं की उस युग में एकांत अभाव था।”³ यह भी उल्लेखनीय है कि हिंदी भाषी साहित्य एवं अन्य आर्य भाषाओं ने जैसे छत्तीसगढ़ी में भी मध्ययुग तक सिर्फ पद्यात्मक रचनाएँ हुई हैं।

II. डॉ. सोनी का साहित्यिक अवदान

डॉ. रमाकान्त सोनी जी के छत्तीसगढ़ी एवं हिन्दी भाषा के साहित्यिक अवदान की गंभीर विवेचन करने से इनके रचनाकृति का मूल भाव पाठक के समक्ष स्पष्टतः प्रस्तुत होता

है। डॉ. सोनी जी की अधिकांश रचनाएँ शोध सामाग्री के रूप में संकलित है, तो अन्य रचनाएँ देश व अंचल विशेष के प्रति अथाह प्रेम का द्योतक सिद्ध हुई है। डॉ. सोनी के साहित्य में सामाजिक उपादेयता की स्पष्ट झलक है। उनके संपूर्ण कृतित्व के अनुशीलनात्मक अध्ययन से ज्ञात हुआ है कि उनकी साहित्य के प्रति रुचि संपूर्ण क्षेत्र की ओर रही है। डॉ. सोनी इक्कीसवीं सदी के साहित्यकारों में प्रमुख स्थान रखते हैं। उनके जीवन का अनुभव और आर्थिक विपन्नता ही उनकी प्रतिभा को निखारने में मार्गदर्शन करती रही है।

III. अंचरा के छॉव

डॉ. सोनी के 'अंचरा के छॉव' छत्तीसगढ़ी संस्कृति पर आधारित कृति है। इस लेख के अनुक्रम में अंचल विशेष के तीज त्यौहार, मड़ई मेला, चउक विधान, मितान संस्कृति, आदिवासी संस्कृति, छत्तीसगढ़ी हाना, गोदना, लोकनृत्य एवं लोकगीत आदि आंचलिक विशेषताओं को समेटकर अपनी लेखनी को सार्थक बनाया है, जो कि आज की युवा पीढ़ी के लिए संजीवनी बटी है। 'अंचरा के छॉव' की भूमिका में इस कृति के विषय में डॉ. सोनी ने कहा है — "छत्तीसगढ़ की लोक संस्कृति की झलक मात्र है। छत्तीसगढ़ की लोक संस्कृति के सागर के ये थोड़े से मोती हैं जिन्हें गूँथकर मैंने छत्तीसगढ़ महतारी को अर्पित किया है।"⁴ अंचरा के छॉव कृति में आंचलिक संस्कृति में प्रयुक्त शब्दावली सहज हिन्दी एवं यत्र-तत्र छत्तीसगढ़ी शब्दों का सहज ढंग से प्रयोग हुआ है।

लोकसंस्कृति पर आधारित पुस्तक में हरेली, नगमत, भोजली, गौरापूजा, छेरछेरा, मड़ई मेला, मितान संस्कृति, घोटूल प्रथा, चूड़ी संस्कृति, सधौरी, छत्तीसगढ़ी हाना, गोदना, छत्तीसगढ़ी व्यंजन एवं बासी आदि छत्तीसगढ़ी संस्कृति का सूक्ष्म ढंग से अवलोकन कर विवेचन किया गया है। जिसके अनुशीलन के पश्चात् पाठक अपनी संस्कृति पर गर्वान्वित महसूस करता है। वस्तुतः प्रत्येक तीज त्यौहार एक घटना विशेष का परिणाम होता है जो अनवरत एक पीढ़ी से दूसरी पीढ़ी को हस्तांतरित होते रहता है और लोग उन्हें उतने ही उत्साह से मनाते भी हैं। डॉ. सोनी ने अंचरा के छॉव के 'हरेली त्यौहार' उपखंड में

कहा है — "छत्तीसगढ़ वासी प्रकृति पूजक हैं, इनके अधिकांश तीज त्यौहार व संस्कार प्रकृति के संग संपन्न होते हैं। हरेली या हरियाली भी अपनी कृषि संस्कृति से जुड़ा उल्लास पर्व है।"⁵ परंतु इसीक्रम में उन्होंने आज के विडम्बना से भी परिचय कराया है — "इतनी उच्चतम भावभूमि पर आधारित संस्कृति को हम शराब में डूबोकर नष्ट कर डालते हैं।———ठीक इसीतरह बबरा-चौसेला की खुशबू को कुकरा-कुकरी के खून में सानकर इस त्यौहार के आनंद को मिट्टी में मिलाने में कोई कोर-कसर नहीं रखते।"⁵

डॉ. सोनी ने एक तरफ इस ललित त्यौहार विशेष के विधि-विधान, पूजा-अर्चना और इसके विशेष महत्व से अनुप्राणित किया है तो दूसरे ओर आज के युवा पीढ़ी के इस त्यौहार के प्रति निरसता से भी अवगत कराया है। इसी तरह नागपंचमी विशेष में छत्तीसगढ़ में 'नगमत' विशेष प्रसिद्ध है तथा इस कला के रक्षक 'नगमतिया' कहलाता है इसमें सर्प मंत्र का उच्चारण किया जाता है। डॉ. सोनी ने शोध प्रवृत्ति के माध्यम से गाँव में जाकर नगमतिया लोगों से इस मंत्र को प्राप्त कर अपने ग्रंथ में स्थान दिया है।

"गुरुसत गुरुसत गुरु नीर गुरु लाये संकट

गुरु लक्ष्मी गुरु तंत्र मंत, गुरु लखे निरंजन

× × × × × × × ×

आंक परे गुरु धनिन्तर के

जाग गुरु जाग"⁶

इस मंत्रोच्चारण के पश्चात् बड़ी श्रद्धा के साथ नेवरात के ताल पर गीत गाते हैं 'अंचरा के छॉव' में वर्णित कुछ पंक्ति इसप्रकार से हैं —

"घेरी बेरी बरजेंव काली नाग ल

डहर खोल बिल खोलिहा

मोर पिया के परके नौकर

फिरही रात बिकाला

मोर पिया ल काली नाग डांस दिस

दउड़ा हो जगइया ———"⁶

नेवरात के इस गीत में एक स्त्री के पति परायण होने तथा काली नाग से शिकायत का वर्णन है। स्त्री कहती है, मैंने

बार-बार काली नाग को मना किया था कि आप रास्ता छोड़कर बिल बनाना क्योंकि मेरे पति दूसरे के नौकर हैं आने में रात हो जाती है।

अंचरा के छोंव के “छत्तीसगढ़ की कजली : लोक पर्व भोजली” उपखण्ड में भोजली के सार्थक अर्थ एवं त्यौहार विशेष का वर्णन बहुत मार्मिक ढंग से किये हैं। इन उपखण्ड में मितान बदना, भोजली उगाने की विधि, सेवागीत, भोजली विसर्जन का वर्णन मार्मिक बन पड़ा है। सेवागीत के रूप में इस गीत को गाया जाता है जो कि इस युवा पीढ़ी के लिए विलुप्त प्राय है। जरूरत है इसे संजोने की और अपनी परंपरा गीत के रूप में हर नारी के कंठ पर स्थापित करने की। संध्या के समय भोजली देवी का पूजन के समय जो गीत गाया जाता है वह इस ग्रंथ में उद्धृत है जो इसप्रकार है —

“देवी गंगा देवी गंगा लहर उतंगा हो लहर उतंगा

हमरो भोजली देवी के भीजै आठो अंगा

ह हो देवी गंगा —————”

इसी प्रकार डॉ. सोनी ने गौरा पूजा का वर्णन बड़े भाव के साथ किये हैं। गौरा पूजा के प्रथम रस्म ‘फूल कुचरने’ से लेकर विसर्जन तक का वर्णन इस पुस्तक में है तथा इस पूजा के माध्यम से प्रचलित गीत एवं परंपरा का भी वर्णन है। डॉ. सोनी ने अपनी शोध प्रवृत्ति के माध्यम से इनके गीतों को संजोने व संवारने का विलक्षण काम किये हैं वरना आज के तकनीकी युग में कौन ? इस रीति-रिवाजों के पचड़े में पड़ता। यह डॉ. सोनी के अपनी संस्कृति के प्रति लगाव ही है जो इन्हे साकार रूप देने में महती भूमिका निभायी है। अंचरा के छोंव में उद्धृत पंक्ति जो कि करसा परधाने के समय गाये जाते हैं, जिसमें कलश एवं बेटी की तुलना स्वाभाविकता को पैदा करती है —

“कलशा सिंगारत दीदी एक दिन लगथे

बहिनी सिंगारत महिना दिन लगथे

कलशा सिंगारत बहिनी रिगबिग सिगबिक

बहिनी सिंगारत दीदी रतन पिंवरी वो उठव-उठव”

‘मड़ई मेला’ छत्तीसगढ़ की संस्कृति में महत्वपूर्ण स्थान रखता है। डॉ. सोनी ने इस विषय में कहा है — “मड़ई का नाम आते ही संस्कृति के पैरों के पैरी की

रुनझुन, नदी की कलकल धुन, ग्राम देवताओं के झंडे, बैरक, रंग बिरंगे सौंदर्य प्रसाधन चूड़ी-टिकली, झबला, फुंदरी, बर्तन भांडा मस्ती में झुमते युवक-युवतियाँ देखकर लगता है मानो श्रृंगार करने मड़ई आ पहुँचा हो।”

