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3.7.1: Average number of Collaborative activities for research, faculty exchange, student exchange/ Industry-internship etc per year

**Title of the Collaborative activity:** Antibacterial property of bio dentine and mineral trioxide aggregate cement against streptococcus and enterococcus,

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Name of the participants: Nishu Vaki, Balbir Kaur, V.K. Chhoker,

Abhishek Singh, Venkatesan M

Year of collaboration: 2017-18

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Original Research Article

# Antibacterial Property of Biodentine and Mineral Trioxide Aggregate Cement Against Streptococcus and Enterococcus

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#### **Abstract**

**Background:** Removal of endodontic infection is quite different from most other sites in the human body. **Aim:** To investigate the antibacterial property of biodentine and mineral trioxide aggregate cement against Streptococcus and Enterococcus. **Methods:** Antibacterial activity of Biodentine and mineral trioxide aggregate was evaluated by the agar diffusion method against E. faecalis and S. mutans among sixty patients. The experimental materials included 50 mg Biodentine and 50 mg mineral trioxide aggregate. The diameter of microbial inhibition zones around each well was measured to the closest size in mm with a digital caliper. **Results:** Biodentine produced 3.02±0.27 mm inhibition zone against Streptococcus mutans and Enterococcus faecalis within 24 hours. This difference between the S. mutans and E. faecalis was not statistically significant. Sililarly Mineral trioxide aggregate produced 2.01±0.22 mm inhibition zone against Streptococcus mutans and Enterococcus faecalis within 24 hours. **Conclusion:** Biodentine showed us encouraging results against Streptococcus and Enterococcus compared to mineral trioxide aggregate by creating higher inhibition zones.

**Keywords:** Biodentine, mineral trioxide aggregate, treatment, streptococcus.

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#### INTRODUCTION

Removal of endodontic infection is quite different from most other sites in the human body. Host measures that are sufficient to eliminate infectious microorganisms in other sites do not suffice for complete elimination of endodontic infection mainly because of complex anatomy of the pulp space system [1]. Debridement of the pulp space system by instrumentation and irrigation in collaboration with prevention of re-infection is considered the most important factor in prevention and treatment of endodontic diseases [2].

Microorganisms are able to survive in periods of starvation and predominate even post thorough cleaning and shaping of the pulp space [3]. The most frequently isolated antimicrobial resistant species, by far in previously root filled teeth with apical periodontitis are Streptococcus mutans and Enterococcus faecalis [4].

Setting time is little long for mineral trioxide aggregate thus chances of staining of tooth structure,

poor handling characteristics, low resistance to compression and high cost are some of its disadvantages [5]. Biodentine decreases this setting time to 9–12 min but cannot be used in the presence of moisture [6]. Therefore, the present study was to investigate the antibacterial property of biodentine and mineral trioxide aggregate cement against Streptococcus and Enterococcus.

#### **METHODS**

This cross-sectional study was planned by a dental hospital of Jammu region. Antibacterial activity of Biodentine and mineral trioxide aggregate was evaluated by the agar diffusion method against E. faecalis and S. mutans among sixty patients. The experimental materials included 50 mg Biodentine and 50 mg mineral trioxide aggregate. The manufacturer's instructions were followed for better compliance.

The bacterial stock culture E. faecalis was obtained and culture was grown overnight in brain heart infusion broth and inoculated in Mueller-Hinton agar plates. S. mutans was inoculated onto blood agar media.

**Title of the Collaborative activity:** Comparison of PCR over other

techniques for diagnosis of fungal rhinosinusitis in chronic rhinosinusitis

patients.

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Name of the participants: Nitya Verma, Dakshina Bisht,

VeerendraVerma, Prashant Gupta, Ajay singh

Year of collaboration: 2017-18

#### ORIGINAL RESEARCH PAPER

#### INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

#### COMPARISON OF PCR OVER OTHER TECHNIQUES FOR DIAGNOSIS OF FUNGAL RHINOSINUSITIS IN CHRONIC RHINOSINUSITIS PATIENTS.



Microbiology		
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Dr. Ajay Singh	Associate Professor, Department of Pathology, King George's Medical University, Lucknow	

#### **ABSTRACT**

Fungal rhino sinusitis (FRS) is an important infection of para nasal sinuses, which encompasses two main categories; invasive and non invasive forms according to histopathological findings. Aspergillus spp are the most common species isolated. Given the importance of rapid diagnosis for fungal rhinosinusitis, this study aimed to evaluate the use of PCR for diagnosis of fungal infection in cases suspected with FRS. Seventy six patients suspected to fungal rhino sinusitis were investigated in a cross-sectional prospective study from June 2009 to Sep 2013. All patients under went endoscopic sinus surgery following CT scan. Tissue biopsies were investigated for culture, microscopy, histopathology and PCR. In total, 76 patients were diagnosed with chronic fungal rhinosinusitis (CFR'S) over the 3 years of period of this study. Of total 43(56.58%) were male and 33 (43.42%) female, with a male to female ratio of 1.3:1. Of total 76 patients tested, 42 (55.26%) were positive by at least one of the test. All the patients/specimens were screened by all the methods and the highest positivity was found in PCR with 35.53% (n=27) positivity, followed by culture with 27.63% (n=21) positivity and KOH microscopy with 21% (n=16), while radiology and histopathology detected in 18.42% (n=14) cases. While facial pain was directly associated with FRS. The PCR assay thus provides a rapid and reliable option for laboratory diagnosis of fungal rhinosinusitis. This study demonstrated that PCR could be complementary diagnostic techniques to detect fungi in nasal specimens from CRS patients.

#### **KEYWORDS**

FRS, PCR, aspergillus.

#### Introduction:

One of the most common inflammation in human caused by rhinosinusitis (RS) to the aggravation of nasal and paranasal sinus mucosa due to microscopic organism (bacteria or fungi). In Western industrialized countries approximately 15% of adult population is affected by Chronic rhinosinusitis(CRS). The clinical symptoms and radiological signs of RS infection are the same but treatment varies depending on whether the etiological agent is bacterial, viral or fungal. In recent years especially in North India fungi are remarkable reason for sinusitis and occurrence of such disease. Aspergillus is the most well-known pathogen in contagious rhinosinutis.

Fungal rhinosinusitis has been a known theurapeutic element for a few hundred years yet just in later circumstances the component has been further defined. FRS involve a wide range of process which differ in introduction, histological appearances and clinical importance.

This infectious element is progressively being perceived due to the understanding, better technique of specimen collection, culture of fungi and unusual staining pathological examination. The gold standard method for the diagnosis of FRS, is isolation of the etiologic agent by culture. The sensitivity of culture under normal condition varies depending on the fungal species. Early diagnosis and accurate identification of pathogenic fungal species are crucial for effective treatment and clinical decision-making.<sup>2</sup> Currently, diagnosis of fungal sinusitis still depends on histopathological examination and culture from nasal biopsy, but conventional culture-based phenotypic identification techniques often include significant delays and can fail to yield growth in clinical samples.<sup>3</sup> In a significant number of cases, fungal culture is negative and only formalin-fixed paraffin-embedded (PE) tissue specimens are available for diagnosis of fungal infection.

However, rapid diagnosis of surgical tissues is urgently needed in acute invasive infection cases. In addition, histopathological observations of fungal shape and arrangement may not be sufficient for the accurate identification of fungal species if only a limited quantity of anamorphic fungal hyphae is present. Therefore, to improve the outcome for fungal

rhinosinusitis patients, the rapid and accurate detection and identification of pathogenic fungal species are needed to allow early initiation of targeted therapy.

Molecular methods to diagnose fungal infections do not necessarily require the existence of viable organisms, and unlike culture methods, the former can detect very small amounts of the agent in the sample volume. Among the molecular approaches currently available, polymerase chain reaction (PCR)- based techniques have been used to identify fungi in clinical samples. Several studies have reviewed the specificity and sensitivity of molecular methods to detect various types of fungi.

#### Material and Methods:

In a prospective cross-sectional study conducted between a period from September 2014 to August 2016. 76 patients with complaint of rhinosinusitis were enrolled from Department of ENT, KGMU, Lucknow & Department of ENT Santosh Medical University, Ghaziabad, U.P. and Department of Microbiology, KGMU and Santosh Medical University, U.P. The patients had features of acute rhinosinusitis and nasal mass/polyps in endoscopic examinations with sinus involvement in CT scan findings after obtaining informed consent were taken from each patients included in this study while patients suffering from other diseases like congenital mucocillary disorder, atrophic rhinitis, systemic disease causing problems. All the enrolled patients underwent Functional Endoscopic Sinus Surgery (FESS). Tissue biopsies were taken to evaluate histopathological, fungal culture, PCR and microscopy characteristics of these infections. Antimicrobial susceptibility testing of the fungal isolates were done by disc diffusion (M51-A) and broth micro dilution (M38-A2) methods of CLSI.

All the specimens received were processed by standard methods for fungal culture. The tissue specimens, after mincing into pieces, were subjected to initial screening by 10% potassium hydroxide (KOH) using light microscopy to look for fungal elements (septate or aseptate, hyaline or dematiaceous). Rest of the specimen was inoculated in

**International Journal of Scientific Research** 

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Title of the Collaborative activity: Detection of mycobacterium

tuberculosis DNA in sputum samples with MPB64 gene primers using

polymerase chain reaction

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Year of collaboration: 2017-18

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#### RESEARCH ARTICLE

# DETECTION OF MYCOBACTERIUM TUBERCULOSIS DNA IN SPUTUM SAMPLES WITH MPB 64 GENE PRIMERS USING POLYMERASE CHAIN REACTION.

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#### Manuscript Info

#### Manuscript History

Received: 15 February 2018 Final Accepted: 17 March 2018 Published: April 2018

#### Keywords:-

Tuberculosis; Cough; Ziehl-Neelsen staining; Sputum.

#### Abstract

Tuberculosis (TB) is preventable and curable, but it can lead to death if no actions are taken. In order to prevent transmission, it is necessary to identify infectious TB patients in a timely manner. The present study was aimed to detect the mycobacterium tuberculosis DNA in sputum samples with MPB 64 gene primers using PCR. Hundred patients were enrolled in the study based on inclusion and exclusion criteria. Sputum samples were collected and processed for the required procedure. Ziehl-Neelsen staining was done and slides were examined under microscope. DNA was extracted from the samples and amplified using PCR. Staining results of both spot and morning samples was compared under microscope with grading.

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#### Introduction:-

Tuberculosis must have been a scourge since mankind existed as reports of this dreadful disease are recorded centuries back. Tuberculosis is the major public health problem. In 1993, the World Health Organization (WHO) in an unprecedented step declared tuberculosis a global emergency. The fact sheet of global tuberculosis is stunning. World Health Organization (WHO) emphasized both the large death toll from tuberculosis, which kills more people than any other single infections agent, and the curability of the disease (Alcaide et al., 2000).

The family mycobacteriaceae consists of more than 80 different species and more than half of them may be isolated from humans. Most of them are apathogenic, but may cause disease in immunocompromised patients. The pathogenic species, the members of the *M. tuberculosis* complex (MTC) and *M. leprae*, cause tuberculosis and leprosy, respectively. MTC comprise *M. tuberculosis*, *M. africanum*, *M. bovis*, *M. bovis* BCG, *M. caprae*, *M. microti* and *M. canetti* (Britten, 2005). The natural host of *M. tuberculosis* and *M. africanum* are humans, whereas *M. bovis* can cause disease in a wide range of animals like cattle or goats, as well as in humans (Cegielski et al., 1997).

The emergence of drug resistant strains of *M. tuberculosis* is an increasing problem in developed and developing countries (Klemen et al., 1998; Kolk et al., 2003). Drug resistance tuberculosis has been reported since the early days of introduction of anti TB chemotherapy, but multidrug resistance tuberculosis (MDR-TB) have been areas of growing concern, and are posing a threat to global effort of tuberculosis control. Prevalence of drug resistance tuberculosis (TB) mirrors the functional state and efficacy of tuberculosis control programs and realistic attitude of the community towards implementation of such program (Dunlop and Briles, 1993). Poor tuberculosis (TB) control generates MDR-TB and the misuse of second line drugs generates XDR-TB. More than 4000 cases of MDR-TB emerge every year as a result of poor management of drug sensitive as well as drug resistant tuberculosis (TB).

