Department wise list of Faculty Member

Department	Name of the Faculty Qualification IMR Number	Current Designation & Date of Promotion	Name of employment Regular/permanent or contract/outsourced	Details of Service in the Last 5 years					Number of Lectures taken/year Topics covered
				1	2	3	4	5	
Physiology	DR. MANISH GOYAL MBBS, MD Physiology CGMC2814/2010	Associate Professor 11/01/2022	Regular	GMC Ambikapur (Assistant Professor)	GMC Ambikapur (Associate Professor)	GMC Ambikapur (Associate Professor)	GMC Ambikapur (Associate Professor)	GMC Ambikapur (Associate Professor)	23 CVS
	DR. POOJA PRADHAN CGDC/14/G/1522	Demonstrator	Regular	GDC Raipur (Assistant Professor)	GMC Ambikapur (Demonstrator	GMC Ambikapur (Demonstrator	GMC Ambikapur (Demonstrator	GMC Ambikapur (Demonstrator	21 NMJ Respiratory System Special sense
	DR. ARCHANA LAKRA CGMC895/2023	Tutor	UG Bond	-	-	-	GMC Ambikapur (Tutor)	GMC Ambikapur (Tutor)	12 General physiology Endocrine Female reproductive system
	DR. PRIYA JINDAL CGMC915/2024	Tutor	UG Bond	-	-	-	-	GMC Ambikapur (Tutor)	8 Blood

Current Designation	Name of Faculty members with qualification, Adhar No., pan card no. and IMR no.(state registered)	Nature of employment Regular/Permanent or Contractual/Outscourced and Date of promotion /Date of Joining
	Department : Physiology	
Professor	NA	NA
Associate Professor	DR. MANISH GOYAL MBBS, MD (PHYSIOLOGY) Regi. No. – CGMC 0074/2003	REGULAR 11/01/2022
Assistant Professor	NA	NA
Demonstrator	DR. POOJA PRADHAN MSc. MEDICAL PHYSIOLOGY CGDC/14/G/1522	REGULAR 01/06/2022
Demonstrator	DR. ARCHANA LAKRA MBBS Regi. No. – CGMC 895/2023	UG BONDED 16-08-2024
Demonstrator	DR. PRIYA JINDAL MBBS Regi. No. – CGMC 915/2024	UG BONDED 15-07-2025
Tutor	DR. SHIREEN HARIS MBBS Regi. No. – CGMC 12777/2022	PG STUDENT 09-10-2023
Tutor	DR. RAJESH KUMAR PATEL MBBS Regi. No. – CGMC 9334/2019	PG STUDENT 18-10-2023
Tutor	DR. ARCHNA DEKATE MBBS Regi. No. – CGMC 2396/2009	PG STUDENT 26-10-2023
Tutor	DR. JEFFIN C ABRAHAM MBBS Regi. No. – 48467 (The TRAVANCORE- COCHIN COUNCIL OF MORDEN MEDICINE) Year of Award of degree – 2013	PG STUDENT 01-04-2025