इसी प्रकार होली पर्व का मनोहारी चित्रण अंचरा के छोंव के उपशीर्षक ‘राधे बिन होली न होय’ में वर्णित है। डॉ. सोनी ने कहा है “सुबह होता है रंगों का रंगारंग त्यौहार और फागो की धुन। फाग के गीतों में झांझ, मंजीरा, नगाड़ा, डफ, ढोलक, हारमोनियम जैसे वाद्य यंत्रों का उपयोग होता है।” यह तो रही होली के वाद्य यंत्रों का वर्णन और साथ ही आधुनिक युग के इस पर्व के प्रति निरसता एवं अपरंपरागत व्यवहारों का भी वर्णन डॉ. सोनी ने उपरोक्त खंड में किया है।” आजकल वनों के अंधाधुंध कटाई के कारण लकड़ी चोरी के नाम पर लोगों के उपयोगी वस्तुओं को चुराने और होली जलने के स्थान पर डालने की कुप्रथा चल पड़ी जो कि ताज्य है।” फाग के प्रमुख नायक नायिका राधा कृष्ण होते हैं।

“राधे बिन होली न होय दे दे बुलउवा राधे ला।”

इसी प्रकार फाग के गीतों में कृष्ण का नटखटपन और राधा का श्रृंगारिक वर्णन है।

“सांकुर खोर गली में राधा पनिआ भरन को जाय

राधा पनिआ भरन को जाय, बीच में ठाढ़े कन्हैया

अंग लिए लपटाए, छोटे से श्याम कन्हैया।”

उपरोक्त पंक्ति से स्पष्ट है कि छत्तीसगढ़ी फाग गीतों में राधा और कृष्ण अभिजात्य वर्ग के न होकर श्रृंगारित जीवन के नायक नायिका के रूप में होते हैं।

करमा नृत्य को छत्तीसगढ़ी लोकनृत्य का राजा कहा जाता है ठीक उसी प्रकार छत्तीसगढ़ी प्रेम या विरह गीत के रूप में ‘ददरिया गीत’ ग्रामांचल क्षेत्र में विशेष प्रचलित है। डॉ. सोनी ने ‘झुमर’ को करमा नृत्य का सबसे आकर्षक नृत्य कहा है। इन्होंने करमा नृत्य के अनुष्ठान, विधि-विधान, वाद्य यंत्र नर्तक के पोशाक एवं साज-सज्जा आदि का मार्मिक रूप से वर्णन किए हैं।

“लाली रे लुगरा के हरियर हे छोर

तोर मया मोर मया एके संग म जोर”⁷

डॉ. सोनी कहते हैं “करमा नृत्य में संगीत योजना समृद्ध होती है। राग के अनुरूप ही करमा की नृत्य शैली भी बदलती रहती है।”⁷ इसी प्रकार ददरिया गीत भी सवाल जवाब शैली में संपूर्ण माधुर्य के साथ नायक-नायिका के मनोभावों को प्रकट करता है इस विषय में डॉ. विनय कुमार पाठक कहते हैं— “हृदयगत सौन्दर्य के साथ मनोमालिन्य का प्रकटीकरण ‘ददरिया’ का वैशिष्ट्य है।”⁸ अक्सर ददरिया गीत का प्रारंभ इस तान के साथ होता है जिसे डॉ. सोनी ने ‘अंचरा के छॉव’ के ददरिया भाग में अंकित किया है —

“बटकी मा बॉसी अउ चुटकी म नून।

मै ह गावथव ददरिया तै ठाड़ होके सून।।”

चूँकि डॉ. रमाकांत सोनी के छत्तीसगढ़ी साहित्य में आंचलिक संस्कृति में प्रयुक्त शब्दावली सहज हिन्दी एवं यत्र-तत्र छत्तीसगढ़ी शब्दों का सहज ढंग से प्रयोग हुआ है। डॉ. चितरंजनकर “अंचरा के छॉव में तीज त्यौहारों एवं कतिपय विशिष्ट रीति रिवाजों का वर्णन तथा छत्तीसगढ़ी लोकगीतों का स्वर ही नहीं व्यंजन भी सामाजिक है। पुस्तक की रूप रेखा एवं अंतर वस्तु पठनीय एवं स्तुत्य है।”⁹

IV. मोर कहाँ गवाँगे गाँव

डॉ. सोनी स्वयं को ‘माटी पुत्र’ के रूप में इंगित करते हुए अपने अंतरमन की अनुभूति को उनकी छत्तीसगढ़ी काव्य संग्रह ‘मोर कहाँ गवाँगे गाँव’ में सहेजने का भरसक प्रयास किया है। अपनी जन्मभूमि के प्रति उदारता एवं समर्पण भाव ही उन्हें इस विषय पर लेखनी चलाने के लिए मजबूर करती है। ‘मोर कहाँ गवाँगे गाँव’ में कुल साठ छत्तीसगढ़ी कविता संग्रहीत हैं छत्तीसगढ़ी संस्कृति के विलुप्ति के कगार पर खड़ी संस्कृति लोगों की व्यवसायीकरण की पीड़ा झेल रही संस्कृति पर शोधपूर्ण आलेख एवं छत्तीसगढ़ी लोकगीतों का संकलन है। मोर कहाँ गवाँगे गाँव का प्रथम संस्करण 8 फरवरी 2011 बसंत पंचमी के दिन प्रकाशित हुआ था। डॉ. बलदेव ने कहा है — “छत्तीसगढ़ के जनजीवन एवं संस्कृति के सजग चितेरे,

श्रम और श्रृंगार के मधुर गीतकार डॉ. रमाकांत सोनी के छत्तीसगढ़ी काव्य संग्रह ‘मोर कहाँ गवाँगे गाँव’ की रचनाएँ पढ़ने के बाद अंतस में गूँजने लगता है।”¹⁰

इस काव्य संकलन में संकलित कविता ‘बेटी के बिदा’ में माँ-बेटी के आंतरिक पीड़ा को बहुत ही मार्मिकता से प्रस्तुत किये हैं।

“दुख सहे के घांठा परगे

हियरा माँ पथरा भरगे

नइ सकिस बिरौनी छेके

आँखी ले आँसू ढरगे

मोर बिटिया तोर निकरे ले मोर घर होंगे अधियासी”¹¹

निश्चित रूप से डॉ. सोनी को छत्तीसगढ़ की अपनी ग्रामीण अंचल विशेष की माटी की सौंधी खुशबू में फिकापन नजर आया होगा, जिससे आंदोलित होकर अपने अंतरंग के उद्गार को लेखनीबद्ध किया। उन्होंने इस बात को मोर कहाँ गवाँगे गाँव की भूमिका में स्वयं सिद्ध किये हैं — “तरिया-नदिया, घाट-घठौधा के गोठ, एड़ी चिकनात घाट के चिक्कन पथरा, अस्नान के कच्चा ओनहा पहिरे सूरुज देवता, बर-पीपर, तूलसी, भोले बबा के मूर्ति मां पानी रितोत बेटी-बहूरिया ल देखे अब आँखी तरस गे।”¹¹ इसी भूमिका के अंत में आपने कुछ आशावादी विचार के साथ एक पंक्ति लिखी है — “मोर जिनगानी के करू-कस्सा अनुभव, जइसना समझें लिख डारेंव — मोर कहाँ गवाँगे गाँव ? पा जाहा त अमरा दिहा।”¹¹ डॉ. सोनी की शैली में एक अलग तरह की प्रवाह मयता एवं माधुर्य है जिसे पाठक पूरा पढ़े बिना नहीं छोड़ता वह तब तक बंधा या खोया रहता है जब तक उसके अंत को न प्राप्त कर ले। डॉ. विद्याभूषणमिश्र ने मोर कहाँ गवाँगे गाँव छत्तीसगढ़ी काव्य संग्रह का साहित्यिक मूल्यांकन करते हुए कहा है — “मोर कहाँ गवाँगे गाँव के उद्गार में आत्मा का प्रश्न एवं विस्मय है। जिस आदर्श, निश्छलता, अपनत्व, शालीनता, मर्यादा, पारिवारिक मिठास, मैत्री, पर्यावरण प्रियता एवं श्रम के प्रति निष्ठा के लिए गाँव मनमोहन बना रहा उनकी वर्तमान में अनुपलब्धता कवि की निराशा का कारण है। वह बोल उठता है ‘मोर कहाँ गवाँगे गाँव ? ला पा जाहा तौ अमरा दिहा।”¹² डॉ. सोनी ने मोर कहाँ गवाँगे गाँव के अनुक्रम को छत्तीसगढ़ी

शब्द 'ओरवॉती' शब्दों से सुसज्जित किया है। अनुक्रम (ओरवॉती) की शुरुआत 'मोर सरसती मइया' स्तुति गीत एवं अंत 'पालागी दाई' से की है। मोर कहों गँवागे गँव पॉचवे क्रम का लोकगीत है जिसमें कवि की निराशा व पाने की आशा का भाव स्पष्ट है —

“सब पथरा तन अउ पथरा मन हें
जावौं केती
सब नता नदागे दौरी फँदागे
जावौं केती
वो मया कहों ले पॉव रे
मुँड ठोकत हावँव,
मोर पीपर पेंड़”¹¹

इस काव्य संग्रह एक मधुर गीत का पुट है। इसकी गीतात्मकता ही इसे मधुरता प्रदान करती है। इसी प्रकार 'कइसे मै गीत सुनावँव' प्रकृति की निरसता का चित्र अंकित हुई है जिसकी पीड़ा कवि हृदय को झकझोर देती है —

“ओखी के पानी ढरगे
नदिया के ओसू छलके
पीपर धुरा ला ओढे
पाना पिउरा दुख झलके
कोन छौव मेरा सुरतावव
मै गीत कहों ले गँवव”¹¹

डॉ. सोनी की अपनी अंचल विशेष की, साथ ही साथ राष्ट्र विशेष के प्रति प्रगाढ़ प्रेम दृष्टिगत होती है। मोर कहों गँवागे गँव के 'भुलाए ला सिख जा' अनुक्रम में अपनी आत्म संतुष्टि के लिए यह बात कही है —