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Title of the Collaborative activity: Evaluation of PCR based

techniques for the detection of mycobacterium tuberculosis complex in sputum samples

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Year of collaboration: 2017-18

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# "Evaluation of PCR – Based Techniques for the Detection of Mycobacterium Tuberculosis Complex in Sputum Samples"

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Abstract: Tuberculosis has been one of the major causes of death globally. Due to the high risk of contact transmission. This has led to the increase in the morbidity and mortality rates and several countries have been endemic, especially in the developing countries. Ranked as the second leading cause of morbidity from communicable diseases after HIV/AIDS. Study evaluated the Mycobacterium T. complex from sputum samples and perform PCR using IS6110 gene sequence to detect MTB complex. Crossectional study design with sample of 100 collected from the OPD and IPD conveniently at the department of micro-biology. Study period was from Aug., 2012 to Aug., 2015. Sputum samples for smear culture was collected as per the RNTCP guidelines. About 70% of the males and 30% of females were susceptible. Of which at 72weeks reported 86% with cough. Those with severe fever were about 73%, chest pain 60%, breathlessness 70% and loss of appetite 78%. Among the 100 sample in the ZN staining, 14% was positive and 86% negative. In the PCR sputum sample, 67% was negative and 33% positive. On comparing ZN smear positive and PCR, the sensitivity of PCR test was 100% in smear positive samples. While smear negative were also positive in PCR and sensitivity of PCR was 20.9%. In conclusion, isolation of 100 samples using microscopy and PCR indicated that there were discordance in 19% cases. Great care should be taken in designing primer pairs for the insertion sequence IS6110 to avoid false negative or false positive results. Pulmonary T. patients are more likely to be present with the specific symptoms. The yield of sputum smear positive Pulmonary T. cases can be improved if patients with more than 2weeks history of cough are screened to diagnose such cases. Therefore there is urgent need for modern techniques especiallyin developing countries to facilitate better outcome of diagnosis and public health control measures.

Keywords: Mycobacterium Tuberculosis, Mortality, ZN staining, Sputum positive

Date of Submission: 29-05-2018 Date Of Acceptance: 14-06-2018

#### I. Introduction

The world health organization (WHO), South –Eastern Asia Region has reported Tuberculosis (TB) to be a major public health concern. India alone accounts to about 26% out of the 36% global burden of diseases. An estimate of about 3.4 million cases continue to occur year after year and especially 450,000 that died in 2012. Majorly from these five countries: Bangladesh, Thailand, India, Indonesia and Myanmar. Out of these patients, the percentage with HIV status was 39% and about 6% were reported positive. HIV- TB patients on co-trimoxazole preventive therapy was 89% and 69% on antiretroviral therapy (ART). More also, multiresistant drugs level are low in the region at 2.2%. Allowing this to translate into about 0.0009million multi drug resistant (MDR-TB) in 2012 among the TB cases reported [1]. The genus Mycobacterium bacterial, non-motile-sporulated rod like shaped, grouped into the rank of actinomycetes an estimated amount of 60-71% guanine plus cytocine [G+C] in the genomic deoxyribonucleic acid (DNA), in the wall with high lipid content and might be the highest among all bacteria [2]. In the ethology of TB within the M. tuberculosis complex called the tubercle bacilli, have different host like the zoonotic pattern and the reservoir. The M. Africanus, M. canetti, are subtypes of M. tuberculosis that are usually in humans. While M. bovis and M. microti are TB causative agents in animals but can be transmitted to humans [1].

Microscopic morphology of the habitat

In smear stained with carbon fuchsine or auramine, the tubercle bacilli, examined under the microscope, appears straight or slightly curved rod. When under the microscope does not allow mainly M. tuberculosis from the other mycobacterium. There are factors necessary for the growth and condition of the bacilli. Age is one of such factors of the culture, with the bacilli varying in size, and in shape, from short to long

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Title of the Collaborative activity: A qualitative study to evaluate

effect of sleep on handgrip strength and cognition

Name of the collaborator: 1. Ritu Rani - Junior Research Fellow,

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Name of the participants: Ritu Rani, Rinku Garg, Himanshu Thukral

Year of collaboration: 2017-18

#### INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

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# A QUALITATIVE STUDY TO EVALUATE EFFECT OF SLEEP QUALITY ON HANDGRIP STRENGTH AND COGNITION.

Physiology	
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#### **ABSTRACT**

**Background:** It is often seen that college students struggle to get enough sleep whether it is due to studies or their lifestyle. This affects their sleep habits, making it overwhelmingly negative. This inconsistent sleep patterns, lack of efficient sleep, late bed times and other sleep related problems negatively affect quality of life.

Objective: In this we tried to report the effect of sleep quality on student's cognitive performance and handgrip strength.

**Methods:** 73 healthy female students were assessed using the Pittsburgh Sleep Quality Index (PSQI). On basis of PSQI out of 73 students, there were 29 good sleepers and 44 poor sleepers. Their hand grip strength and visual reaction time was measured. Statistical analysis was performed using R software (v. 3.2.5). P value was considered to be significant at (p<0.05).

**Results:** On the basis of data analysis, it was found that good sleepers have significantly higher cognitive functions than poor sleepers. Their hand grip strength was not found significant in comparison with good and poor sleepers.

 $\textbf{Conclusion:} \ \text{We may conclude that, quality of sleep does have positive correlation with cognitive changes.}$ 

#### **KEYWORDS**

Cognition, Strength, Sleep Quality, Reaction Time

#### Introduction

Beginning a college life is a dream of every school student. As they won't have to get up early in the morning, bunking lectures, roaming around late in the night. In a simple term it is a carefree and reckless style of living for some. Few students take it as a new life to make their career in the field of their choice and to pursue their dreams they have to leave home and stay in hostel. They live away from family for a specific time period with change in lifestyle different from their home environment. In this way they learn to live independently and somehow learn how to compromise and adjust with their new home and inmates [1]. Hostel life makes them face few difficulties and hurdles such as changes in eating and sleeping habits. And if these habits are disturbed than it might even affect mental and social wellness.

Getting enough quantity with good quality of sleep at night time, can help to ensure our psychological wellness, physical wellbeing, personal satisfaction, safety and normal functioning of all the system of the body; including the immune system. In humans, the metabolic activity of the brain decreases significantly after 24 hours of sustained wakefulness. In children and youngsters, sleep also helps in overall growth and development, as release of growth hormone and increased production & breakdown of proteins takes place mainly during deep sleep. Sleep deprivation hinders physical and mental development, which might adversely influence focus, performance, behavior, emotional well-being. In a recent meta-analysis, both short and long sleep duration are found to be critical indicators of all-reason of mortality, including cardiovascular and non- cardiovascular death [2]. Poor sleep quality (e.g. trouble falling asleep, staying asleep or fragmentation) has itself been related to higher risk of diseases [3].

Sleep is crucial for organisms to adjust to their surroundings and accordingly it is essential for the development and survival. It is characterized behaviorally as a physiological condition of rapidly reversible state of immobility, connected with characteristic posture, decreased motor actions and expanded threshold for external tactile stimulation [4].

Reaction time (RT) in simple words is a time taken by the individual to respond to the stimulus. RT task that includes visual reaction time can be used to test higher cognitive functioning among individuals [5]. For individuals concentration also we can go for RT task [5]. Whereas concentration is main factor for good results, while distraction from task may affect your results [6]. It has been stated that an individual who is deprived of sleep for longer duration, less likely to perform well and with consistent in a cognitive task such as RT task [7].

People deprived of sleep often tend to chronic fatigue [8]. Sleep deprived also result in work place injuries and poor mental health [9]. There are cohort studies also on large scale which established relationship between sleep deprivation and mortality [10]. This allows us to see whether there is any effect of sleep quality on muscle strength.

In this study we focused on understanding the link between sleep, muscle strength (handgrip) and visual reaction time (VRT). The purpose is to investigate the cross-sectional association between sleep quality and its effects on healthy individual by means of three parameters, the Pittsburgh Sleep Quality Index for evaluation of subjective sleep duration and quality [11], and handgrip strength using standard adjustable handgrip dynamometer and VRT using on-line reaction time [12].

#### Material and Methods Subject Selection

73 healthy female participants (university students) from medical college were included into this study by cross-sectional design. Exclusion criteria for the study were any history of smoking or alcoholic habits, any orthopedic or neurologic diseases and respiratory diseases. A written consent was taken from all participants before commencement of the study. All the participants were assessed clinically through history taking and detailed clinical examination before the study. The study protocol was approved by the Institutional Ethical Committee on the use of Human as an Experimental Subjects and experiment conforms to the principles outlined by the Declaration of Helsinki protocol, 1964.

#### **Experimental Design**

Sleep quality was assessed using the Pittsburgh Sleep Quality Index (PSQI). It differentiates "good" from "poor" sleep quality by measurement of seven areas (components): subjective quality of sleep, latency of sleep, duration of sleep, efficiency of habitual sleep, disturbances in sleep, medications use for sleep, and dysfunction during daytime in the previous month. Grip strength was measured in the position; seated on chair with back support and arm rest, shoulder abducted, elbow 90 degree flexed, forearm and wrist in mid-position [13]. Hold the dynamometer by dominant hand. Instructor gave the instructions to squeeze around dynamometer as much as one can. Instructor was to stand in front of dentist to read the amount of force. We took handgrip measurements in kg unit as the subject squeeze around it. Visual reaction time (VRT) task included a set of traffic lights, when the light turned green the participant must hit a button to record their reaction time and must complete the task five times. After demonstrating the procedure, subjects were asked to respond to visual stimuli by pressing the response key with the index finger of their

**Title of the Collaborative activity:** Amplification of Hsp 65 gene and usage of restriction endonuclease for identification of non tuberculous rapid grower mycobacterium

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Year of collaboration: 2017-18

# Amplification of Hsp 65 gene and usage of restriction endonuclease for identification of non tuberculous rapid grower mycobacterium

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## Highlights

- Rapid identification of mycobacterial species vital for specific treatment regimen.
- Restriction enzyme analysis (REA) is simple, sensitive, rapid and laboursaving.
- 87% of rapid growers are M. chelonae and M fortuitum while M. chelonae is most common.

Title of the Collaborative activity: Assessment of pattern of Drug

Utilization of Antimicrobials in the in-patient setting of a Tertiary

Hospital: An Observational Study

Name of the collaborator: 1. Vinay Sharma Associate Professor,

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Name of the participants: Dr Jyotsna Sharma, Dr Vinay Sharma, Dr Alka

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Year of collaboration: 2017-18

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# Assessment of Pattern of Drug Utilization of Antimicrobials in the In-Patient Setting of a Tertiary Hospital: An Observational Study

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#### **ABSTRACT**

**Background:** Antibiotics are the most frequently prescribed drugs among hospitalised patients. The programs which are designed to encourage appropriate antibiotic prescriptions in health care institutions are an important element in the quality of care, infection control and cost control. Hence; the present study was conducted for assessing pattern of drug utilization of antimicrobials in the in-patient setting of a Tertiary hospital.

**Materials & Methods:** A total of 100 patients were analyzed. Only those patients were assessed who were prescribed antimicrobials at the time of the visit. Complete analysis of the prescriptions was done using a self-framed questionnaire. A data base was generated which involved the detailed pattern of drug utilization of antimicrobials in the in-patient setting. All the results were recorded in Microsoft excel sheet and were analyzed by SPSS software.

**Results:** Gentamicin, Metronidazole, Ciprofloxacin, Cephalexin, Amoxicillin and Erythromycin were the most commonly prescribed antimicrobials in the present study.

**Conclusion:** No specific pattern of antimicrobial prescribing practice in tertiary care center. Hence; choice of antibiotics is largely chosen on the basis of specific pathology.

Key words: Antimicrobial, Drug, Prescription.

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DOI: 10.21276/ijmrp.2018.4.6.072		

#### INTRODUCTION

Antibiotics are the most frequently prescribed drugs among hospitalised patients. The programs which are designed to encourage appropriate antibiotic prescriptions in health care institutions are an important element in the quality of care, infection control and cost control. The studies on the prescribing patterns seek to monitor, evaluate and suggest modifications in the practitioners' prescribing habits, so as to make medical care rational and cost effective.<sup>1-3</sup>

The information on the antibiotic use patterns is necessary to make a constructive approach to the problems that arise from the multiple antibiotics which are available. Drug utilisation research holds a crucial place in clinical practice as it forms the basis for making amendments in the drug dispensing policies at local and national levels. The ultimate goal of such research is to facilitate rational drug use. Also, since it helps in developing strategies to utilize health resources in the most efficient manner, it is particularly needed in a developing economy like India where 72% of all health care burden is borne by the patients.<sup>4-6</sup> Hence; the present study was conducted for assessing pattern of drug

utilization of antimicrobials in the in-patient setting of a Tertiary hospital.