ANNEXURE -1

S.NO.	Faculty Name	Publication in Vancouver referencing style	Pubmed Indexed Yes/No	Scopus Indexed Yes/No
1	Dr. Manish Goyal	Abha Ekka, Santosh Ekka, Manish Goyal, Akash Raj Verma, Ann Thomas. A cross sectional study to find out factors affecting the practice of mothers in prevention and control of worm infestation in the villages covered under the family adoption program in Ambikpur, Chhattisgarh. International Journal of current Pharmaceutical Revie and Research 2025; 17 (10); 703-707	NO	NO
		Abha Ekka,Manish Goyal, Akash Raj Verma, Santosh Ekka, Ann Thoma, Yeesha Verma An assessment of need of IEC on front of food package labels information among school going adolescents in urban area of Surguja District. Int JMed Pub Health 2025; 15 (3); 1848-1853	NO	NO
		Bhavana Pandey, Hemlata Thakur, Manish Goyal, Sumit Dhruve.The study of internet addiction and its association with poof sleep among medical students. Int J Med Pub Health 2024; 14 (2); 995-998	NO	NO
		Nilima Kumari, Pratima Verma, Vibha Tondon, Manish Goyal Estimation of Serum Iron level in Undernourished Children in Rohilkhand Region U.P Bareily. European Journal of Molecular & Clinical Medicine ISSN 2515-8260 Volume 9, Issue 07, 2022	NO	NO
		Manish Goyal, S.K. Dwivedi , Ajit Singh Rajput. Effect of different phases of menstrual cycle on lung functions in young girls of 18-24 years age. International Journal of research in medical sciences 2017 Feb;5 (2) : 612-618	NO	NO
		Goyal M, Kavita, Tiwari RK, Dhone PG. Perception of phase 1 MBBS Students regarding the foundation Course: A Cross- Sectional Study. JCDR.2021 Dec;15(12):01-04	NO	NO
		Thorat k,Goyal M,Bansal P,Singhal S.Evaluation of hazards of ionizingRadiation on nerve conduction in superior extremity with duration of exposure at tertiary care institute:A comparative study.IJPCR.2023;15(4):1038-1045	NO	NO
		Kumari N, Goyal M, Tiwari RK. Correlation of serum biochemical parameters and oxidative stress in malnourished children: A case-control study.JCDR.2022 Oct;16(10):BC01-BC05	NO	NO

		Dhone PG, Goyal M, Sahu YP, Mubeen MF. To evaluate antioxidant activity of costusigneus in ethanol induced peroxidative damage in albino rats.IJHS.2022.4506-4513	NO	NO
		Dhone PG, Goyal M, Ekka A, Mubeen MF. Association of visceral fat with cardiopulmonary fitness, Oxidative stress and inflammatory markers in asymptomatic individuals with and without family history of type 2 diabetes mellitus.IJHS.2022.4506-4513	NO	NO
		Shagufta K, Alam MN, Goyal M. Helminthic infection A public health problems in children: A cross-sectional study in a tertiary care institution of central India. Journal of Cardiovascular Disease Research.2023;14(8):312-319	NO	NO
2	Dr. Pooja Pradhan	Pooja Pradhan, Ailani Vinita Significance of six minute walk test (6MWT) in COPD patients IOSR Journal of Dental and Medical Science (IOSR -JMDS) e-ISSN : 2279-0853	NO	NO
		Mr. Rupendra kumar Sao, Dr. Sandeep Tripathi, Dr. Laxmikant Bachu , Dr. Pooja Pradhan, Dr. Madhuri Gupta Role of Cystatin -C in diabetic Neuropathy patients with Type-2 Diabetes Mellitus International journal of scientific research Volume-12| Issue- 06|June - 2023| PRINT ISSN No. 2277-819| DOI: 10.36106/ijsr	NO	NO
		Dr. Tripti Nagaria, Dr. Smrity Naik, Dr. Neeti Khobragade, Dr. Pooja Pradhan.A adult of cesarean sections in Pt. J.N.M. Medical College & Dr. B.R.A.M.Hospital, Raipur. International Journal of life sciences, Biotechnology and Pharma Research Vol. 14 No.3, March	NO	NO

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Original Research Article

A Cross-Sectional Study to Find Out the Factors Affecting the Practice of Mothers in the Prevention and Control of Worm Infestation in the Villages Covered Under the Family Adoption Program in Ambikapur, Chhattisgarh

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Conflict of interest: Nil

Abstract

Introduction: Worm infestations are a major public health problem in developing countries, particularly among children, leading to malnutrition, anaemia, impaired growth, and reduced cognitive performance. Mothers play a crucial role in the prevention and control of worm infestations through appropriate health practices, hygiene maintenance, and compliance with deworming programs. Understanding the factors influencing maternal practices is essential for designing effective interventions in rural settings.

Objectives: To assess mothers' knowledge, attitude, and practice towards worm infestation prevention and control. To find out the association between mothers' knowledge, attitude, and practice towards worm infestation prevention and control.

Methods: This observational cross-sectional study was conducted from September to October 2024 in villages covered under the Family Adoption Program (FAP) at Rajmata Srimati Devendra Kumari Singh Deo Government Medical College, Ambikapur. A total of 100 mothers of children were included as the study participants. Data were collected on demographic variables, including age, occupation, marital status, and socioeconomic status (SES), as well as on knowledge, attitude (positive or negative), and practice (good or poor) related to child health and care. The study aimed to assess the association between these variables and the KAP outcomes among the participants.