“कोन हर तोर भुइयां ए
कोन ह अकास
कोन हर ए महतमागँधी
कोन हर ए सुभास
सबो ल भुला जा, नई तो बइहा जाबे”¹¹

'बसंत पंचमी सुहावये' लोकगीत में बसंत ऋतु के आगमन की मनोहरता का वर्णन माँ सरस्वती की स्तुति के माध्यम से की है—

“तोर स्वागत मां आंखी बिछाए

रितुराज खड़े मुँड नवाए

परकिरती रानी ल सजाए

पिउरी लुगरा मां ओला सम्हराए”¹¹ (पृष्ठ 89)

इस प्रकार डॉ. सोनी ने कही — अंचल, राष्ट्र, प्रकृति, ऋतु आदि के प्रति अपनी उदारता प्रकट किए तो कही नारी के सौन्दर्य पर भी मंत्र मुग्ध हुए हैं —

“आमा फाँकी, अइसन ओखी

सुआ पॉखी लुगरा ओ—सुआ पॉखी लुगरा ओ

कारी घटा जइसन चूँदी

हाथे चुरी बाजय ओ—हाथे चुरी बाजय ओ”¹¹

(पृष्ठ 26)

डॉ. सोनी के छत्तीसगढ़ी काव्य संकलन 'मोर कहों गँवागे गँव' में अपने जन्मभूमि के प्रति समर्पण, प्रेम, उदारभाव स्वयं सिद्ध है। अलग-अलग क्षेत्र से कवि ने अपने अंतर्मन की आकुलता एवं स्वानुभूति को सहजभाव से अनुप्राणित किया है। भाव निरूपण एवं शैलीगत विशेषताओं में जो सम्मोहन शक्ति परिलक्षित होती है शायद ही 21वीं सदी के किसी साहित्यकार में होती है।

इसीप्रकार डॉ. सोनी के आठवें क्रम की रचना छत्तीसगढ़ी लोककथा संग्रह 'दार भात चुरगे' जिनका प्रकाशन वर्ष सन् 2018 है इस कृति में लेखक की अतीत की मधुर स्मृति की झलक है। अपनी प्राचीन संस्कृति विशेष के प्रति रुचि एवं जीवंत बनाने की उत्कंठा लेखक की लेखनी को अबाध करती है। आज से वर्षों पहले हमारे दादा-दादी, नाना-नानी द्वारा काल्पनिक कथाओं के माध्यम से हमारा मनोरंजन करते थे, जिसकी अमिट छवि हमारे सामने आ जाती है। डॉ. सोनी जी को डोरेमॉन की चॉयनीज संस्कृति ने आंदोलित किया और गँवों के बुर्जुगो से भेंटकर एवं स्वस्मृति से एक संग्रह तैयार कर पुस्तक का रूप दिया है। पुस्तक के प्रारंभ में 'लोक कथा की आत्मकथा' शीर्षक से लेखक ने लोककथा के ही जुबानी उनके भाव को व्यक्त किया है, “मुझे इस बात की परवाह नहीं कि, मेरी अपनी पहचान क्या है : किसने बनाया ? कैसे बनाया ? बस दादी या नानी की जुबान पर आयी और मैं अपने बाल सखा के हुकारु के समक्ष प्रकट हो गयी।”¹³ (भूमिका) अतः यह कहना अतिशयोक्ति न होगा

कि एक अबोध सा लगने वाला लोककथा न जाने जीवन में कितने गुर सिखा जाता है पर आज के युवा पीढ़ी में मोबाइल ही एक मनोरंजन का साधन हो गया है। उनके पास समय ही कहाँ है कि, तनिक बुजुर्गों के अनुभवों एवं सीख को संदर्भ शिरोधार्य कर ले।

V. दार भात चुरगे

“दारभात चुरगे” शीर्षक से लेखक का तात्पर्य है, जब छत्तीसगढ़ी लोककथा को कहने वाला वक्ता (बुजुर्ग) अपनी कहानी पूर्ण करने के बाद अंत में यह पंक्ति कहता है — “दारभात चुरगे, मोर कथा पुरगे” अतः इसी वाक्य को ध्यान में रखकर लेखक ने इसे अपने लोक कथा का शीर्षक बना दिया जो कि पूर्णतः सार्थक है। ‘दार भात चुर गे’ पूर्णतः भाषा पर आधारित लोककथा संग्रह है, इसमें कुल 23 लोककथाएँ संग्रहित हैं जैसे — ‘राजकुमारी फूलझरी’, ‘चंदन अउ सुखमत सुआ’, खाँहू लीटिया मटकाहूँ चोंच’, ‘चौटा गड़िस कौटा’, ‘लबरा कोलिहा’ आदि हैं। जिसे पढ़कर हर पाठक अतीत के स्मृति में डूब जाता है। डॉ. निरूपमा शर्मा ने इस संग्रह के विषय में कहा है — “दार भात चुर गे अंचल की लोककथाओं का संग्रह करके प्रकाशन करना यह परिश्रम का कार्य है। लोककथाओं को जीवित रखने, यहाँ की संस्कृति को जानने समझने के लिए यह बहुत ही सार्थक कार्य है। भूमिका के रूप में ‘लोककथा की आत्मकथा’ की कल्पना भी विधा का अच्छा एवं रोचक संदेश है।”¹⁴ इसी क्रम में डॉ. शैल चंद्रा ने कहा — “दार भात चुर गे के भासा म बिलासपुर जिला के छत्तीसगढ़ी भाखा के परभाव ह दिखे हे। जौन ह बड़ मीठ — मीठ लाइ के उखरा कस हावय।”¹⁵

लोककथा की शुरुआत की परंपरा में अक्सर यह शब्द देखने में मिलता है जैसे एक जंगल म, एक गाँव म, एक झन, एक ठो इत्यादि इन शब्दों की शुरुआत ही श्रोता के मन में जिज्ञासा पैदा कर देता है और श्रोता अंत तक उस स्थान से टस से मस नहीं होता। उसके मुखभाव से स्पष्ट प्रतीत होता है कि वह कहना चाह रहा हो ‘तब का होइस’, ‘ओकर बाद’ ये जिज्ञासा पूर्ण शब्द ही श्रोता को बांधे रखता है। राजकुमारी फूलझरी उपखण्ड से कुछ पंक्ति — “ठरकपुर राज मा बिसालसिंह नांव के राजा रहय। ओकर एक ठन फूलझरी नांव

के राजकुमारी रहिस। फूलझरी बड़ सुन्दर रहय। रानी ओकर रोज हरदी, मधुरस, बेसन के चिस्का छोड़ा के असनंदवावय।”¹⁶ (पृष्ठ 07) ऐसे ही इस संग्रह में अलग-अलग क्षेत्र से संबंधित लोककथाएँ हैं। कई लोककथाओं में बीच-बीच में लयबद्ध गीत भी हैं, तो कहीं काव्यरूप लिये ध्वनि साम्य वाले वाक्य भी हैं जो कि पाठक को हँसने में बाध्य कर देती हैं, बार-बार उसी पंक्ति के आने से पाठक को पूर्णरूप से वह याद भी हो जाता है।

“तोर का जाही मोर का जाही, जाही बुजा नहनी के
———तोर का जाही मोर का जाही, जाही बुजा
टेकवा के”¹⁶ (पृष्ठ 28)

ऐसे ही ध्वनि साम्य का दृश्य

“एक ठन रहिस चौटा, ओ टोरे गईस भौटा। गोड़ म
गड़गे कौटा।”¹⁶ (पृष्ठ 28)

वस्तुतः लोककथा को संकलित करना एक कठिन काम ही है, लेकिन उसे लिपिबद्ध करना, भाव भरना, शब्द चयन, प्रवाह मय बनाना उससे भी कठिन काम है, लेकिन डॉ. सोनी के ‘दार भात चुरगे’ में उल्लेखित सभी कथाओं में मनमोहक भाव एवं दृश्य बिम्ब की छाप है। एक ऐसी प्रवाहमयता है कि पाठक एक पूरी कथा के अंत होने तक उठने की साहस नहीं कर सकता।

VI. हाना : जिनगी के गाना

डॉ. सोनी छत्तीसगढ़ी संस्कृति को सहजने का प्रयास पूरी शक्ति, अदम्य साहस एवं जिजिविषा के साथ किये हैं। लोककथा में जो सहजता, कोमलता, निश्चलता का भाव रहता है, उसे माधुर्य रूप देने का काम ‘हाना’ का होता है। ‘हाना’ छत्तीसगढ़ी कहावत या लोकोक्ति है जो कि कम शब्दों में बहुत बड़ी सीख दे जाती है। डॉ. सोनी जी ने भी अपने अनुभवों एवं शोधप्रवृत्ति के माध्यम से हाना संग्रह का प्रकाशन किये हैं, जिसका शीर्षक “हाना: जिनगी के गाना” है इसमें लगभग 1100 से अधिक छत्तीसगढ़ी लोकोक्तियों का संग्रह है। गाँव-गाँव, मुहल्ला-मुहल्ला, चौक-चौराहे में बैठे गुणी व्यक्तियों से संपर्क कर आपने हाना (छत्तीसगढ़ी लोकोक्ति) का संग्रह किया एवं एक वृहत पुस्तक का रूप दिया। डॉ.