#### **MATERIALS & METHODS**

The present study was conducted in the Department of Pharmacology, Santosh Medical College & Hospital, Ghaziabad, Uttar Pradesh (India) and it included assessment of pattern of drug utilization of antimicrobials in the in-patient setting. Ethical approval was obtained before the starting of the study. In the present survey, complete inquiry was done for obtaining the knowledge about all anti-microbial prescriptions for all the inpatients. A total of 100 patients were analyzed. Only those patients were assessed who were prescribed antimicrobials at the time of the visit. Complete analysis of the prescriptions was done using a self-framed questionnaire. A data base was generated which involved the detailed pattern of drug utilization of antimicrobials in the in-patient setting. All the results were recorded in Microsoft excel sheet and were analyzed by SPSS software.

Title of the Collaborative activity: Comparision of effectiveness of

Arthrocentesis with or without intrarticular platelet rich plasma injection

in refractory TMJ pain dysfunction syndrome

Name of the collaborator: ESIC Dental Collage & Hospital, Sec-15,

Rohini Delhi

Name of the participants: Lokesh Chandra

Year of collaboration: 2017-18





### **Letter of Research Collaboration**

This is hereby agreed with Santosh University (Ghaziabad) through respective authorized signatories of **ESIC Dental College & Hospital, Delhi** Collaborates for Research as per following details:

Title of Research: <u>Comparison of effectiveness of Arthrocentesis with or without intraarticular Platelet Rich Plasma injection in refractory Temporomandibular Joint Pain Dysfunction Syndrome</u>

Name of Primary Researcher: <u>Dr. Lokesh Chandra</u>

Co-Researcher (if any):

Research Location: Santosh University (Ghaziabad)/ ESIC Dental College & Hospital, Delhi

Co-guide/Mentor Allocated: <u>Dr. Dhirendra Srivastava</u>

Designation & Address of Co-guide/Mentor: <u>Professor, ESIC Dental College & Hospital, Sec-15, Rohini, Delhi</u>

Duration of Project: from 2017 to 2021

Under this agreement, the two institutions agree to share their infrastructure and resources for the said research work.

Name and Signature of HOD/Principal/ Dean-Santosh University

No.1, Santosh Nagar, Pratap Vihar, Ghaziabad, Uttar Pradesh 201009 Name and Signature of HOD/Principal/Dean (Collaborating Institute)

Title of the Collaborative activity: A study of serum dihydrotesterone

level and lipped profile in type II diabetes mellitus

Name of the collaborator: Department of physiology, IMC Moradabad -

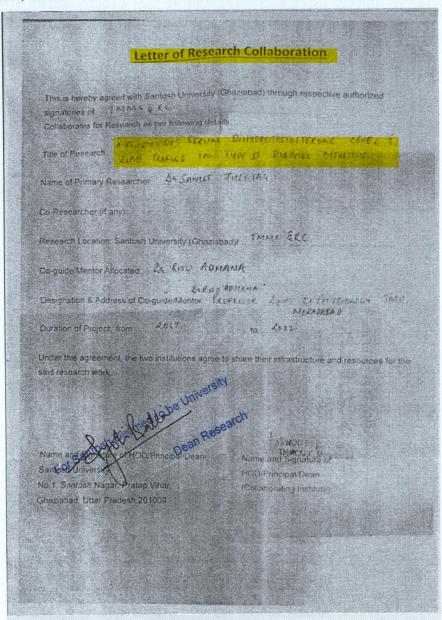
244001

Name of the participants: S Jheetag

Year of collaboration: 2017-18

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43 Physiology- Sanket Jheetay(2017-2022).jpeg



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Title of the Collaborative activity: Association between chronic

obstructive pulmonary disease and peripheral arterial disease in

construction workers: A cross sectional study

Name of the collaborator: Department of physiology, DVV PF's Medical

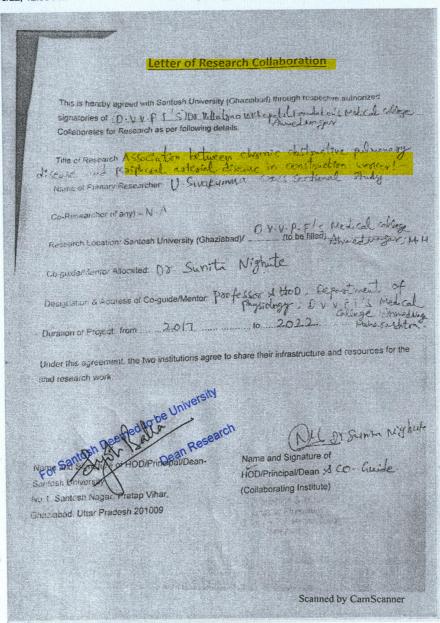
Collage Ahmednagar - 414111 Maharshtra

Name of the participants: U SivaKumara

Year of collaboration: 2017-18

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44 Physiology- U Sivakumar (2017-2022).jpeg



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https://grive.google.com/file/d/1IOaWiGj6csZ4aPA1S8Xc7EIHAjr5J6Ag/view 1/1

Title of the Collaborative activity: Association of Osteopontin with

oxidative stress and ferritin in anemic subjects with Hypothyroidism

Name of the collaborator: Department of Biochemistry, Muzaffarnagar

**Medical College** 

(Muzaffarnagar)-251203

Name of the participants: Sumesh P Sah

Year of collaboration: 2017-18





## Letter of Research Collaboration

This is hereby agreed with Santosh University (Ghaziabad) through respective authorized signatories of <u>Muzaffarnagar Medical College (Muzaffarnagar)</u> Collaborates for Research as per following details:

Tittle of Research: Association of osteopontin with oxidative stress and ferritin in anemic subjects with hypothyroidism

Name of Primary Researcher: Sumesh Prasad Sah

Co-Researcher (if any): NIL

Research Location: Santosh University (Ghaziabad)/ Muzaffarnagar Medical College (Muzaffarnagar)

Co-guide/Mentor Allocated: Dr. Manisha Arora

Designation & Address of Co-guide/Mentor: Professor/ Muzaffarnagar

Duration of Project: from ......2017......to.....2020......

Under this agreement, the two institutions agree to share their infrastructure and resources for the said research work.

Name and Signature of HOD/Principal/

Dean-Santosh University

No.1, Santosh Nagar, Pratap Vihar, Ghaziabad, Uttar Pradesh 201009 Name and Signature of HOD/Principal/Dean (Collaborating Institute)03

Title of the Collaborative activity: Morphometric Study of

Endometrium by Ultrasonography and Its Histology as a Fertility

**Determining Factor in North Indian Population** 

Name of the collaborator: Department of Anatomy, Government

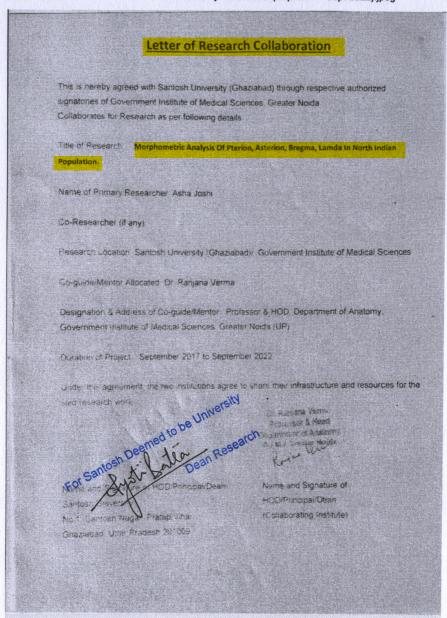
Institute of Medical Science Greater Noida (UP)-201306

Name of the participants: Asha Joshi

Year of collaboration: 2017-18

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60 Anatomy-Asha Joshi (Sept 2017- Sept 2022) jpeg



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candidiasis.

Title of the Collaborative activity: Molecular characterization of Non

Albicans candida in cancer patients with positive oropharyngeal

Name of the collaborator: Department of Microbiology varun arjun

medical college Rohilkhand Hospital ,Banthra ,shahjanpur, UP-242307

Name of the participants: Amit Kumar Singh

Year of collaboration: 2017-18





## **Letter of Research Collaboration**

This is hereby agreed with Santosh University (Ghaziabad) through respective authorized signatories of <u>Varun Arjun Medical College and Rohilkhand Hospital NH 24, Banthra Shahjahanpur (UP).</u> Collaborates for Research as per following details:

Tittle of Research: Molecular Characterization of Non-albicans Candia in Cancer Patients with Positive oropharyngeal candidiasis.

Name of Primary Researcher: Amit Kumar Singh

Co-Researcher (if any): NIL

Research Location: Santosh University (Ghaziabad) & Varun Arjun Medical College and Rohilkhand Hospital NH 24, Banthra (Shahjahanpur)

Co-guide/Mentor Allocated: Dr. Hariom Sharan

Designation & Address of Co-guide/Mentor: H.O.D. (Professor), Department of - Microbiology

Duration of Project: from ......2017......to......2020......

Under this agreement, the two institutions agree to share their infrastructure and resources for the said research work.

Name and Signature of HOD/Principal/ Dean-Santosh University No.1, Santosh Nagar, Pratap Vihar, Ghaziabad, Uttar Pradesh 201009 Name and Signature of HOD/Principal/Dean (Collaborating Institute

Title of the Collaborative activity: Comparision of effectiveness of

Arthrocentesis with or without intrarticular platelet rich plasma injection

in refractory TMJ pain dysfunction syndrome

Name of the collaborator: ESIC Dental Collage & Hospital, Sec-15,

Rohini Delhi

Name of the participants: Lokesh Chandra

Year of collaboration: 2017-18





### **Letter of Research Collaboration**

This is hereby agreed with Santosh University (Ghaziabad) through respective authorized signatories of **ESIC Dental College & Hospital, Delhi** Collaborates for Research as per following details:

Title of Research: <u>Comparison of effectiveness of Arthrocentesis with or without intraarticular Platelet Rich Plasma injection in refractory Temporomandibular Joint Pain Dysfunction Syndrome</u>

Name of Primary Researcher: <u>Dr. Lokesh Chandra</u>

Co-Researcher (if any):

Research Location: Santosh University (Ghaziabad)/ ESIC Dental College & Hospital, Delhi

Co-guide/Mentor Allocated: <u>Dr. Dhirendra Srivastava</u>

Designation & Address of Co-guide/Mentor: <u>Professor, ESIC Dental College & Hospital, Sec-15, Rohini, Delhi</u>

Duration of Project: from 2017 to 2021

Under this agreement, the two institutions agree to share their infrastructure and resources for the said research work.

Name and Signature of HOD/Principal/ Dean-Santosh University

No.1, Santosh Nagar, Pratap Vihar, Ghaziabad, Uttar Pradesh 201009 Name and Spinature of HOD/Principal/Dean (Collaborating Institute)

Title of the Collaborative activity: A Pharmacovigilance study:-

Assessment, Evaluation and Monitoring of Adverse Drug Reactions

(ADRs) Associated with Antidiabetic / Antihypertensive Drugs in Tertiary

Care Teaching Hospitals

Name of the collaborator: Department of Pharmacology,

Muzaffanagar Medical Collage, Muzaffanagar -251203

Name of the participants: Lalendra Yadav

Year of collaboration: 2017-18





## Letter of Research Collaboration

This is hereby agreed with Santosh University (Ghaziabad) through respective authorized signatories of Muzaffarnagar Medical College, Muzaffarnagar Collaborates for Research as per following details:

Title of Research: "A pharmacovigilance Study: Assessment, Evaluation And Monitoring of Adverse Drug Reaction (ADRs) Associated With Anti Diabetic/Antihypertensive Drugs in Tertiary Care Teaching Hospitals"

Name of Primary Researcher: LALENDRAYADAV (PhD Scholar Medical Pharmacology)

Co-Researcher (if any): NIL

Research Location: Santosh University (Ghaziabad)/ Muzaffarnagar Medical College

Co-guide/Mentor Allocated: Dr. Ila Pahwa, 2. Dr. Jyotsna Sharma / 3 Dr. Shaktibala Dutta

Designation & Address of Co-guide/Mentor: 1 (Prof. & Head of Medicine), Muzaffarnagar Medical College, Muzaffarnagar Z.(Asssoc. Prof of Pharmacology) Santosh Medical College & Hospital, Ghaziabad/3 (Prof. & Head of Pharmacology), Santosh Medical College & Hospital, Ghaziabad

Duration of Project: from ......September 2017......to.....September 2020......

Under this agreement, the two institutions agree to share their infrastructure and resources for the said research work.