सोनी ने हाना को लिपिबद्ध तो किया ही है, साथ ही उसका उपयुक्त भावार्थ भी बताया है, जिससे पाठक के मन में स्पष्ट भाव परिलक्षित होती है।

‘आगे बरा तब मुँहे परा’¹⁷ (पृष्ठ 85)

भावार्थ – अब भोजन (बड़ा) सामने आ ही गया है तब खा ही लो।

इसीप्रकार, ‘सावन घोड़ी, भादो गाय

माघ महिना म भईस बियाय

अपन रहे की गोसइयों जाय’¹⁷ (पृष्ठ 67)

भावार्थ – सावन के महिने में घोड़ी, भादो में गाय और माघ मास में भैंस यदि बियाती है तो उसके स्वयं के लिए या मालिक के लिए घोर अपशकुन होता है।

छत्तीसगढ़ी में हाना के प्रयोग से उसमें मिठास भी मिलता है तथा भाषा में रोचकता भी आती है। हाना का छत्तीसगढ़ी भाषा में बहुत ही महत्व है। डॉ. मन्नूलाल यदु जी ने अपने शोधग्रंथ में लोकोक्ति और मुहावरे के बीच अंतर को भाई बहन का अंतर बताते हुए उदाहरण सहित स्पष्ट किये हैं। उन्होंने हाना को बेहतर तरीके से समझाते हुए अपनी पुस्तक में एक स्थान पर लिखते हैं – “लोकोक्ति का एक-एक शब्द नपा तुला होता है। वह बहुमूल्य रत्नो द्वारा पिरोया ऐसा अदभूत हार है जिसका एक रत्न टूटा या बदला कि हार की चमक धूमिल पड़ी।”¹⁸ सन् 1969 में प्रकाशित डॉ. दयाशंकर शुक्ल ने अपने शोधग्रंथ ‘छत्तीसगढ़ी लोकसाहित्य का अध्ययन’ में इन्होंने कहावतों को लोकोक्ति का एक अंग कहा है।¹⁹ डॉ. सोनी ने ‘हाना: जिदगी के गाना’ के भूमिका में ही हाना के महत्व व उपयोगिता पर प्रकाश डाला है— “सफलता समृद्धि ह न तो खेत मां परे ढेला आए न बजार के लडुवा, जेला पाइस तिहाँ गप्प ले मुँह मां भर दिहिस एकरे बर हमरे महतारी के अँचरा मां गठियाये हाना ल परयोग करे बर परही।”²⁰ इस पुस्तक में संकलित हाना के अनुक्रम में विविधता है तथा भाषा में ऐसी सरलता है, जो पाठक को ठेठ छत्तीसगढ़ी भाषापन का बोध करा देता है।

‘जे नई जानय सान बान

तेला कइथे पिसान सान’²⁰(पृष्ठ 53)

तात्पर्य है कि, जो अपने कार्य की प्रस्तुति को आन बान शान से नहीं करता उसे आटा लगाने जैसे साधारण काम में लोग लगा देते हैं।

डॉ. सोनी ने इन हाना संग्रह को पिछले 10 सालों का प्रयास बताया है जिसके लिए उन्हें कई पुस्तकों अनुभवी व्यक्तियों, महिलाओं से सरोकार होना पड़ा उन्होंने ‘हाना: जिदगी के गाना’ के अनुक्रम में अलग-अलग विषय क्षेत्र में बॉटकर पद्यात्मक शैली में लेखनीबद्ध किया है। साथ ही भावार्थ भी प्रस्तुत है। हालांकि इसमें संकलित हाना ही अपने आप में पर्याप्त नहीं है, लेकिन इस संग्रह मात्र से जिज्ञासुओं कि क्षुधा शांत करने का किंचित प्रयास है। कदाचित्त यह शोध का विषय है कि इसी तरह अनेक हाना बुजुर्गों की वाणी में दबी हुई है जिसे जरूरत है लेखनीबद्ध करने और समाज के सामने प्रस्तुत करना। डॉ. सोनी ने ‘हाना: जिदगी के गाना’ की भूमिका में लोकोक्ति और कहावत, लोकोक्ति और मुहावरे एवं लोकोक्ति एवं सुक्ति में अंतर स्पष्ट भी किया है। डॉ. सोनी ने हाना पर आधारित संग्रह ग्रंथ में ‘नगर विशेष’ उपशीर्षक में नगर विशेष से संबंधित हाना को प्रस्तुत किये जो कि आज कि युवा पीढ़ी को स्तब्ध करने वाली होती है।

‘कूट काट चोपा बसे, कोरबा बसे कलार

झारा झरकट छुरी बसे, कटघोरा बसे कलार’²⁰ (पृष्ठ 95)

इसी प्रकार

‘सिरपुर, रतनपुर, आरंग, खल्लारी

दरसन सेतीर लय उधारी’²⁰ (पृष्ठ 97)

इसी तरह अनेक विशेष स्थान एवं उसके महत्व के अनुसार लोगों की उक्ति चल पड़ी है जो कि विलुप्तता के कगार में है।

VII. निष्कर्ष

निष्कर्ष रूप में यह कहा जा सकता है कि, भाषा, साहित्य पर और साहित्य, भाषा पर अवलंबित होते हैं। इसीलिए भाषा और साहित्य साथ-साथ पनपते हैं। परंतु हम देखते हैं कि छत्तीसगढ़ी लिखित साहित्य के विकास अतीत रूप में स्पष्ट नहीं हुई है कारण है यहाँ के लेखकों का छत्तीसगढ़ी साहित्य के प्रति उदासीनता आदिकाल से 21वीं शदी तक के सफर में

अपेक्षाकृत कम रोचकता दिखाई देती है। अतः अनेक साहित्यकारों ने हिन्दी के साथ अपनी अंचल विशेष की ओर भी पदार्पण किये और ऐसे अनेक ग्रंथ लिखे जो कि बहुत ही महत्वपूर्ण और अमूल्य हैं। इसीक्रम में डॉ. रमाकांत सोनी जी ने शुरुआत तो हिन्दी ग्रंथों से एक शोधग्रंथ के रूप में किया परंतु समय की मांग और अपने माटी के मोंह को लिपिबद्ध करने के लिए अपने आप को रोक न सके जिसमें लोक संस्कृति, लोककथाएँ, लोकोक्ति केंद्रित भाव कूट – कूटकर भरी हुई है। यह उनके अद्भूत प्रतिभा का स्पष्ट उदाहरण है।

डॉ. सोनी के प्रथम छत्तीसगढ़ी ग्रंथ 'अँचरा के छँव' (2010) जो कि छत्तीसगढ़ी लोकसंस्कृति पर आधारित, 'मोर कहों गँवागे गँव' (2011) आधुनिकता के शिकार हुए संस्कृति पर पटाक्षेप है, छत्तीसगढ़ी लोककथा को 'दार भात चूरगे' (2018) में संकलित किया तथा छत्तीसगढ़ी लोकोक्तियों को संग्रह 'हाना: जिनगी के गाना' (2020) में संकलित है। इन सभी रचनाओं में छत्तीसगढ़ की माटी की सोंधी खुशबू को महसूस कराया है। इन रचनाओं में उनकी शोध प्रवृत्ति रूपी अद्भूत प्रतिभा का स्पष्ट झलक परिलक्षित है। डॉ. सोनी के छत्तीसगढ़ी ग्रंथों के अनुशीलन से निम्न तत्व निरूपित होते हैं – बंधा हुआ लोक प्रचलित कथन अनुभव की बात संक्षिप्त में, सुत्रात्मक शैली एवं लोक की उक्ति।

गौरतलब है कि डॉ. सोनी के छत्तीसगढ़ी साहित्य समयातीत एवं सार्वभौम है जिसकी सामाजिक उपादेयता स्पष्ट परिलक्षित है। हालांकि डॉ. सोनी के रचनाओं पर आज पर्यन्त कोई शोध नहीं हुआ है। लेकिन कालांतर में इसपर शोध के लिए पृष्ठभूमि तैयार किये हैं और भविष्य में भी नवीन शोध के लिये आधार प्रदान किये हैं।

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Impact of Covid-19 on Indian Industries

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Abstract:

The outbreak of Covid-19 epidemic is an unprecedented setback to the Indian economy. The Government of India has announced a range of measures ranging from additional funds for food security and health to sector-related incentives and extension of tax deadlines. Due to prolonged nationwide lockdown, global economic slowdown and disruption associated with demand and supply chains, the economy is likely to face long periods of slowdown. The study explored the potential impact of trauma on various sectors such as manufacturing, financial services, banking, infrastructure, real estate and services and put forward a set of policy recommendations for specific sectors.

Index Terms: Indian economy, economic recession, corona epidemic, supply chain.

I. INTRODUCTION

The Indian economy has been experiencing significant recession for the last few quarters. The economy grew at a six-year low of 4.7% in the third quarter of the current fiscal year. There was strong expectation of recovery in the last quarter of the current financial year. However, corona virus epidemics have made recovery in the near term very difficult for the medium term. The outbreak has now presented new challenges for the Indian economy, which has had a serious disruptive impact on both demand and supply elements, which has the potential to derail India's growth story. India reported its first confirmed case in January. However, there are only a few signs of community broadcasting - the percentage of people affected is still low, with the majority of travel-related cases. The impact on the

Indian economy can be significant if the virus continues to penetrate the country which will be a long lasting effect. While the impact on economic prospects will be through trade, investment and service routes as activity in countries like China, Korea, Japan, Italy, America etc., it can be more damaging if there is any closure in India.

II. REVIEW OF LITERATURE

This answer will largely depend on the extent of spread within India. Till now, India is one of the Asian economies that do not have a deep impact [1-3]. The impact of the virus on global sentiment, economic and other, has been immense. While new plagues are receding in China - the epicenter of the outbreak - since late February, it is spreading rapidly. New cases outside China are now most affected in China, along with Italy, Iran and South Korea. With more than 160 countries confirming the cases of Covid-19, its implications on the global economy are more of a threat than it was a month ago.

III. DEVELOPMENT OF INDIA

Most multilateral agencies and credit rating agencies have therefore revised their 2020 and 2021 growth projections for India, taking into account corona virus-induced travel restrictions, supply chain disruptions, negative consumption and a negative impact on the growth of both the global and Indian economies keep in [4-6].

Fitch Ratings - Fitch has slashed India's economic growth forecast to 4.9% for 2019-20 from the earlier estimate of 5.1%.