Name and Signature of HOD/Principal/

Dean-Santosh University

No.1, Santosh Nagar, Pratap Vihar, Ghaziabad, Uttar Pradesh 201009 Name and Signature of HOD/Principal/Dean (Collaborating Institute)

Title of the Collaborative activity: A study of serum dihydrotesterone

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Name of the collaborator: Department of physiology, IMC Moradabad -

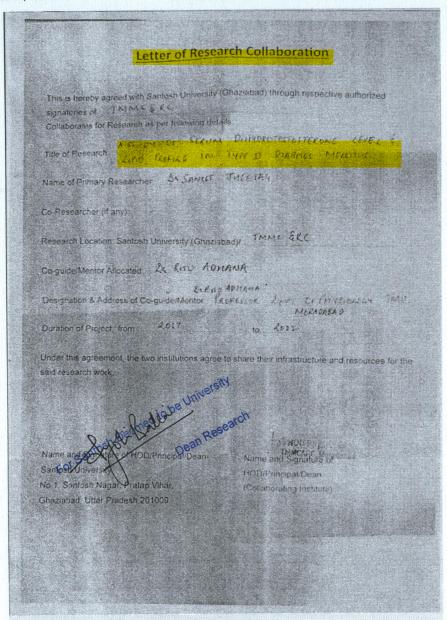
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Name of the participants: S Jheetag

Year of collaboration: 2017-18

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43 Physiology- Sanket Jheetay(2017-2022).jpeg



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Title of the Collaborative activity: Association between chronic

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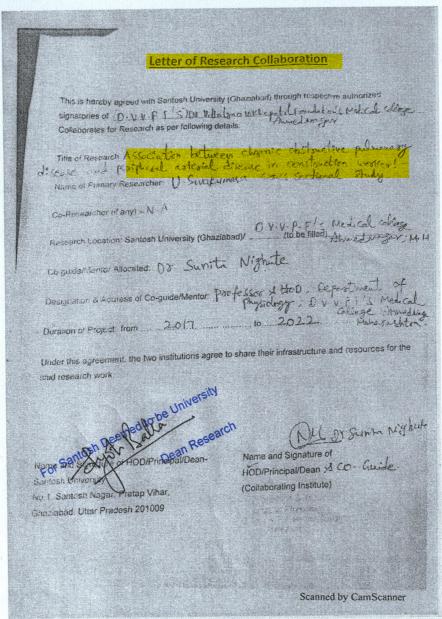
construction workers: A cross sectional study

Name of the collaborator: Department of physiology, DVV PF's Medical

Collage Ahmednagar - 414111 Maharshtra

Name of the participants: U SivaKumara

Year of collaboration: 2017-18



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https://grive.google.com/file/d/1IOaWiGj6csZ4aPA1S8Xc7EIHAjr5J6Ag/view 1/1

Title of the Collaborative activity: CT scan Evaluation of cervical canal

stenosis and associated facet joint Arthrosis

Name of the collaborator: Department of Rdiodiagnosis, Mayo

Institute of Medical Sciences, Gadia, Barabanki, (U.P)-225001

Name of the participants: Kanhaiya jee

Year of collaboration: 2017-18

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48 Anatomy-Kanhaiya Jee(Feb 2017-Aug 2022).jpeg

# **Letter of Research Collaboration** This is hereby agreed with Santosh University (Ghaziabad) through respective authorized signatories of Mayo Institute of Medical Sciences, Gadia, Barabanki-225001, Uttar Pradesh Collaborates for Research as per following details: \*CT SCAN EVALUATION OF CERVICAL CANAL STENOSIS AND Title of Research : ASSOCIATED FACET JOINT ARTHROSIS Name of Researcher: Kanhaiya jee Santosh University (Ghaziabad)/ Mayo Institute of Medical Sciences, Research Location : Gadia, Barabanki-225001 Co-guide Dr. Harshita pant Dept. of Rdiodiagnosis, Mayo Institute of Medical Sciences Duration of Project: From September 2017 to August 2022 Under this agreement, the two institutions agree to share their infrastructure and resources for the said research work. For Santosh Deemed to be Upiyers Name and Signature HOD/Principal/Dean-No.1, Santosh Nagar, PratapVihar, Ghaziabad, Uttar Pradesh 201009

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Title of the Collaborative activity: Association of Osteopontin with

oxidative stress and ferritin in anemic subjects with Hypothyroidism

Name of the collaborator: Department of Biochemistry, Muzaffarnagar

**Medical College** 

(Muzaffarnagar)-251203

Name of the participants: Sumesh P Sah

Year of collaboration: 2017-18

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48 Anatomy-Kanhaiya Jee(Feb 2017-Aug 2022).jpeg

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Title of the Collaborative activity: Morphometric Study of

Endometrium by Ultrasonography and Its Histology as a Fertility

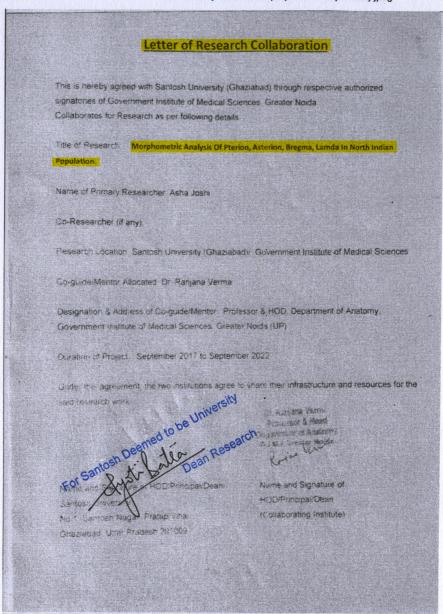
**Determining Factor in North Indian Population** 

Name of the collaborator: Department of Anatomy, Government

Institute of Medical Science Greater Noida (UP)-201306

Name of the participants: Asha Joshi

Year of collaboration: 2017-18



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nttps://drive.google.com/file/d/1BxU6li7NMTWsjXugxH2tWOXkosKD8bV0/view 1/1

Title of the Collaborative activity: To Study and Compare the Levels

of Interleukins-6, C - reactive protein And Other Biochemical Parameters

in Patient of Depression and Cell Phone Addiction with Non-Depressive,

Non Cell Phone Addicted Controls

Name of the collaborator: Department of Medicine, F. H. Medical

Collage EtmaDpur, Agra-283101

Name of the participants: Bhumija

Year of collaboration: 2017-18

# Letter of Research Collaboration

This is hereby agreed with Sentosh University (Charisball) through respective authorized a antists Medical College & Hospital, Suntosh Deemed to be University / F. H. Medical College

Collaborates for Research as per following details:

THE OF REMAIN TO STUDY AND COMPARE THE LEVELS OF INTERLEUKIN-4,C-REACTIVE PROTEIN AND OTHER BIOCHEMICAL PARAMETERS IN PATIENTS OF DEPRESSION AND CELL-PHONE ADDICTION WITH NON-DEPRESSIVE, NON CELL-PHONE ADDICTED CONTROLS

Name of Primary Researcher, BHUMIJA SHARMA

Co-Researcher (if any): -

Bracarth Location: Samoth University (Charlebody) F. H. MEDICAL COLLEGE ET AGRA

Co-goods Menter Allocated DR. ANIL SHARMA

Designation & Address of Co-guide Menter: Professor in Department Of Medicine, F. H. Medical College Etmadpur, Agra

Duration of Project from 2017 to 2021

Under this agreement, the two institutions agree to share their infrastructure and resources for the said research work-

For Santosh Deemed to be Univer

Principal Dean-Samour Spiversity

Na.1, Samuel Nagur, Pratap Vilur.

Ghariabad, Unor Pradesh 201009.

FH Medical College Etmadpur, Agra

(Callaborating Institute)

Title of the Collaborative activity: Sharing of Research Facility

Name of the collaborator: Department of Microbiology varun arjun

medical college Rohilkhand Hospital ,Banthra ,shahjanpur, UP-242307

Name of the participants: Amit Kumar Singh

Year of collaboration: 2017-18

Nature of the activity: Institution





# **Letter of Research Collaboration**

This is hereby agreed with Santosh University (Ghaziabad) through respective authorized signatories of <u>Varun Arjun Medical College and Rohilkhand Hospital NH 24, Banthra Shahjahanpur (UP).</u> Collaborates for Research as per following details:

Tittle of Research: Molecular Characterization of Non-albicans Candia in Cancer Patients with Positive or opharyngeal candidiasis.

Name of Primary Researcher: Amit Kumar Singh

Co-Researcher (if any): NIL

Research Location: Santosh University (Ghaziabad) & Varun Arjun Medical College and Rohilkhand Hospital NH 24, Banthra (Shahjahanpur)

Co-guide/Mentor Allocated: Dr. Hariom Sharan

Designation & Address of Co-guide/Mentor: H.O.D. (Professor), Department of - Microbiology

Duration of Project: from ......2017......to.....2020......

Under this agreement, the two institutions agree to share their infrastructure and resources for the said research work.

Name and Signature of HOD/Principal/ Dean-Santosh University

No.1, Santosh Nagar, Pratap Vihar, Ghaziabad, Uttar Pradesh 201009 Name and Signature of HOD/Principal/Dean (Collaborating Institute

**Title of the Collaborative activity:** A pharmacovigilance Study:

Assessment, Evaluation And Monitoring of Adberse Drug Reaction

(ADRs) Associated with Anti Diabetic/Antihypertensive Drugs in Tertiary

Care Teahing Hospitals

Name of the collaborator: Department of Pharmacology,

Muzaffanagar Medical Collage, Muzaffanagar -251203

Name of the participants: Lalendra Yadav

Year of collaboration: 2017-18





# Letter of Research Collaboration

This is hereby agreed with Santosh University (Ghaziabad) through respective authorized signatories of Muzaffarnagar Medical College, Muzaffarnagar Collaborates for Research as per following details:

Title of Research: "A pharmacovigilance Study: Assessment, Evaluation And Monitoring of Adverse Drug Reaction (ADRs) Associated With Anti Diabetic/Antihypertensive Drugs in Tertiary Care Teaching Hospitals"

LALENDRAYADAV (PhD Scholar Medical Pharmacology)

Co-Researcher (if any): NIL

Research Location: Santosh University (Ghaziabad)/ Muzaffarnagar Medical College

Co-guide/Mentor Allocated: Dr. Ila Pahwa, 2. Dr. Jyotsna Sharma / 3 Dr. Shaktibala Dutta

Designation & Address of Co-guide/Mentor: 1 (Prof. & Head of Medicine), Muzaffarnagar Medical College, Muzaffarnagar 2.(Asssoc. Prof of Pharmacology) Santosh Medical College & Hospital,

Under this agreement, the two institutions agree to share their infrastructure and resources for the said research work.

Name and Signature of HOD/Principal/

Dean-Santosh University

Name of Primary Researcher:

No.1, Santosh Nagar, Pratap Vihar, Ghaziabad, Uttar Pradesh 201009 Political of Medicine)
(Name and Signature of HOD/Principal/Dean (Collaborating Institute)

Title of the Collaborative activity: CT SCAN Evaluation Of Cervical

Canal Stenosis And Association Facet Joint Arthrosis

Name of the collaborator: Department of Rdiodiagnosis, Mayo

Institute of Medical Sciences, Gadia, Barabanki, (U.P)-225001

Name of the participants: Kanhaiya jee

Year of collaboration: 2017-18





# Letter of Research Collaboration

This is hereby agreed with Santosh University (Ghaziabad) through respective authorized signatories of **Mayo Institute of medical sciences** Collaborates for Research as per following details:

Till of Research: "CT SCAN EVALUATION OF CERVICAL CANAL STENOSIS AND ASSOCIATED FACET JOINT ARTHROSIS"

Name of Primary Researcher: Kanhiya jee

Co-Researcher (if any): NIL

Research Location: Santosh University (Ghaziabad)/ Mayo Institute of medical sciences

Co-guide/Mentor Allocated: Dr. Harshita pant

Professor

Dept. of Rdiodiagnosis, Mayo Institute of Medical Sciences

Duration of Project: From ......September 2017....... To.......... August 2022......

Under this agreement, the two institutions agree to share their infrastructure and resources for the said research work.