Moody's - Moody's Investors Service revised India's growth estimate for 2020 to 5.3% from its earlier estimate of 5.4% made in February.

S&P Global Ratings - S&P has lowered India's economic growth projections to 5.2% for 2020 from the earlier estimate of 5.7%.

Barclays - Barclays has lowered India's economic growth forecast for 2020 to 5.6% from the earlier estimate of 6.5%.

The trade impact of the corona virus epidemic for India is believed to be around \$ 348 million and the country's figures among the top 15 economies are the most affected as a slowdown in manufacturing in China disrupts world trade, according to the United Nations report, while Asian growth According to the Bank (ADB) the outbreak of Covid-19 could cost the Indian economy between \$ 387 million and \$ 29.9 billion in personal consumption losses. A survey by [8] found that most industry respondents did not expect positive demand during the entire financial year. The ill-effects of demand on tourism, hospitality and aviation are among the worst affected areas facing the maximum of the current crisis. Slow working in many sectors including retail, construction, entertainment, etc., such as auto, pharmaceuticals, electronics, chemical, people are getting affected due to job loss and fall in income level of people, especially daily wage earners. There is a shortage of raw materials and components in products etc.

Some policy / regulatory measures that COVID-19 identifies will help ease the ease of doing business and minimize the adverse effects on the health of industry and the economy in the wake of the epidemic outbreak.

1. Business License / Approval
2. Easy and quick delivery of pending dues
3. Provide early approval
4. Relaxation / disposal in compliance with labour law

5. Contribution to PF and ESI Fund

6. Ease of doing business for MSMEs

7. Facilitate trade across borders

8. Ease of license requirement for production of sanitizer

Care Rating, 2020 regarding the downside risks to the Indian economy against the backdrop of the outbreak of the virus the purpose of the survey is to understand the opinion of the business. Increase retail inflation by June 2020. We are in the midst of a global epidemic, which is striking two types of countries: a health shock and an economic shock. Right now, most of the policy is focused on health, but it will soon become clear that the economy is also facing a serious problem. India is not unique in this. All countries of the world have to deal with economic disturbances [6-7].

IV. OBJECTIVE

The major objectives of this study are:

1. To understand the impact of Covid-19 on the overall Indian Economy.
2. To understand the impact of Covid-19 on various fields.

V. RESEARCH METHODOLOGY

In this study author has done survey report and study report by various agencies like CRISIL, FICCI, PWC, ASSOCHAM, CII, McKinsey & Company and CARE ratings for the study in detail. Author has chosen reports published mostly in the months of March, April, May and June to understand the impact of Covid-19 on the Indian economy and various sectors. In addition, Author has studied some research papers and news articles which are published in these months.

A. Post Covid-19 Supply Chain:

COVID-19 is an emblematic black swan like global event has been enforcing many industries as well as companies to

reshape their supply chain. Companies are working through substitute sourcing strategies with a critical screening of the operation whether such alternative may create further viral transmission to the different territories through supply chain. Business leaders are to look at new tools and technologies to provide greater intelligence relating to ensuring better supply. Supply system has to deploy the advanced risk evaluation tools that make use of machine learning can find patterns that can indicate risks or opportunities in macroeconomic, geopolitical and global health, exchange rate and other data. USA is underway for long lasting configuration of China-Asian supply chains to build supply resilience for future havocs. The present disruption of supply will no doubt will bring innovation across by adopting end-to-end visibility of supply chain. There would be an end of the traditional linear supply chain model and will be transformed to the digital supply chain networks (DSNs) [9-10]. In this type of innovation the functional silos will be broken down and organizations will become connected to their complete supply network to enable end-to-end visibility, collaboration, agility, and optimization. Supply chain will leverage the power technologies, such as Internet of Things, Artificial intelligence and Robotics and 5Gs.

B. Post Covid-19 Urbanism:

We can predict the growth of self reliant urban villages in the post Covid-19 world. In such urban villages there will be high density population and neighbourhood combined with ample common green space. Significant energy savings, healthy, safe and community oriented environment will become a point of human consciousness. As we predict, by the next decade there will be more and more construction with high rise building with solar rooftops, green walls for walled vegetables garden. Agricultural engineering and civil engineering will be together for the emergence of vertical gardening to feed the future of human mouths [10].

C. Post Covid-19 Transports:

On the roads we would see only electric cars because by 2030 most of the countries of the world may ban the automobiles runs through fossil fuel. At least in the urban streets human folks would deliberately and consciously drive electric vehicles. Streets would be reclaimed by battery operated scooters to visit neighbors, for surfing local markets as well as the trip to farms. Besides the geared vehicle on the road, there would be more pedestrian, battery operated cycle and cyclists. Solar based electric vehicles would supply electric by recharge in day time and by de-charging at night to balance the electricity use for domestic gadgets.

D. Post Covid-19 Agriculture:

People would belief on the agriculture organic manure, thus will impact on the use of agro-chemical, fertilizers, and pesticides. There will be drastic reduction in the global trading of mono-culturally produced crops. Days have come to consume global food produced locally to forget animal raised- meat diets. Agro scientists, dietician, and food specialist would explore food plants which complete protein is healthier human sustenance. To restore eco balance billions of deep rooted trees will be planted. Re- plantation of tree will be an eco and legal issue that may stem new businesses based on nature [11-13].

VI. RESULTS AND DISCUSSION

It is learned that when the global economy is in a state of recession no emerging economy can grow at its normal pace. The Indian economy was struggling with its own issues and the Covid-19 made matters worse. India's GDP has recorded a steady decline in the second quarter of FY 2020, reaching 7.9 in FY 2018. Due to measures adopted to prevent the spread of Corona virus disease (Covid-19), especially social disturbances and lockdown, non-essential expenditure is being postponed. This is reducing demand across India. In addition to the reduction in demand, there will also be extensive supply chain disruptions, as some people stay at home, others go back to their villages,

imports are interrupted, and travel abroad is halted. This will negatively affect production in almost all industries. Gradually this shock will spread to all sectors of the economy - manufacturing, mining, agriculture, public administration, construction. This will adversely affect investment, employment, income and consumption, bringing down the overall growth rate of the economy. Like India, many international economies are becoming increasingly aware of the risk of being highly dependent on one market. Current state one Creating an opportunity for learning, this is the time when India can work on capturing 40% of the potential share of its competitive market, looking at indigenous production, furthering the country's Make in India campaign.

VII. RECOMMENDATIONS

Here are some suggestions that policy makers may consider to gear up to deal with the economic crisis.

1. The first measure should be to protect workers in the informal sector who would be badly affected, and yet save little to save them from shock. This will not be easy to do, but there are two mechanisms that can be used: MNREGA (Mahatma Gandhi National Rural Employment Guarantee Act) and Jan Dhan Khata.
2. For the organized sector as discussed above, the objective should be that banks take somewhat less risk in their overall lending, while preserving their right to differentiate between viable and non-viable firms.
3. To increase liquidity and increase consumer confidence, the Government of India should provide salary roll tax holiday for a quarter to help support demand in these stressful times.
4. A concessional concern should be provided to the MSMEs with capital loans equal to one to three months (depending on the extent of disruption) of

the average turnover of the previous year. To support them, when the supply chain has been affected globally, MSMEs should be provided concessional finance at a rate of 5% for three months through SIDBI. Interest payments for such financing can be adjusted over the next three years as part of the GST.

5. CSR spending by corporate organizations should be directed towards a response fund dedicated to managing the epidemic.
6. A disaster management framework focused on the management of disease outbreaks will become necessary in a large and densely populated country.

VIII. CONCLUSION

In India, it has not yet started in a systematic way and should be prioritized with steps to tackle the health crisis. One can find out after the implementation of measures to rationalize tax rates or provide tax relief to curb the impact of Covid-19 on the Indian economy. Regarding the measures needed to counter the economic impact from the rapidly spreading corona virus, government policy makers will need to implement enough targeted fiscal, broad monetary stimulus and policy cuts to help normalize the economic situation. As the Covid-19 crisis continues to expand, manufacturers will face challenges on many fronts. Manufacturers will also need to look beyond their economic viability. They will need to create synergies with the public sector so that both public safety and the solvency of their workforce are essential, while illuminating their operations Stay tuned. Some time will pass, but austerity measures must be restrained to maintain long-term objectives.

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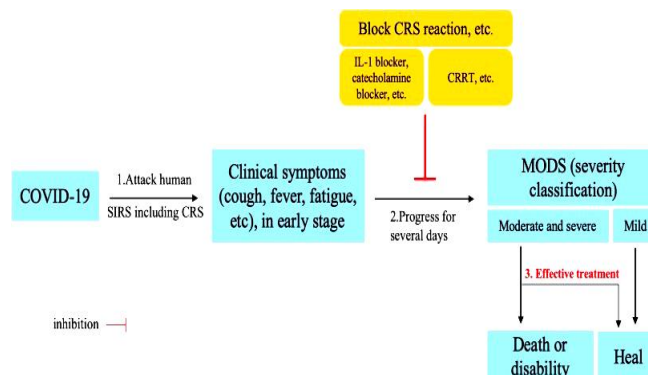
COVID-19: A Review based on Pathophysiology and Management

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Abstract:

Viral diseases, along with their spread (COVID-19) and chronic viruses, regional divisions are causing an increasing number of health problems around the world, infecting both animals and humans. Human coronaviruses cause mild illness like the common cold, while others cause more serious illness (such as MERS and metastatic syndromes), severe acute illness (SARS). In December 2019, an alternative corona virus previously unknown to humans emerged in Wuhan, China. Signs and symptoms include metastatic symptoms including fever, cough, and shortness of breath. In other severe cases, infection leads to respiratory distress, severe acute metastatic syndrome, and often death. Sound recommendations for preventing COVID-19 include regularly improving hand resistance, using an alcohol-based hand sanitizer or soap and water; Cover your nose and mouth with a bent elbow or tissue after coughing and sneezing and avoid direct contact with anyone, including fever and cough.