Name and Signature of HOD/Principal/

Dean-Santosh University

No.1, Santosh Nagar, Pratap Vihar, Ghaziabad, Uttar Pradesh 201009

Title of the Collaborative activity: To Study and Compare the Levels

of Interleukin-6, C - reactive protein And Other Biochemical Parameters

in Patients of Depression And Cell-Phone Addiction With Non-

Depressive, Non Cell-Phone Addiction Controls

Name of the collaborator: Department of Medicine, F. H. Medical

Collage EtmaDpur, Agra-283101

Name of the participants: Bhumija

Year of collaboration: 2017-18





# Letter of Research Collaboration

This is hereby agreed with Santosh University (Ghaziabad) through respective authorized signatories of Santosh Medical College & Hospital, Santosh Deemed to be University /F. H. Medical College Etmadpur, Agra

Collaborates for Research as per following details:

Title of Research: "TO STUDY AND COMPARE THE LEVELS OF INTERLEUKIN-6,CREACTIVE PROTEIN AND OTHER BIOCHEMICAL PARAMETERS IN PATIENTS OF
DEPRESSION AND CELL-PHONE ADDICTION WITH NON-DEPRESSIVE, NON CELLPHONE ADDICTED CONTROLS"

Name of Primary Researcher: BHUMIJA SHARMA

Co-Researcher (if any):

Research Location: Santosh University (Ghaziabad)/ F. H. MEDICAL COLLEGE

ETMADPUR, AGRA

Co-guide/Mentor Allocated: DR. ANIL SHARMA

Designation & Address of Co-guide/Mentor: Professor in Department Of Medicine,

F.H. Medical College Etmadpur, Agra

Duration of Project: from...2017 to 2021

Under this agreement, the two institutions agree to share their infrastructure and resources for the said research work.

Name and Signature of HOD/Principal

Title of the Collaborative activity: Study Adiponectin and its

association with markers of inflammate

Name of the collaborator: Department of Biochemistry, Heritage

institute of Medical Science (UP)

Name of the participants: Shailza Shretha

Year of collaboration: 2017-18

#### Letter of Research Collaboration

This is hereby agreed with Santosh University (Ghaziabad) through respective authorized signatories of

Collaborates for Research as per following details:

Tille of Research: STUDY OF ADIPONECTIN AND ITS ASSOCIATION WITH MARKERS OF INFLAMMAT-TON (HS-CRP, IL-6, FIBRINDHEN AND DRIC ACID) AMONG THE PATTENS WITH PRE-DIABETES AND TYPE 2 DIABETES MELLITUS.

Name of Primary Researcher: MS SHAILAZA SHRESTHA

Co-Researcher (if any):

Research Location: Santosh University (Ghaziabad)/HERITAM COLDASTICATION OF MEDICAL SCIENCES

Co-guide/Mentor Allocated: DR MAHENDRA PRASAD

Designation & Address of Co-guide/Mentor: PROFESSOR AND HEAD, DEPT OF BIOCHEMISTRY

HERITAGE INSTITUTE OF MEDICAL SCIENCES, VARAMAS

Duration of Project: from... February 2017...... to. August - 2019......

Under this agreement, the two institutions agree to share their infrastructure and resources for the said research work.

Name and Signature of HOD/Prindipal/Dean-

Santosh University

No.1, Santosh Nagar, Pratap Vihar,

Ghaziabad, Uttar Pradesh 201009

DR. MAHENDRA PRASAD

Name and Signature of

HOD/PrinciBal 1959 & Head Department of Biochemistry (Collapping institution of Sciences

Title of the Collaborative activity: Study of various biochemical

parameters in COPD And its Correlation with Cardiovascular Disorder

Name of the collaborator: Department of Biochemistry, SRMS IMS

Bareilly U.P.

Name of the participants: Vikas Saxena

Year of collaboration: 2017-18





This is hereby agreed with Santosh Deemed to be University (Ghaziabad) through respective authorized signatories that this HEI collaborates for Doctoral Research as per following details:

Title of Research: STUDY OF VARIOUS BIOCHEMICAL PARAMETERS IN COPD AND ITS CORRELATION WITH CARDIOVASCULAR DISORDER

Name of Primary Researcher: Vikas Saxena

Designation in HEI: Tutor

Co-Researcher (if any):

Research Location:

Santosh Deemed to be University (Ghaziabad)

Mentor Allocated:

Dr Anurag Agarwal

Mentor Affiliation:

SRMS IMS Bareilly U.P.

Duration of Project:

from.....Sep.2017.....to......Nov.2019.....

Under this agreement, the two institutions agree to share their infrastructure and resources for the said research work.

COSUPERVISOR

Prof. & Head Dr Anurag Agarwal

Dept. of Pulmonary Medicine

SRMS IMS Bareilly

Title of the Collaborative activity: Incidence of Congenital Aplasia and

Hypoplasia of Frontal Paranasal Air Sinus Amongest the Population of

Western up Region

Name of the collaborator: 1. Dr. Vipin Kaul-Post graduate student

(Periodontics & Oral implantology), Shree Bankey Bihari Dental College &

Research centre, Delhi-Hapur road, Masuri, Ghaziabad, Uttar Pradesh

Name of the participants: Dr. Vipin Kaul, Dr. Nisha Kaul, Dr. Poonam

Dutt, Sangeeta Chauhan

Year of collaboration: 2017-18

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"Incidence of congenital Aplasia and Hypoplasia of frontal paranasal air sinus amongest the population of western UP region"



ISSN No. 2394-3971

#### **Original Research Article**

# INCIDENCE OF CONGENITAL APLASIA AND HYPOPLASIA OF FRONTAL PARANASAL AIR SINUS AMONGEST THE POPULATION OF WESTERN UP REGION Dr. Vipin Kaul, Dr. Nisha Kaul, Dr. Poonam Dutt, Sangeeta Chauhan

1. Post graduate student (Periodontics & Oral implantology), Shree Bankey Bihari Dental College & Research centre, Delhi-Hapur road, Masuri, Ghaziabad, Uttar Pradesh

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#### Abstract

**Introduction**: The frontal air sinuses are a pair of air containing hollow spaces situated within the frontal bone measuring 28 mm (L), 24mm (W), 20mm (AP) on an average as quoted by Grey's anatomy. The size and anatomic relations of the sinus depend upon the extent of pneumatization of the frontal bone. A considerable reduction or total absence of pneumatization results in hypoplasia/aplasia of the frontal sinus.

**Aim**: To investigate the prevalence of aplasia/hypoplasia of the frontal sinus in a population of western UP because the frontal sinus is very vulnerable during surgical procedures of the skull due to its close relationship with orbit and anterior skull base.

**Material and Methods**: The study was carried on randomly selected PA cephalograms of 150 adult humans, attending the radiology dept. of SMH GZB some private hospitals situated in Ghaziabad. The frontal sinuses on both sides were studied for their presence or absence in the x-ray.

**Results**: 44 out of 150 cases showed aplasia/ hypoplasia of frontal sinus on x-ray; with cases of only aplasia in 31.81% cases; only hypoplasia in 50% cases and cases of one side aplasia with other sided hypoplasia in 18.18% of cases.

**Discussion:** The entity "APLASIA OF FRONTAL PARANASAL AIR SINUS" has been found as early as 1943. It is found to be in a very high percentage in all Eskimos. Genetic factor and cold climate are said to be closely associated with this conditions besides primary congenital anomalies and secondary pathological conditions. Variations in the anatomy of frontal sinuses are critical 1. for neurosurgeons while performing pterional or supraorbital craniotomy to avoid risks of intraoperative &postoperative complications and improve success of post-operative management strategies 2. For morphological and forensic investigations.

Keywords: Frontal Sinus, Aplasia/Hypoplasia, Development, Prevalence, Intraoperative and Post-Operative Complications

Title of the Collaborative activity: A comparative study of

pneumatization of Temporal bone

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Year of collaboration: 2017-18

# A comparative study of pneumatization of Temporal bone

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# Abstract

## Introduction

The present review is based on the study of various classifications of pneumatization of temporal bone and their comparison. The air cells are classified based on their location in the temporal bone in a radiograph or based on their interpretation by a radiologist or otolaryngologist with the help of different reference structures.

# Methods

The analysis of pneumatization in temporal bone is done by reviewing research articles related to pneumatization of temporal bone in pig, sheep, macaque and humans published in Pubmed, Sciencedirect, Scopus, and Medline, Indexed journals.

# Results and discussion

Title of the Collaborative activity: Effects of  $\alpha/\beta$  artether—An

antimalarial drug on cerebral cortex in developing chick embryo - A

histopathological and immunohistochemical study

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Name of the participants: Singh V., Mittal L.K., Ashoka R.K.

Year of collaboration: 2017-18

# Effects of $\alpha/\beta$ artether—An antimalarial drug on cerebral cortex in developing chick embryo – A histopathological and immunohistochemical study

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# Abstract

# Introduction

Since a long time <u>chick embryo</u> is proving a satisfactory animal for embryological research work due to several advantages. Malaria is a febrile illness caused by <u>protozoa</u> Plasmodium and spread by female <u>anopheles</u> mosquito, still continues to be one of the India's leading public health problem.  $\alpha/\beta$  artether is one of the most common <u>antimalarial drug</u> used worldwide to treat <u>chloroquine</u> resistant malaria and <u>malaria falciparum</u>. The present study was designed to assess the <u>teratogenic effects</u> of  $\alpha/\beta$  artether on developing <u>chick embryo</u>.

Title of the Collaborative activity: Epidemiological Profile of Complete

Suicidal Poisoning Cases Autopsied at Autopsy Centre, RIMS, Ranchi.

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Jharkhand, India

Name of the participants: Singh B, Kaushal Kishore, Chaudhary KA

Year of collaboration: 2017-18

*International Journal of Medical Toxicology and Forensic Medicine*. 2017;**7**(1): 32-42.

# **Epidemiological Profile of Complete Suicidal Poisoning Cases Autopsied at Autopsy Centre, RIMS, Ranchi**

Singh B<sup>1\*</sup>, Kishore K<sup>1,2</sup>, Chaudhary K A<sup>1</sup>

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#### ABSTRACT

**Background:** Suicidal behaviour is any deliberate action that has potentially life-threatening consequences, such as taking a drug overdose, deliberately consuming poison, hanging, drowning, burn etc. The aim of this study was to illustrate the epidemiological profile of complete suicidal poisoning cases autopsied at Department of Forensic Medicine and Toxicology, Rajendra Institute of Medical Sciences, Ranchi, India.

*Methods:* All cases autopsied at autopsy centre of department of forensic medicine and toxicology between April 2013 to October 2014 evaluated. Data obtained from the Information regarding the socio-demographic, mode of suicides, time of incidence, place of incidence, occupation, etc were gathered from the police papers like inquest report, dead body challan etc, and through detailed interviews of the relatives, neighbours, friends, and police officials accompanying the dead bodies.

**Results:** Total 3492 cases were autopsied, out of which only 180 cases were due to acute self-poisoning, suicidal in nature. This was 5.2% of the total cases autopsied at centre. The ratio of male and female suicide by poisoning was almost equal (M: F = 1.22: 1). The majority of victims were married, unemployed, from joint family and middle economic class. The most important agents of poisoning were agrochemical pesticides among these majorities were due to organophosphate.

Conclusion: More than 50% of victims from both male and female were in between 15 years to 30 years. The maximum victims were consumed poison at evening (between 4 PM to 8 PM) during summer season. The Agrochemicals were the preferred agents with organophosphates alone responsible for about 50% of suicidal mortalities followed by aluminium phosphide.

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<sup>►</sup> Implication for health policy/practice/research/medical education: Complete Suicidal Poisoning Cases Autopsied

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Title of the Collaborative activity: Profile of Suicide by Burn in

Jharkhand: an Autopsy Based Study

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Year of collaboration: 2017-18

Original Article

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### Profile of Suicide by Burn in Jharkhand: an Autopsy Based Study

Kishore Kaushal<sup>1</sup>, Prasad Chandra Shekhar<sup>2</sup>, Singh Bhoopendra<sup>3</sup>

#### **Abstract**

Background: Self intentionalviolent acts are one of the important causes of death nowadays. Burning is one of the modes of committing suicide, although it is painful and non-instantaneous death as compared to others modes of suicide. Since limited data is available on suicidal burn in this part of India i.e. Ranchi, Jharkhand. Therefore, we have planned this study to know the profile and attributing factors for suicidal burn in the state of Jharkhand of India. Materials & Methods: This prospective study which was carried out on 162 cases of death due to burns in the department of forensic medicine & toxicology of Rajendra Institute of Medical sciences, Ranchi during from 15th April, 2012 to 14th October, 2013. Information regarding the sociodemographic, mode of suicides, time of incidence, place of incidence, occupation, etc were gathered from the police papers like inquest report, dead body challan etc, and through detailed interviews of the relatives, neighbors, friends, and police officials accompanying the dead bodies. Results: Hindu married females belonging to rural background between ages 15 years to 44 years were most common victims of suicidal burns. Most of the suicidal burns occurred during summer season (61%) followed by winter (Dec-March) (17%). Majority (56%) were chose In Law's home followed by parental home (44%). The maximum suicidal burns incidence occurred at evening (between 4 PM to 8 PM), which accounts 33% followed by late night (between 12 AM to 4 AM) with 22%. Conclusion: The present study has findings more or lessconsistent with the findings of the other studies conducted in Indian.

Keyword: Suicidal Burn; Seasonal Variations; Place of Incidence.

#### Introduction

Suicide is one of the leading causes of death in the World. Approximately one million people commit suicide each year, or about one life lost every 40 seconds [1]. The World Health Organization (WHO) estimates that of the nearly 900,000 people who die from suicide globally every year, 170,000 were from India [2]. Suicide rates in the world, mainly in

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developing countries, in the past fifty years have increased about 60%. A significant amount of suicides occur in Asia, which includes about 60% of suicides. Based on WHO reports, China, India and Japan were included in approximately 40% of all world suicides [3]. Suicide by burning was a rare condition in the developed countries (0.06-1% of all suicides) but was more frequent in the developing countries (accounting for as many as 40.3% of all suicides). Burns were the fourth most common type of trauma worldwide, following a road traffic mishaps, falls, and violence among people. A majority of incidences of burns occur in countries or regions which lack the basic infrastructure and setup to reduce the incidence and severity of burns [5].

In India, burn injury was one of the major causes of death, specifically in females. The problem ofburns in developing countries like India was more as a result of different and varied socio-cultural factors present in the Epidemiology of Burn Deaths in Jharkhand, India. Some of these factors may be poor housing conditions, inadequate maintenance of

Title of the Collaborative activity: Massive Lower Gastrointestinal

Bleed caused by Typhoid Ulcer: Conservative Management

Name of the collaborator: 1. Roli Bansal - Department of Medicine

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Name of the participants: Apoorv Goel, Roli Bansal

Year of collaboration: 2017-18

10.5005/jp-journals-10018-1242

**CASE REPORT** 

# Massive Lower Gastrointestinal Bleed caused by Typhoid Ulcer: Conservative Management

<sup>1</sup>Apoorv Goel, <sup>2</sup>Roli Bansal

#### **ABSTRACT**

Typhoid fever is caused by gram-negative organism *Salmonella typhi*. The usual presentation is high-grade fever, but complications like gastrointestinal (GI) hemorrhage and perforation are also seen frequently. With the advent of antibiotics, these complications are rarely seen now. We present a case of a young female who was admitted with a diagnosis of typhoid fever presented with a massive GI bleed from ulcers in the terminal ileum and was managed conservatively without endotherapy and surgery.

**Keywords:** Gastrointestinal hemorrhage, Typhoid fever, Typhoid ulcer.

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#### INTRODUCTION

Typhoid fever or enteric fever is caused by a gramnegative enteroinvasive organism Salmonella typhi.<sup>1,2</sup> The disease usually manifests as high-grade fever with chills and loose stools. However, GI hemorrhage and perforation is a known complication seen in the 2nd and 3rd week of the disease.<sup>1,2</sup> With the advent of antibiotics, especially fluoroquinolones and third-generation cephalosporins, the rate of complications has come down. Rarely, we come across these complications but at the same time they may present in an unusual manner and may lead to diagnostic dilemmas. The usual site of ulcer formation is the terminal ileum. Bleeding if present is usually mild, which may manifest as altered blood in stools or hematochezia.<sup>2</sup> The gold standard investigation for diagnosis of lower GI bleed is colonoscopy.<sup>3,4</sup> Massive lower GI bleed may occur rarely and usually requires exploratory laparotomy; however, with newer advances like angioembolization and endotherapy, the rates of surgery have been decreased.<sup>5,6</sup>

We hereby present a case of young female from Northern India, diagnosed with typhoid fever and presented with massive lower GI bleed. Patient was managed conservatively with intensive monitoring and symptomatic management.

#### **CASE REPORT**

A 22-year-old married female presented with complaints of fever with chills, generalized malaise, and three episodes of loose stools of 6 days duration. She was admitted with a provisional diagnosis of enteric fever and started on injection ceftriaxone. On investigation, she was found to be anemic (hemoglobin of 9.2 mg/dL), with deranged liver function test (total bilirubin 3.3 mg/dL; direct bilirubin 2.7 mg/dL, serum glutamic oxaloacetic transaminase 215 IU/L, serum glutamic-pyruvic transaminase 299 IU/L, alkaline phosphatase 413 IU/L, total protein 6.4 g/dL, and albumin 2.8 mg/dL). The Widal test was significantly positive (H antigen was positive in a titer of 1:320 and O antigen in 1:160) and the blood culture revealed the growth of S. typhi. Three days after admission, she developed an increased frequency of stools with hematochezia and her hemoglobin dropped to 6.6 g/dL; however, she did not have any giddiness and loss of consciousness and was hemodynamically stable except for tachycardia (110/ min). She was given two units of packed red blood cells (PRBCs). Digital rectal examination and proctoscopy did not reveal any hemorrhoids or other local cause of lower GI bleed. She was planned for emergency colonoscopy. On colonoscopy, large bowel was filled with blood and clots and we could not proceed beyond splenic flexure (Fig. 1).

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Title of the Collaborative activity: Fungal rhinosinusitis:

Microbiological and histopathological perspective

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Year of collaboration: 2017-18

# Fungal Rhinosinusitis: Microbiological and Histopathological Perspective

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#### Abstract

Introduction: On the basis of histopathology Fungal Rhinosinusitis (FRS) is categorized into non-invasive (allergic fungal rhinosinusitis, fungal ball) and invasive (acute invasive, chronic invasive and granulomatous invasive fungal sinusitis). This differentiation helps to decide the treatment. Role of latest molecular methods such as PCR and conventional methods such as KOH microscopy and culture also needs to be evaluated. Therefore, in this study we planned to categorise fungal rhinosinusitis on the basis of histopathology and compare it with other methods such as PCR, culture and KOH microscopy.

Aim: To analyse fungal rhinosinusitis cases by both histopathologically and microbiologically.

**Materials and methods:** A total of 76 clinically suspected fungal rhinosinusitis cases were included in the study. The tissue of suspected cases were processed and examined by KOH microscopy, histopathologically, culture and PCR. Histopathological examination was done by PAS, GMS and H&E

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Title of the Collaborative activity: Current Concepts of Diagnosis for

Mycobacterial Infections In Female Genital Tract.

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Year of collaboration: 2017-18

#### Current concepts of diagnosis for mycobacterial infections in female genital tract

Pooja S. Gangania<sup>1</sup>, Dakshina Bisht<sup>2,\*</sup>, Varsha A. Singh<sup>3</sup>

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#### Abstract

Female genital tuberculosis is a very common cause of infertility not only in India but in other developing countries also. The organ which gets most affected is fallopian tubes (90-100%), followed by endometrium (50-60%), ovaries (20-30%), cervix (5-15%) and vulva vagina (1%). The mode of transmission to the genital tract usually is the haematogenous spread from pulmonary or other sites of tuberculosis. As mycobacterium tuberculosis remains one of the leading cause of female infertility, the mycobacterium species other than tuberculosis (MOTT) are found to be increasingly important pathogens causing genital infections and infertility. The lack of symptoms makes it difficult to diagnose and there are no accepted guidelines for their diagnosis. It shows low sensitivity to bacteriological tests and has poor specificity to most immunological and serological investigations. The samples which are to be taken are menstrual blood, endometrial and ovarian tissues. Diagnosis involves sample collection, processing followed by decontamination and homogenization, staining by stains like ZN, kinyoun and fluorochrome are preferred. Culture techniques involves both liquid and solid medium. For solid culture the media commonly used are L-J egg media, L-J with para-nitobenzoic acid, Middlebrook 7H11 or 7H10, TK medium. Liquid culture is rapid and automated which involves TREK/ESP, MB/BacT system, BACTEC MGIT 960 (Mycobacteria Growth Indicator Tubes), BACTEC 460. Species identification is done by both phenotypic (Biochemicals, Pigmentation, Optimal temperature & time) and genotypic (Micro seq 500 systems, Accuprobe, Inmo-LiPA Mycobacteria assay) techniques. Non culture based methods includes antigen detection methods, phase assay etc. and molecular techniques NAAT (nucleic acid amplification test) along with other newer techniques.

**Keywords:** Female Genital Tuberculosis, Female Infertility, MTBC, NTM, Deteriorated Fallopian Tubes, Endometrium, NAAT (Nucleic Acid Amplification Test).

#### Introduction

Female genital tuberculosis (FGTB) is a very common cause of infertility not only in India but in other developing countries also. (1-5) Tuberculosis (TB) is an important cause of mortality and morbidity all over the world and is particularly relevant in India. According to WHO 9.6 million people fell ill with TB in 2014 and 1.5 million died globally according to the statistics. TB is found to be among top 5 reasons of death of women of child bearing age. Female reproductive system is very vulnerable to this infection. When TB affects genital organs of young females, it produces destructive effects by causing irreversible damage to the fallopian tube resulting in infertility which is difficult to cure both by medical and surgical methods. (6,7)

The factors apart from tuberculosis which causes infertility in female are abnormal uterus, conditions like fibroid, polyps and adenomycosis which may lead to obstruction of uterus and damage of fallopian tubes. Congenital abnormalities such as septate uterus may lead to recurrent miscarriages or inability to conceive. There may be ovulatory problems, thyroid, epilepsy and other acquired (age, smoking, stress, overweight, underweight, diabetes mellitus, STD, radiation therapy etc.), genetic (chromosomal abnormalities like turner syndrome), and locatory (ovarian factors like PCOS, ovarian cancer, chemotherapy, etc. tubal factors like

endometriosis, pelvic adhesions, pelvic inflammatory diseases etc. uterine factors like uterine malformation, uterine fibroids, ashermans syndrome, implantation failure etc., vaginal factors like vaginal obstruction, vaginismus etc.) factors playing a major role in causing infertility.

#### Infertility in Indian Scenario

Transition of a woman to a mother is always life changing. Motherhood is a question of pride and honor. A woman without her biological child has to face lot of discrimination and stigma. Such woman is said to be cursed and is socially unaccepted by society. Not only this, the woman with no biological child, is kept away from family rituals as they disappoint the family for the loss of continuity of family generation and is being unable to take their community further. They lead a disrespectful and frustrated life.

#### Prevalence

FGTB as a cause of infertility is 10–15 times more common in developing countries where incidence of tuberculosis comprises 40 per cent of the total population in India. This is the most common form of extrapulmonary tuberculosis (TB), accounting for about 27% worldwide.<sup>(8)</sup> The main burden is in developing countries especially like Asia and Africa with 75% female patients in the most thrifty productive age group

Title of the Collaborative activity: Isolation of MTB Strains and

Determining the Antibiotic Susceptibility Pattern via Bactec 320 from

the Females of Child Bearing Age

Name of the collaborator: 1. V.A. Singh-Professor & Head, Department

of Microbiology, MMIMSR Mullana, Ambala, Haryana 133207

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Year of collaboration: 2017-18

# Isolation of MTB Strains and Determining the Antibiotic Susceptibility Pattern via Bactec 320 from the Females of Child Bearing Age

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#### Abstract

Background: The BACTEC MGIT 320 is a new, lower-capacity instrument for liquid culture developed for the growth and detection of M. tuberculosis and antimicrobial susceptibility testing. MGIT has an improved speed and sensitivity of MTB isolation and drug susceptibility testing, irrespective of the HIV status of the patient. This study was undertaken to find the appropriate antibiotic susceptibility pattern of confirmed positive MTB strains via MGIT 320 liquid culture technique. Objectives: Isolation of positive MTB strains and determination of their antibiotic susceptibility pattern using BACTEC 320 from the females of child bearing age group. *Material and Methods*: A total of 217 samples were processed involving the isolation of MTB strains along with the antibiotic susceptibility pattern of positive MTB's. Both techniques were used culture and RT-PCR to find the prevalence and AST via BACTEC 320 system. Analysis of the results was done at the end of the procedure. Results: Out of 217 samples, there were 29 positive MTB strains by RT-PCR technique whereas via liquid culture there were 11 positive MTB strains. The Antibiotic susceptibility pattern for MTB positive strains for both the first and second line was Levofloxacin, Kanamycin and PAS were found to be much sensitive whereas Isoniazid and Ethionamide were found to be more resistant than others. Conclusion: RT-PCR technique detects the total count of mycobacterial bacilli whereas via liquid culture only viable bacteria are detected i.e. true positive MTB strains. There were 2 MDR and 2 XDR TB detected, out of 11 confirmed MTB strains.