Index Terms: COVID-19, MERS, SARS, Pathophysiology, Management.



I. INTRODUCTION

The entire world is now plagued by the COVID-19 infection, which has forced many countries to follow detention procedures to reaffirm the safety of their nationalists. Today, all governments are participating in their analytical team to address the challenges posed by the COVID-19 infection. [1, 2]

The 2019 new coronavirus (COVID-19), which caused a sudden pandemic, has caused severe panic among people around the world. [3, 4, 5] COVID-19 is a rapidly changing and evolving situation; the World Health Organization (WHO) is constantly monitoring it and updating the available information on its spread, mortality and morbidity.), no specific cure for COVID-19 has been found. There is ample evidence that traditional Chinese medicine (TCM) has been used in China to contain COVID-19. [6]

COVID-19 is spread primarily through droplets of saliva or nasal discharge. COVID-19 is largely considered an imminent pandemic, and scientists are interested to know how best to protect the population prior to

(immunosuppressive) vaccination any spray containing germs. [7]

Throughout history, humankind has been accompanied by infectious diseases that somehow cast doubt on its existence, as was the case with the Spanish flu (H1N1) at the beginning of the last century, which caused the death of 5% world population. Most mutations in influenza A virus strains cause infectious diseases with new symptoms and consequences from mild upper respiratory tract infections to severe respiratory illness, acute respiratory distress syndrome and death. [8]

Coronavirus (CoV) (Family: Coronaviridae and order Nidovirales). The square measures closed viruses containing unfractionated positive strand ribonucleic acid. [9]

This family includes two subfamilies, Coronavirinae and Torovirinae, and members of the Coronavirinae subfamily are divided into four genera: (a) alpha coronavirus containing human coronavirus (HCoV) 229E and HCoVNL63; (b) Betacoronaviruses, including HCoVOC43, Severe Acute Human Respiratory Syndrome Coronavirus (SARSHCoV), HCoVHKU1, and Middle East Respiratory Syndrome Coronavirus (MERSCoV); c) gammacoronavirus includes whale and bird viruses; (d) Deltacoronavirus includes viruses isolated from pigs and poultry. SARSCoV2 belongs to Betacoronavirus along with two highly pathogenic viruses, SARSCoV and MERSCoV. SARSCoV2 is a single-stranded RNA [10, 11, 12, 13] RNA of a virus (+ RNA) with an envelope and a positive sense, ranging in size from 6.60 to 140 nm in diameter with a pointed apex. Protrusions on its surface make it look like a crown under an electron microscope; hence the name coronavirus. Four coronaviruses, namely HKU1, NL63, 229E, and OC43, have circulated in humans and commonly cause mild respiratory infections ranging from 0 to 140 nm with spine diameter on the surface. The shape of the crown under an electron microscope; hence the name coronavirus. Four coronaviruses, namely HKU1, NL63,

229E and OC43, have circulated in humans and usually cause mild respiratory illness. [14, 15, 16]

These viruses are multinucleated granules with a diameter of 80 to 120 nm, the full cycle of replication of which occurs in the cytoplasm. The results of the study show that the CoV-envelope is involved in important aspects of the viral life cycle and that CoV virus do not contain CoV envelope. Similar to promising vaccine candidates, CoV viruses can cause a number of diseases, including inflammatory bronchitis, gastroenteritis, hepatitis, systemic diseases and even death to birds, people and other animals. [17]

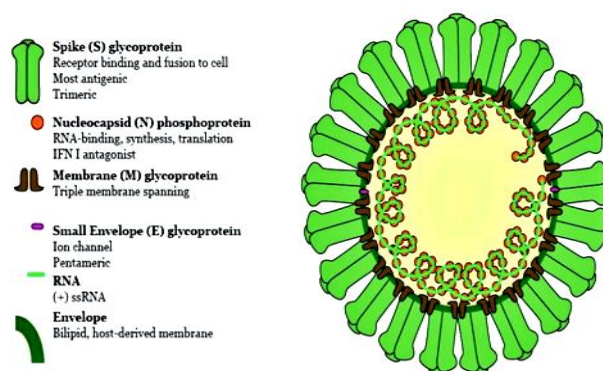


Fig. I: Coronavirus: schematic diagram [18]

Several cases of coronavirus infection have recently posed a serious threat; the coronavirus epidemic has raised the question of the early development of effective antiviral agents to avoid further losses. [19]

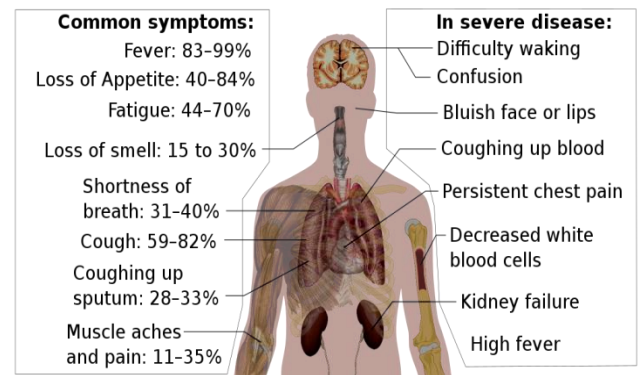
Seven coronaviruses in total, Respiratory Syndrome Coronavirus (SARS-CoV), Middle East Respiratory Syndrome Virus (MERS-CoV), Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV) CoV-2), OC43, NL63, 229E and HKU1 is known to infect humans. Of these, the first three can cause life-threatening infections, while the last four usually cause mild symptoms associated with the common cold, especially in immunocompromised people. [20] Each was initially considered a pandemic, but once a cure and vaccine were developed, it was recognized as a common seasonal flu.

The coronavirus that led to the COVID-19 pandemic is similar to the SARSCoV (animal-to-human respiratory disease) that caused the 2003 pandemic. A drug for the treatment of SARS has undergone clinical trials. was developed. By 2020, humanity is forced to return to an unfinished solution to the problem, when the initial conditions are changed in accordance with the new criteria, this SARSCoV2 virus has affected many people not only in China, but also spread to most countries and regions in a short time. [21, 22]

The pandemic still exists and it is important and necessary to find preventive and improved drugs or vaccines as soon as possible. In addition, effective measures must be taken to identify, exclude and early diagnose individual patients, and to reduce exposure and spread through contact and social action, although vaccines and successful antivirals are the most powerful means of controlling or preventing the spread of the virus. Disease and infection, there is still no cure for 2019 nCoV infection. These drugs can take months or years to develop and manufacture, highlighting the need to rapidly seek alternative control or treatment strategies. [23]

The latest report from the World Health Organization states that there are now more than 19 million confirmed cases and more than 700,000 deaths from the virus worldwide. The United States currently has the largest number of COVID-19 cases (over 4 million cases), followed by Brazil (nearly 3 million cases) and India (over 2 million cases). [24]

Fig. II: SYMPTOMS OF COVID-19 [25-28]



https://en.wikipedia.org/wiki/Symptoms_of_COVID-19#/media/File:Symptoms_of_coronavirus_disease_2019_4.0.svg

II. ROUTE OF TRANSMISSION OF COVID-19

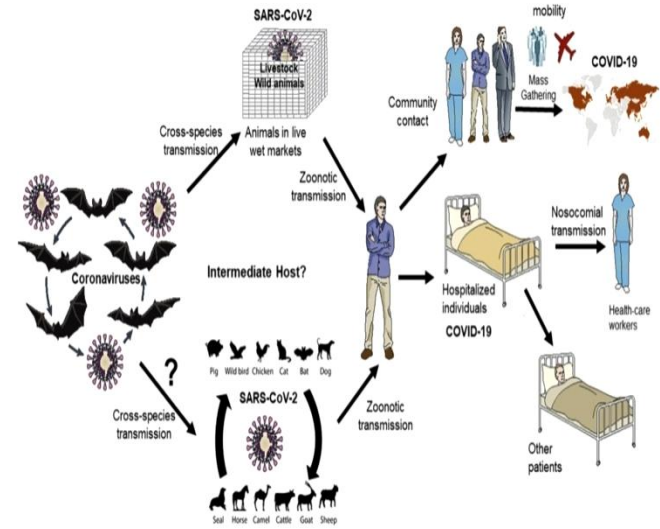


Fig. III: ROUTE OF TRANSMISSION OF COVID-19 [29-31]

Many domestic and wild animals, including camels, cows, cats and bats, can carry coronaviruses. Animal coronaviruses are not usually transmitted from humans. There are exceptions, however, such as SARS and MERS, which are mostly spread through close contact with an infected person through respiratory droplets when coughing or sneezing. China attributed these early infections to zoonotic transmission; however, new cases have been reported among healthcare workers and others with no history of contact with the market or

visiting Wuhan, which is considered a sign of person-to-person transmission. [32, 34]

III. PREVENTION AND CONTROL MEASURES IN COMMUNITY

[35-37]

Table I: COVID-19 prevention and control measures in community.