**Keywords:** AST; BACTEC 320; MTB Strains; RT-PCR Technique; Liquid Culture.

#### Introduction

Tuberculosis (TB) is a serious global public health problem. The diagnosis is made by detection of acid-fast bacilli on microscopy or culture, as Polymerase chain reaction may be false positive hence alone is not sufficient to make the diagnosis. To achieve early diagnosis and effective treatment of TB, rapid and

accurate drug susceptibility testing (DST) methods must be used. The World Health Organization and the Centers for Disease Control and Prevention have recommended the use of liquid culture systems for DST and for improving time to detection [1,2,3]. Recent publications demonstrate the fundamental importance of liquid culture and phenotypic drug susceptibility testing (DST) as part of a complete strategy in the ongoing global efforts to combat

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Title of the Collaborative activity: Colonization of Aspergillus Species

in Elderly Patients with Lower Respiratoy Tract Infections in a Tertiary

Care Hospital.

Name of the collaborator: 1. Shukla Das-Director Professor,

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Ritu Aggarwal, V K Arora

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# COLONIZATION OF ASPERGILLUS SPECIES IN ELDERLY PATIENTS WITH LOWER RESPIRATORY TRACT INFECTIONS IN A TERTIARY CARE HOSPITAL

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#### **ABSTRACT**

Introduction: Isolation of Aspergillus species from lower respiratory tract samples is the first indication of IPA (Invasive Pulmonary Aspergillosis) which depends on the underlying condition of the patients. Elderly patients having lower respiratory tract infections are among the risk group of developing invasive disease by Aspergillus spp due to impaired lung conditions. Aims and Objectives: To isolate Aspergillus species from elderly patients having lower respiratory tract infection. Material and Methods: Sputum samples and whole blood samples were collected from elderly patients. Sputum samples were cultured on Sabouraud's dextrose agar and blood samples were screened for detecting IgE, IgG and IgM specific for Aspergillus. Fungal isolates were confirmed by conventional methods. Results: From the 81 elderly patients, 11 (13 %) Aspergillus spp. were isolated. Of these 4 (5%) patients had raised IgG specific for Aspergillus fumigatus and were clinically categorized as having probable IPA. However, 7 (8%) patients who yielded Aspergillus spp. and negative for serum IgG specific for Aspergillus were categorized as having possible IPA. Conclusion: Early identification and detection of colonisation in critically ill elderly patients having LRTI is important and treatment should be considered if Aspergillus spp are isolated in their pulmonary secretions.

**KEYWORDS:** Invasive pulmonary aspergillosis (IPA), *Aspergillusflavus, Aspergillus fumigatus, Aspergillus niger*, Chronic nectrotizing aspergillosis (CNA).

## INTRODUCTION

Aspergillus is a saprophytic filamentous fungus widespread in the environment. Inhalation of Aspergillus spores or conidia can give rise to various clinical conditions, depending essentially on the host's immunological status. In more than 90% of affected patients the respiratory tract is the main site of involvement. [1]

The significance of isolation of *Aspergillus* spp.from respiratory cultures has been studied extensively in immunocompromised hosts who develop invasive pulmonary aspergillosis. <sup>[2-4]</sup> It poses a major threat in patients with depressed immune system. <sup>[5]</sup> On the other hand, little is known about the significance of isolation of *Aspergillus* from respiratory specimes of apparently immunocompetent or those have impaired lung conditions. In immunocompetent patients, it almost always represents colonisation with no clinical consequences. It has been postulated that isolation of an

Aspergillus species from respiratory samples in critically ill patients (even when immunocompetent) should not be routinely discarded as colonization, but in elderly patients (commonly having underlying diseases) isolation is usually interpreted as colonization. [6,7]

Therefore, diagnosis of invasive pulmonary aspergillosis on the basis of an *Aspergillus* positive culture from tracheal aspirates remains most difficult in patients with intermediate risk, or in patients without currently recognized risk factors. [8] Confirmation of infection obliges the demonstration of histopathological evidence that is not feasible in this type of patients. [9] In elderly patients having LRTI clinical signs and symptoms for acquisition of invasive fungal disease are non specific so a combination of host risk factors, clinical symptoms, radiological, microbiological criteria and serological tests are needed to rule out invasive disease in them.

Very few studies have been conducted in which emphasis on *Aspergillus* isolation and its consequences from this risk group is been given on elderly patients

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Title of the Collaborative activity: Bacteriological study of Orofacial

Space Infections and Their Antibiotic Sensitivity Profile.

Name of the collaborator: 1. Parul Garg-Department of Microbiology,

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110030, India

Name of the participants: Garg P, Goel V\*, Nagmoti JM, Nagamoti MB.

Year of collaboration: 2017-18

EXCELLENT PUBLISHERS

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# **Original Research Article**

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# Bacteriological study of Orofacial Space Infections and their Antibiotic Sensitivity Profile

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## ABSTRACT

Keywords

Odontogenic infection, Submandibular space, Maxillofacial infection Orofacial Space Infections.

## **Article Info**

Accepted: 10 September 2017 Available Online: 10 November 2017 Orofacial space infections are among the most commonly encountered problems in dental practice. Spreading odontogenic infections are the most common type of serious oral and maxillofacial infections and range from the periapical abscess to superficial and deep neck abscess. The purpose of this study was to identify and perform antibiotic susceptibility pattern of aerobes and anaerobes isolates from oral and maxillofacial infections. Fifty patients with space infection of odontogenic origin were selected irrespective of their age and gender. Pus samples were collected and processed in the microbiology laboratory for the growth of anaerobic and aerobic bacteria and antibiotic sensitivity profile. Demographic profile of the patients showed that male patients were more commonly involved and most patients fell into the third and fourth decade of age groups. Submandibular space was most commonly involved in 46% followed by buccal space in 20% cases. Staphylococcus aureus was the frequent aerobic bacterial isolate and among anaerobes, Peptostreptococcus spp. was most common 19(44%) followed by Porphyromonas gingivalis 7(16.27%). Clindamycin, Gentamycin, Linezolid, Imipenem were the most effective antibiotics. 20 % of the aerobes were resistant to penicillin. There is the predominance of Gram positive bacteria and sensitivity patterns were almost the same reflecting the relevance of ciprofloxacin, ceftazidime and amoxiclav in the treatment of maxillofacial infections. Metronidazole and clindamycin are effective antibiotic to treat anaerobic infection and should be given in combination to cover aerobic bacteria.

# Introduction

Orofacial space infection is most prevalent disease worldwide and is principle reason for seeking dental care. In health, oral microorganisms and human immune system are in ecological balance which is a pressure for sustaining a barrier against ingested pathogenic organism. These infections are mostly of odontogenic origin, as a sequel to

pulp necrosis due to caries, trauma, periodontal infections and pericoronitis because some of these infections resolve with little consequences, while some may spread to facial spaces adjacent to the oral cavity and spread aggressively leading to more severe infections. [1, 2] If these infections are ignored or not treated properly, complications

**Title of the Collaborative activity:** Effects of frequent glove change on outcomes of orthopaedic surgical procedures - A multicenter study on surgical gloves

**Name of the collaborator:** 1. Sunil Kumar Dash-Professor, Department of Orthopaedics, Hi-Tech Medical College, Bhubaneswar, Odisha, India.

Name of the participants: Palo N., Dash S.K., Panigrahi R., Chandel S.S.,

Palo N., Sharma S., Priyadarshi A.

Year of collaboration: 2017-18

DOI: 10.7860/JCDR/2017/29346.10749 Original Article

Orthopaedics Section

**S. No:** 291

# Effects of Frequent Glove Change on Outcomes of Orthopaedic Surgical Procedures - A Multicenter Study on Surgical Gloves

NISHIT PALO<sup>1</sup>, SUNIL KUMAR DASH<sup>2</sup>, RANAJIT PANIGRAHI<sup>3</sup>, SIDHARTH SINGH CHANDEL<sup>4</sup>, NEHA PALO<sup>5</sup>, SWATI SHARMA<sup>6</sup>, ASHOK PRIYADARSHI<sup>7</sup>

# **ABSTRACT**

**Introduction:** Intact surgical gloves are a barrier to microorganisms migration between surgical team members and the patient. The surgical gloves are changed at various junctures but the effects of changing gloves during surgical procedures on various surgical parameters or clinical outcomes are not established.

**Aim:** To determine rationale of glove change during orthopaedic procedures, differences amongst surgical parameters with and without changing the surgical gloves and whether frequent glove change affected surgical parameters or clinical outcomes.

Materials and Methods: A prospective multicenter study conducted at three centers from January 2014 to January 2016. A 250 patients were divided into 2 groups (n=125 each) in Group 1, surgical team operated with regular changing of gloves. In Group 2, only 1 set of double gloves were worn throughout the procedure. Surgical parameters or clinical outcomes were assessed for both the groups. Statistical analyses included the

median, mode, range, Interquartile Range (IQR) and sample standard deviation (s) and independent-samples t-test. Bacterial counts were expressed as median with (IQR).

**Results:** Surgical Timing Difference was 10 (S.D.- 4.2) minutes more in Group-1 (<0.05), Surgical Cost was higher in Group-1 by Rs.150-450 (<0.05). Outer glove micro-perforation rate was 5.85% and 8.15% in group-1 and 2 respectively with no inner glove perforation or Surgical Site Infections. Outer glove micro perforations were proportional to duration of surgery; operations lasting 120-210 and 61-120 minutes had 66.6% and 37.2% micro perforation rates respectively (p<0.05).

**Conclusion:** Under standard operating conditions, procedures performed without glove change are shorter and cost effective than procedures performed with regular glove change with similar surgical and functional results. Judicious use of surgical gloves is a patient and environment friendly option, thereby reducing the hospital's biomedical waste load.

Keywords: Biomedical waste, Contamination, Safe, Sterility

# INTRODUCTION

Intact surgical gloves are the most important barrier to bi-directional migration of micro-organisms between the hands of the surgical team members and patient [1,2]. Although surgical glove perforations correlate with duration of wear, yet very few prospective studies have addressed this issue in orthopaedic settings. Although use of single gloves is unsafe, Double glove use is still not universal [3]. Although double gloving offers protection to the surgical team by preventing intraoperative blood exposure [4]; it also causes discomfort and reduced sensitivity [5].

The surgical gloves are changed at various junctures during the surgery and in a routine orthopaedic case. The glove consumption may vary anywhere from 9-15 pairs depending on the persons and number of times they are changed. The scientific basis and effects of this practice is still not established, but we learnt that surgical team performs glove change fearing contamination, long exposure to external environment, personal beliefs or carelessness by surgical team members who may in turn be the implantation source while handling and transfer of surgical instruments to operating surgeon. We performed a prospective multicenter study to determine the rationale of frequent glove change during orthopaedic surgeries, differences amongst surgical parameters with and without changing the surgical gloves and whether this had an effect on surgical and functional outcomes.

# **MATERIALS AND METHODS**

From January 2014 to January 2016, a prospective multicenter study was conducted at three centers with dedicated orthopaedic

operation theatres equipped with in house microbiological testing laboratories to determine the rationale of glove change during orthopaedic procedures and whether frequent glove change affected surgical parameters or clinical outcomes. The centers included were Hi-tech Medical College (Bhubaneswar-147 cases), Care hospital (Bhubaneswar- 52 cases) and Kalinga Hospital (Bhubaneswar-51 cases). Ethical clearance obtained from the ethical committee.

## **Patient Selection and Data Collection**

Patient selection, informed consent from all the patients and patient details were obtained using a standard protocol by three surgeons (A, B and C). All surgeries were performed by the same surgical team. For each surgical procedure the patient's name, date of birth, gender, underlying disease, surgical team members, surgical team member's role, nature of the surgery, surgical duration, glove wear duration and puncture sites were noted. Surgical time was counted from skin incision to skin closure timing. A preoperative antibiotic (1.5 gm cefuroxime) was given intravenously 30 minutes prior to skin incision in all patients [6].

Patients included in the study were non-compound fracture fixation, intramedullary nailing or plating, soft tissue procedures like tendo achilles reconstruction and ACL reconstruction, hemiarthroplasty femur and Arthroscopic shoulder/Knee procedures. Patients excluded from the study were compound fractures, infection at any site and diabetes/septicaemia and refusal for consent.

Title of the Collaborative activity: Comparative evaluation of

bioactive glass putty and platelet rich fibrin in the treatment of human

periodontal intrabony defects: A randomized control trial

Name of the collaborator: 1. Akbar Naqvi - Lecturer, Department of

Dentistry, HIMSR and HAHC Hospital, Hamdard University, New Delhi,

India.

Name of the participants: Naqvi A., Gopalakrishnan D., Bhasin M.T.,

Sharma N., Haider K., Martande S.

Year of collaboration: 2017-18

# Comparative Evaluation of Bioactive Glass Putty and Platelet Rich Fibrin in the Treatment of Human Periodontal Intrabony Defects: A Randomized Control Trial

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Affiliations - collapse

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# Abstract

**Introduction:** Platelet-Rich Fibrin (PRF) and bioactive glass putty have been shown to be effective in promoting reduction in probing depth, gain in clinical attachment, and defect fill in intrabony periodontal defects. The individual role played by bioactive glass putty in combination with PRF is yet to be elucidated.

**Aim:** To compare the clinical effectiveness of the combination of PRF and bioactive glass putty and bioactive glass putty alone as regenerative techniques for intrabony defects in humans.

Materials and methods: Ten pairs of intrabony defects were surgically treated with PRF and bioactive glass putty (Test group) on one side or bioactive glass putty alone (Control group) on other side. The primary outcomes of the study included changes in probing depth; attachment level and bone fill of osseous defect. The clinical parameters were recorded at baseline, 3, 6, and 9 months. Radiographic assessment was done using standardized intraoral periapical radiographs. Differences between baseline and postoperative measurements between the control and test groups were calculated using independent t-test. Comparisons were made within each group between baseline, 3 months, 6

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Title of the Collaborative activity: Respiratory functions in textile mill

workers: Role of peak expiratory flow rate

Name of the collaborator: 1. Pratibha Dev - Department of Physiology,

Venkateshwara Institute of Medical Sciences, Gajraula, Uttar Pradesh,

India.

Name of the participants: Gupta S., Malhotra V., Tripathi Y., Dev P.

Year of collaboration: 2017-18

# ASIAN JOURNAL OF PHARMACEUTICAL AND CLINICAL RESEARCH



Vol 10, Issue 4, 2017

Online - 2455-3891 Print - 0974-2441 Research Article

# RESPIRATORY FUNCTIONS IN TEXTILE MILL WORKERS: ROLE OF PEAK EXPIRATORY FLOW RATE

# SEEMA GUPTA<sup>1\*</sup>, VARUN MALHOTRA<sup>1</sup>, YOGESH TRIPATHI<sup>1</sup>, PRATIBHA DEV<sup>2</sup>

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Received: 23 December 2016, Revised and Accepted: 04 January 2017

#### ABSTRACT

**Background:** Textile industries play a significant role in the economic growth of the country. Health concern of these textile mill workers is the biggest challenge. Respiratory alterations were found in these workers with long-term exposure to cotton dust. Effect of cotton dust on peak expiratory flow rate (PEFR) is not very well documented in the past.

**Aim/Objective:** The main objective of this study was the assessment of respiratory functions in textile mill workers along with the effect on PEFR in these workers.

**Methods:** A total of 130 male textile mill workers were recruited for this study from the different sections of a textile mill. In which, 80 workers were present from exposed and remaining 50 were from non-exposed area of a textile mill. 30-40 years of age workers with the working history of not more than 5 years, were included in the part of the study. Their body mass index (BMI) and respiratory functions were evaluated. BMI was calculated using weight and height of an individual. Respiratory functions including forced vital capacity (FVC) and forced expiratory volume in 1 second (FEV<sub>1</sub>) were estimated using spirometer, and PEFR was measured by Wright's peak flow meter.

**Results:** The mean values of FVC, FEV $_1$ , and PEFR were found to be significantly (<0.01) lower in the exposed group of the textile mill when compared non-exposed groups. When these values were compared on the basis of BMI, workers with BMI>25 kg/m² were found with lower mean values of FVC, FEV $_1$ , and PEFR when compared with workers with BMI<25kg/m². Furthermore, there was significant (<0.05) negative correlation between BMI and PEFR in both exposed group and non-exposed group of a textile mill.

**Conclusion:** Workers at the textile mill, with short-term exposure to cotton dust, may also present with respiratory alterations which may increase with long-term exposure. Safety controls, such as ventilation, and routine health check are very much required in textile industries.

Keywords: Peak expiratory flow rate, Body mass index, Textile mill.

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#### INTRODUCTION

Occupational health is one of the biggest challenges in the present scenario. Different kind of industries is growing day by day in developed as well as developing countries [1]. Textile industries are one of the most common occupations since more than 20 million workers are involved in textile manufacturing in India [2]. Continuous exposure in that situation or working environment may affect the health of their workers [3]. The variety of factors may affect the functioning of these workers due to exposure to cotton fibers in the textile industry [4]. Respiratory or pulmonary functions seem to be the most affected system in the body due to exposure to cotton fibers since the female workers based study from Maharashtra reported that subclinical expiratory function impairment may present in these workers [5]. However, a loom workers based study did not reveal any respiratory dysfunctioning in their workers [6]. Peak expiratory flow rate (PEFR), an effort dependent test, reflects the status of large airways [7]. It is the best measurement of fast exhalation of an individual and commonly used for testing breath shortness, cough, and wheezing [8]. Measurement of PEFR along with other parameters of respiratory function may provide the better understanding of pulmonary symptoms in textile workers. Hence, the main objective of this study was the assessment of pulmonary functions in exposed as well as non-exposed workers of a textile mill.

## **MATERIALS AND METHODS**

This cross-sectional study was conducted in the Department of Physiology, Santosh Medical College and Hospital, Ghaziabad. There were 130 male workers recruited from various sections of a textile mill in which 80 workers were exposed to cotton dust and remaining 50 workers were non-exposed to cotton dust. The age group criteria for this study population were 30-40 years. All the participants were voluntarily participated to be the part of the study. The written and oral consent was obtained from all the participants before the beginning of the study. This study was ethically approved by the Institutional Ethical Committee of Santosh Medical College and Hospital, Ghaziabad.

#### **Exclusion criteria**

- Workers suffering from known respiratory disorder, i.e., chest infection, cold, cough, tuberculosis, chronic obstructive pulmonary disorder, and chest tightness [9].
- Workers on medication for pulmonary ailments i.e., asthafen and asthalin - were also excluded from the study.
- Workers having the working history in textile mill >5 years were also excluded.
- Workers working >8 hrs were not including in the study.
- · Smokers, alcoholics or tobacco users were also excluded.

Title of the Collaborative activity: Blood pressure variations in textile

mill middle-aged male workers exposed to noise

Name of the collaborator: 1. Pratibha Dev - Department of Physiology,

Venkateshwara Institute of Medical Sciences, Gajraula, Uttar Pradesh,

India

Name of the participants: Seema Gupta, Varun Malhotra, Yogesh

Tripathi, Pratibha Dev.

Year of collaboration: 2017-18

# National Journal of Physiology, Pharmacy and Pharmacology

## RESEARCH ARTICLE

# Blood pressure variations in textile mill middle-aged male workers exposed to noise

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Received: December 24, 2016; Accepted: January 09, 2017

#### **ABSTRACT**

**Background:** Continuous exposure to occupational noise may create physiological derangements of parameters pertaining to stress and anxiety of an individual's life. Controversial outcomes over the years from different studies made this a topic of debate. Aims and Objective: The aim of this study was to investigate the effect of noise exposure on blood pressure of textile mill workers depending on the intensity of noise. Materials and Methods: A total of 120 male textile mill workers were enrolled for the study. 30 workers from each section including weaving, spinning, packaging and administration section, of the textile mill on the basis of noise level, were selected. They were categorized into groups on the basis of high noise exposure and low noise exposure. The age group criteria for this study were 35-55 years. Blood pressure of this study population was estimated using sphygmomanometer using auscultatory method. Body mass index and heart rate were also noted. Results: Significant results were obtained in this study. 22.5% workers were found to be hypertensive in this study population. The maximum numbers of hypertensive were found in weaving section. 5.8% workers of the total study population were having isolated systolic hypertensive and isolated diastolic hypertensive. Systolic blood pressure (SBP), diastolic blood pressure (DBP), mean arterial pressure (MAP), and pulse pressure (PP) were found be significantly higher in high noise group (<0.05) compared to low noise group. Highest levels of SBP, DBP, MAP, and PP were found in weaving section with noise level between 95 and 100 db. Heart rate was also found to be significantly (<0.05) increased in high noise group. Conclusion: Continuous exposure to occupational noise may lead to adverse changes in blood pressure from mild risk to moderate risk depending on the intensity of noise. It may give lead to cardiovascular abnormalities, e.g., stroke and myocardial infarction. Occupational noise with higher intensity (>90 db) may be associated with hypertension.

KEY WORDS: Occupational Noise; Pulse Pressure; Mean Arterial Pressure; Cardiovascular Risk

# INTRODUCTION

Noise pollution is a highly rated problem in developed countries but not very well implicated in developing countries. [1] Noise, an unwanted sound which is disagreeable

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<b>DOI:</b> 10.5455/njppp.2017.7.1235909012017	

or causing psychological or physiological damages to a person. Noise is caused by acoustic waves of random intensities and frequencies. Prolonged exposure to noise of a similar intensity can be harmful to the health of a person in various aspects. Adverse effects of noise may cause serious health issues in later stages. There can be temporary or permanent adverse effect of noise exposure depending on the degree or intensity of that particular noise. Although hearing loss is one of the major problem caused by noise pollution, other effects, i.e., irritation, hypertension, headache, and sleep disturbances cannot be neglected. Stress can also be the consequence of the appraisal of noise.

National Journal of Physiology, Pharmacy and Pharmacology Online 2017. © 2017 Seema Gupta et al. This is an Open Access article distributed under the terms of the Creative Commons Attribution 4.0 International License (http://creative commons.org/licenses/by/4.0/), allowing third partiesto copy and redistribute the material in any medium or for mat and to remix, transform, and build upon the material for any purpose, even commercially, provided the original work is properly cited and states its license.

Title of the Collaborative activity: A cross-sectional study in north
eastern Uttar Pradesh population for the assessment of beta cell
functions in patients with recently diagnosed type 2 diabetes mellitus
treated with metformin alone, metformin with add on sitagliptin &

Department of Pharmacology, Narsinhbhai Patel Dental College &

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Hospital, Visnagar

sitagliptin alone

Name of the participants: Dr. Neerjesh, Raj Kishore Singh, Vipender

Singh Chopra, Akash Gajjar,

Year of collaboration: 2017-18



# WORLD JOURNAL OF PHARMACEUTICAL RESEARCH

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Research Article

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**S. No:** 295

# A CROOS SECTIONAL STUDY IN NORTH EASTERN UTTAR PRADESH POPULATION FOR THE ESTIMATION OF HDL, TRIGLYCERIDES LEVELS IN RECENTLY DIAGNOSED PATIENTS WITH DIABETES MELLITUS TYPE 2 TAKING METFORMIN ALONE, METFORMIN WITH ADD ON SITAGLIPTIN AND SITAGLIPTIN ALONE

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## **ABSTRACT**

**Objectives:** To evaluate the role of Metformin, Sitagliptin & combination of both drugs in Body weight, HDL-C & Triglyceride levels in recently diagnosed patients of type 2 Diabetes mellitus. **Methods:** This cross-sectional study include analysis of total 75 patients were divided in 3 groups. Metformin group (2000mgs), Sitagliptin group (100 mgs), Combination of both Metformin & Sitagliptin group (Metformin 1000 mg+ Sitagliptin 50 mg). Their body weight (BMI) & Laboratory investigations regarding HDL & Triglycerides were carried out and findings were noted in each followups. **Results:** After 24 week onwards there were statistically significant reduction in BMI in each group but in the 3<sup>rd</sup> group

(Combination group) patients the reduction in BMI was Most highly

**S. No:** 296 Title of the Collaborative activity: Platelet rich plasma—A new revolution in medicine Name of the collaborator: 1. Gaurav Singh Section of Dentistry, Springer Nature, India Name of the participants: Vishram Singh , Rashi Singh , Gaurav Singh Year of collaboration: 2017-18 Nature of the activity: Research

# Platelet rich plasma—A new revolution in medicine

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Received 28 September 2017, Accepted 11 October 2017, Available online 27 October 2017, Version of Record 15 November 2017.



# Abstract

In the recent years there has been a paradigm shift in consideration of platelets from being just <a href="https://example.com/hemostatic">hemostatic</a> cells to actually performing a myrad of diverse functions. The recent use of <a href="https://example.com/Platelet Rich Plasma">Platelet Rich Plasma</a> as therapeutic agent is based on its growth factor content and the matrix provided by the platelets themselves. An overview of PRP, its uses in the field of medicine is provided for correct understanding of PRP therapy. Standardization of preparation and administration also remains a challenge due to various variables present. How beneficial are these individually tailored protocols, still remains to be seen.

Blood is mainly liquid plasma containing small solid components such as RBC, WBC and platelets. Platelets contain different growth factors and cytokines contributing to <a href="https://doi.org/10.1001/journal.com/">https://doi.org/10.1001/journal.com/</a> and capable of stimulating healing of both bone and soft tissue.