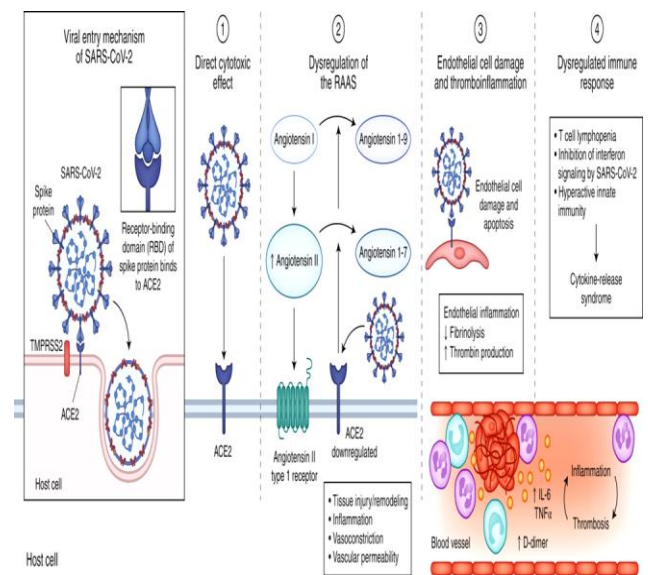
Quarantine	Other measures:
Voluntary quarantine (self- quarantine)	Avoiding crowding
Mandatory quarantine o Private residence o Hospital o Public institution o Others (cruise ships, etc)	Hand hygiene
	Isolation
	Personal protective equipment
	School measures/closures
	Social distancing
	Workplace measures/closures

IV. PATHOPHYSIOLOGY OF COVID-19

From extrapulmonary manifestations of COVID-19 SARSCoV2 appears to use receptor recognition mechanisms similar to those used by previous virulent coronaviruses such as SARSCoV, the pathogen that caused the 2003 SARS epidemic. Virus in target cells the peak subunit of SARSCoV and the enzyme associated with the SARS CoV2 enzyme 2) as an input receptor (Figure 1). In addition, cell penetration requires priming the mutant protein with the cellular serine protease TMPRSS2 or other proteases. Co-expression of ACE2 and TMPRSS2 on the cell surface is required to complete this recording. It is also the efficiency with which the virus binds. ACE2 is the main determinant of transmissibility as shown by SARSCoV studies. Recent studies have shown a higher binding affinity of SARSCoV2 for ACE2 than for SARSCoV for ACE2,

which may partially explain the higher transmissibility of SARSCoV2

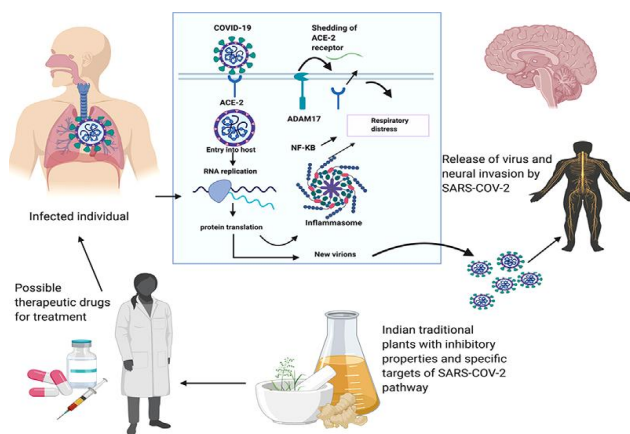
Fig. IV: Pathophysiology of COVID-19



SARSCoV2 enters host cells by interacting its apical protein with the ACE2 entry receptor in the presence of TMPRSS2 (far left). Suggested mechanisms for COVID-19 due to SARSCoV2 infection include direct cellular damage mediated by the virus; Dysregulation of the RAAS as a result of suppression of ACE2 associated with the penetration of the virus, which leads to a decrease in the cleavage of angiotensin I and angiotensin II; damage to endothelial cells and thrombophlebitis; and dysregulation of immune responses and inflammatory processes caused by viruses that inhibit interferon signaling, T cell lymphoproliferation and the production of pro-inflammatory cytokines, especially IL6 and TNF α .

Major mechanisms that may play a role in the pathophysiology of multiple organ damage secondary to SARSCoV2 infection include direct viral toxicity, endothelial cell damage and thrombotic inflammation, as well as dysregulated immune response, dysregulated renin-angiotensin-aldosterone system and # 40 ; RAAS & # 41; The relative importance of these mechanisms in the pathophysiology of COVID-19 is currently not fully understood. While some of these mechanisms, including ACE2-mediated viral entry and tissue damage, as well as dysregulation of the RAAS, may be unique to COVID-19, the immunopathogenesis of systemic cytokine release dysfunction and microcirculation dysfunction may also be due to sepsis. [38]

V. TREATMENT STRATEGIES FOR COVID 19



Although the number of cases is constantly increasing, there is still no FDA approved drug for the treatment of COVID-19. are provided to victims mainly on the basis of symptoms, and critically ill patients receive organic support. It will take time and effort to identify vaccines and drugs for this new virus, as it will take at least several months to develop specific drugs for COVID-19, and the drugs have been proven to be safe for humans and can be reused for treatment of disease. Most of the drugs used for treatment worldwide fall into any of the following drug classifications. [39]

RNA of ADDITIONAL microbial pathogens [40-42]

A. Remdesivir:

Remdesivir is included in the first category as an antiviral prodrug developed for the treatment of viral infections of the Filoviridae family, including the Ebola virus (Zaire Ebolavirus, discovered in 2016, small molecule GS5734, remdesivir was originally used to treat Ebola Virus Disease (EVD) as an analogue of adenosine incorporated into viral RNA.-virus, resulting in premature chain termination and inhibition of viral replication, but the first confirmed case of COVID-19 in the United States was reported in 2019 proposed the use of intravenous remdesivir for charitable purposes, which led to a noticeable improvement in the patient's clinical condition within 24 hours. The authors suggest that more clinical studies are needed to determine the safety and efficacy profile of the antiviral drug. Due to the global relevance of an effective and safe treatment for COVID-19 and the therapeutic potential of remdesivir, this systematic review was conducted to identify the side effects and outcomes associated with this investigational antiviral drug. [43-47]

B. Favipiravir:

Favipiravir inhibits RNA-dependent RNA polymerase (RdRp) of RNA viruses (but not the synthesis of cellular RNA and DNA) and exhibits broad-spectrum antiviral activity against RNA viruses favipiravir (T705), can cause mutations in the genome influenza virus. Reducing the infectivity of the virus in vitro. This mechanism of lethal mutagenicity is considered to be the main antiviral mechanism of favipiravir. It was originally developed to fight influenza viruses and is the first drug against Ebola virus infection in animal models. Effective in vitro against rabies virus (RABV), but not in vivo, especially after neural invasion. Although favipiravir prevented RABV replication at the site of implantation in mice, it was not effective for the central nervous system, which

means that a method must be developed that allows it to penetrate completely into the central nervous system. A randomized clinical trial in China comparing the efficacy of favipiravir and umifenovir for moderate symptoms showed that favipiravir was superior to umifenovir with a higher recovery rate (71.4% versus 55.9% for favipiravir and umifenovir; $p = 0.0199$) umifenovir (p and lt ; 0.0001). Other clinical trials of favipiravir in adult patients with SARSCoV2 pneumonia have been approved in China, and similar trials are underway at Harvard University as well as in Japan. [48, 49]

C. Ribavirin:

Ribavirin is also a broad-spectrum drug with therapeutic potential, discovered in 1972. This antiviral drug is used to treat hepatitis C. It is usually used in combination with interferon alpha (IFN). This FDA-approved drug competes for the RdRp active site, ribavirin, with a yield of 109.5 μ M, which is half the maximum concentration against SARSCoV2.

Ribavirin is a guanosine analogue that interferes with the replication of viral RNA and DNA. Further study of immune cells in these patients showed that the antiviral link of the Th1 immune system is enhanced by ribavirin, and further studies have shown that polarization. An increased immune response may be associated with regulatory T cells that suppress the immune system. This immunomodulatory mechanism is one of the reasons for testing ribavirin as an anticancer agent. The multimodal antiviral properties of ribavirin can limit viral replication, reducing the patient's viral load, subsequent pathological tissue damage and the risk of transmission. are related to the dose required to test each separate mechanism of action of ribavirin, and it is also not known whether the relative threshold of activity will differ between different patient groups and clinical settings. The diverse mechanisms of action of ribavirin are likely to contribute to its longevity and quality as a clinical resource. The use

of ribavirin in the pediatric treatment of respiratory syncytial viral infection and in the treatment of chronic hepatitis C infection provides extensive experience in its safety and efficacy. [50-51]

D. Interferon:

A group of natural proteins, interferons are an important class of protein-based biological or therapeutic products. They are a heterogeneous group of cytokines with complex biological functions and different characteristics and usually include type I interferons (interferon-alpha and interferon-beta) and type II interferons (interferon-gamma).

Endogenous interferons are induced in response to viral infection and modulate the immune response using antiviral activity. In addition, it has previously been shown that other coronaviruses, namely MERS and SARS, are very sensitive to interferon treatment in vitro. Interferon α 2b in its pegylated form (conjugated to polyethylene glycol [PEG] was previously investigated in a retrospective cohort study MERS, which examined the effects of ribavirin and interferon-based therapy (PEG-interferon α 2a, PEG interferon). A2b and interferon β 1a). 90-day mortality and viral RNA clearance. and Cox, a hazard ratio analysis (for corresponding odds ratio and hazard ratio results) showed a statistically significant increase in 90-day mortality in patients treated with ribavirin / interferon compared with patients not receiving treatment. In another retrospective MERS cohort, multivariate corrected logistic regression results showed no statistically significant difference in mortality from interferon α or interferon β . Mimic research. Subsequent administration of interferon β 1b significantly reduced mean viral load (MERS) and disease severity by in treated compared with untreated primates.[52]

E. Protease Inhibitor:

LOPINAVIR / RITONAVIR Protease inhibitors (PIs) are important agents in the current treatment of patients with

chronic human immunodeficiency virus (HIV). In the Orthocoronavirinae family, PIs are papain-like proteases and 3Cl proteases. The antiviral activity of lopinavir against MERSCoV in tissues is controversial, although it has been shown to be useful in ameliorating disease progression in monkeys infected with MERSCoV. It should be noted that the efficacy of prophylactic remdesivir (25 mg / kg twice daily 1 day prior to infection) and remdesivir therapy were compared to that of LPV / ritonavir (used for this purpose) RTV during extended rest periods. Combination therapy life (LPV) IFNb in transgenic mouse model infected with MERSCoV. They noted that remdesivir is superior to LPV / RTVIFNb in efficacy against MERSCoV in terms of reducing viral load and improving the degree of pathological changes in lung tissue, as well as gastrointestinal side effects (nausea), vomiting and diarrhea) caused by LPV / RTV. It should be noted that only LPV / RTV (400/100 mg 2 times a day for 14 days); Chinese clinical trial registration number ChiCTR2000029308) did not provide any benefit over standard treatment. The median time to clinical improvement in both cases was 16 days (hazard ratio [HR] 1.31; 95% confidence interval [CI] 0.951.85; PZ 0.09) and there were no disappointing results. Fewer deaths in the LPV / RTV group in the late stages of SARSCoV2 infection than in the standard care group. , Baden and Ruben (2020) and Sheehan et al. (2020) suggested that the LPV / RTV concentration required to inhibit SARSCoV2 replication in the lungs may be higher than the serum concentration. An open-label randomized controlled trial was launched in China to evaluate the efficacy of LPV / RTV (200/50 mg twice daily) among hospitalized patients with SARSCoV2 infection in 2020 (ChiCTR2000029308). The role of darunavir, which is also a promising in vitro anti-SARSCoV2 PI, requires further study. Ribavirin in combination with interferon 2b has been shown to be active against MERSCoV in a monkey model. In addition, LPV / RTV plus ribavirin

have been shown to be effective against SARSCoV in patients and in tissue cultures. [53]

F. Chloroquine:

Chloroquine is active against malaria and autoimmune diseases (such as rheumatoid arthritis [RA], lupus erythematosus). Recently, it has been shown that a broad spectrum antiviral drug that can be used to treat viruses such as H5N1 influenza, reported in chloroquine, increases the pH in the body by blocking viral and cell binding and inhibits the glycosylation of the SARSCoV receptor phones. Although in vitro data for chloroquine are promising (6.90 mM EC90, using Vero E6 cells infected with SARSCoV2), the widespread use of chloroquine in the clinical treatment of SARSCoV2 is completely lacking. Not recommended for safety reasons (side effects on the hematological system). , liver and kidney, prolongation of the QT interval in ventricular arrhythmias) and can potentially lead to a significant deficiency of antipyretics. [54-55]

G. Hydroxy Chloroquine:

"Efficacy of hydroxychloroquine against the novel coronavirus (COVID-19)" (NO: ChiCTR2000029559). In February 172020, 20 patients were included in the HCQ and initial treatment groups. After 12 days of HCQ treatment, clinical symptoms improved in all patients. After 5 days of HCQ treatment, 19 patients had improved lung imaging results. In addition, there were no mild exacerbations in the HCQ group. In terms of safety, two of them developed a mild rash and a mild headache side effect, and the side effects disappeared after adjusting the regimen. The results of this clinical trial have confirmed short-term efficacy. HCQ, in the treatment of COVID-19, can effectively improve lung imaging results, promote virus-negative conversion, and shorten the course of the disease. Since the cases in the HCQ group were relatively small, the current data may be informative for clinicians. The safety of HCQ in the treatment of COVID-19 needs

to be confirmed in subsequent preclinical and preclinical studies. It has also been proposed that hydroxychloroquine control the cytokine storm that occurs in terminally ill patients with SARSCoV 2 infection. Hydroxychloroquine was significantly more effective than chloroquine in vitro (EC50 values: 0.72 and 5, respectively). 47 mM, respectively) and had a lower potential for drug interactions than Pharmacokinetic models demonstrated that hydroxychloroquine sulfate was significantly superior (5 days earlier) to chloroquine phosphate in inhibiting SARSCoV2 in vitro.

Hydroxychloroquine is also proposed to control the cytokine storm that occurs in critically ill late phase SARSCoV- 2 infected patients. Hydroxychloroquine is significantly more potent than chloroquine in vitro (EC50 values: 0.72 and 5.47 mM, respectively) and has lower potential for drug-drug interactions than chloroquine. Pharmacokinetic models demonstrate that hydroxychloroquine sulfate is significant superior (5 days in advance) to chloroquine phosphate in inhibiting SARS-CoV-2 in vitro. The Taiwanese CDC declared hydroxychloroquine an important drug against SARSCoV2 on March 26, 2020. It should be noted that patients with retinopathy, glucose phosphatase deficiency, prolonged QTc on the electrocardiogram, a history of allergy to hydroxychloroquine, and pregnant or breastfeeding women are contraindicated in taking hydroxychloroquine therapy.[56,57]

H. Azithromycin:

Azithromycin (Pfizer Inc., Manhattan, NY, NY, USA) has been shown to have in vitro activity against Ebola virus. In addition, azithromycin is believed to have good potential for preventing serious respiratory infections in preschool children when acquired. According to a recent study, azithromycin (500 mg on day 1, then 250 mg daily on day 25) significantly increases the effectiveness of hydroxychloroquine (200 mg three times daily for 10

days).) in the treatment of 20 patients with severe COVID 19, the mean serum hydroxychloroquine concentration was 0.46-0.20 mg / ml. The good clinical outcome in these COVID-19 patients is due to the excellent viral clearance efficacy following this combination therapy. Thus, a regimen of hydroxychloroquine in combination with azithromycin may be a promising alternative to remdesivir in the future treatment of patients with SARSCoV2. However, the possibility of lengthening the QTc complex should be of concern.

I. Ivermectin:

This FDA-approved antiparasitic drug has been shown to inhibit SARSCoV2 replication in vitro as demonstrated by multiple reductions in viral RNA treated samples. However, further evaluation is needed to determine its effectiveness against COVID-19 in humans. Replication specifically targeting bacterial helicase NS3 activity. For example, the human polyclonal antibody SAB301 (50 mg / kg), obtained from transgenic cattle, was well tolerated and safe in healthy participants in a clinical trial. However, it was observed that immune therapy with human monoclonal antibodies provided protection against the early stage of the disease caused by MERSCoV in mouse models. Host cell proteases are absolutely essential for infection to penetrate. The type II transmembrane serine protease TMPRSS2 is believed to be an important host protease that can cleave and activate the CoV spike protein of severe acute respiratory syndrome in cell culture, therefore it has been investigated as a potential antiviral drug. In the last decade, camostat mesylate, a serine protease inhibitor, has been shown to inhibit the activity of the TMPRSS2 enzyme. In addition, cysteine PI K11777 has shown promising potential to inhibit the replication of MERSCoV and SARSCoV in the subsonic range. In a recent survey in China. In addition, cilizumab is a monoclonal antibody used in the treatment of

exacerbations of RA, and it is designed to inhibit the binding of interleukin 6 to its receptors, thereby alleviating cytokine release syndrome. An investigation into the treatment of COVID-19 is also ongoing. [58,59]

VI. MECHANISM OF ACTION OF MAJOR REPURPOSABLE DRUGS AGAINST COVID-19 PATHOGEN-TARGETING STRATEGIES

Despite the rapid progression of the COVID-19 pandemic, unfortunately, antiviral or other drugs are not yet recognized for the fight against COVID-19; however, the sudden outbreak prompted the reintroduction of pre-existing drugs that were found to be active against HIV, MERS and SARSCOV1. [60]

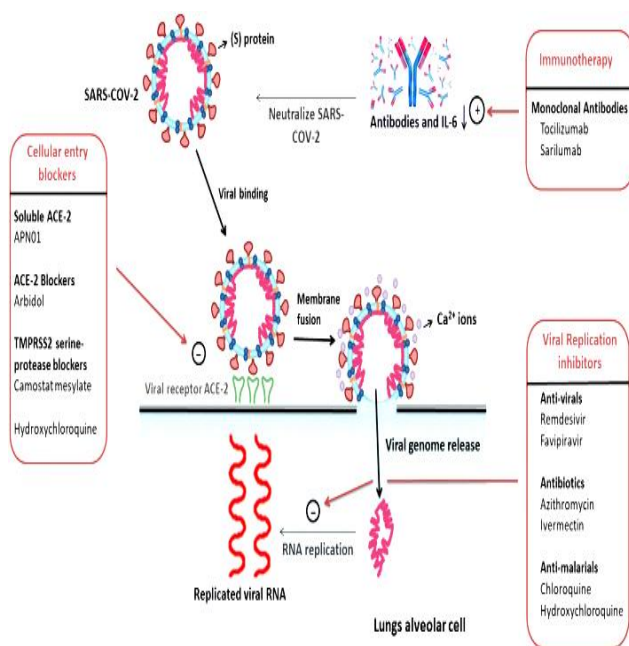


Fig. V: Mechanism of action of major repurposing agents against COVID-19

VII. CONCLUSION

COVID-19 turned into a global pandemic in a short time, resulting in rapid changes in the patient curve, increased mortality and global economic burden, large and widely

mobilized health resources. As a new disease, COVID-19 is considered a mysterious infection for medicine, which also requires a large amount of research and knowledge about the nature of the virus and often creates problems for successful vaccination results. This disease requires active local and international collaboration to contain the disease, prevent innovative strategies and treatment approaches. Remdesivir remains an investigational drug for the treatment of COVID-19 at this time. While this is associated with shorter hospital stays and faster clinical recovery, no benefit has been demonstrated in terms of mortality. These results do not provide clear evidence for the effectiveness and safety of remdesivir against COVID-19. It has been suggested that remdesivir is unlikely to be able to achieve adequate lung tissue concentrations only by intravenous infusion due to its low tissue distribution and poor lung penetration. Lopinavir / ritonavir and ribavirin have been tested for SARS with a clearly favorable clinical response, convalescent plasma and mesenchymal stem cells, and drugs including remdesivir, hydroxychloroquine, azithromycin, and favipiravir. (IBV) is still under study. We conclude that current work can help health researchers develop antiviral vaccines against COVID-19 and help regulators control the spread of COVID-19.

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