Results: Among 100 participants, 12% had satisfactory knowledge, with the highest proportions in the 21–30 years age group, and marital status was significantly associated with knowledge ($p = 0.022$), while age, occupation, and SES were not. Overall, 46% had a positive attitude, and 38% demonstrated good practice. Good practice was higher among those with a positive attitude (35/46, 56.5%) compared to those with a negative attitude (27/54, 43.5%), with a statistically significant association ($p = 0.007$). Among knowledgeable participants, 42/65 (67.7%) showed good practice, whereas 20/35 (32.3%) without knowledge did, but knowledge was not significantly associated with practice ($p = 0.463$).

Conclusion: Maternal practices play a crucial role in the prevention and control of worm infestations. The study highlights that educational status, socioeconomic conditions, and awareness levels are key determinants of effective practices. Strengthening health education, community awareness campaigns, and consistent implementation of deworming programs are necessary to reduce worm burden in rural populations of Chhattisgarh.

Keywords: Worm infestation, Mothers, Practices, Prevention, Control, Family Adoption Program, Ambikapur, Chhattisgarh.

Introduction

Worm infestations remain one of the most persistent public health challenges in low- and middle-income countries, particularly affecting children and vulnerable populations in rural areas [1]. Intestinal parasitic infections caused by soil-transmitted helminths such as *Ascaris*

Section: Miscellaneous

Original Research Article

AN ASSESSMENT OF NEED OF IEC ON FRONT OF FOOD PACKAGE LABELS INFORMATION AMONG SCHOOL GOING ADOLESCENTS IN URBAN AREA OF SURGUJA DISTRICT

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Int J Med Pub Health
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ABSTRACT

Background: Front of package food labels (FoPL) has been repeatedly recommended and considered a legitimate tool by the World Health Organization (WHO) as one of a suite of measures needed to improve population diets by using nutritional fact given in the packaged food items. Nutritionlabeling support the goal of promoting healthy eating by the public health community, government and companies because dietary habits are considered as significant contributors for Non-communicable diseases (NCDs) which is also called lifestyle diseases. This study was conducted to assess the adolescent's knowledge on FoPL, understanding of nutritional information on FoPL, change in attitude after health education for using FoPL information to make healthier food choice.

Materials and Methods: Carried out an institutional based, descriptive Cross sectional study among 300 School going adolescent in urban area of Surguja Chhattisgarh. This study group were chosen because they will use FoPL to make healthier food choice which help in preventing malnutrition from adolescent age of life cycle. Data was collected through using pre -designed, pre-tested questionnaires and data was compiled in MS Excel, analyzed in SPSS TRAIL Version 21.

Results: Overall only 82 (27.3%) & 43 (14.3%) of the study subject were having good general knowledge of Front of package food labels & nowledge of information related to nutrition contents and health respectively. Only37(12.3%) having good understanding of nutritional information in FoPL regarding contents & health. Positive attitude before intervention use of front of food package labels information before purchasing food packets only 133 (44.3%) of subjects which was changed to 287 (95.6%) subject towards to use front of food package labels information in their future before purchasing packed food. Changing of attitude by information education communication was highly statistically significant.

Conclusion: The present study successfully proved that poor knowledge & poor understanding of nutritional fact label on front of food package labels need information education communication on front of food package labels information among school going adolescents.

Keywords: Nutritional factlabels, Knowledge, attitude, understanding, Food safety and standards, Indian Council of Medical Research - National Institute of Nutrition.

Section: Community Medicine

Original Research Article

THE STUDY OF INTERNET ADDICTION AND ITS ASSOCIATION WITH POOR SLEEP AMONG MEDICAL STUDENTS

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Source of Support: Nil,
Conflict of Interest: None declared

Int J Med Pub Health
2024; 14 (2); 995-998

ABSTRACT

Background: Use of internet has increased exponentially worldwide with prevalence of internet addiction ranging from 1.6% to 18% or even higher. The use of internet is both beneficial and detrimental to the user's health. Internet addiction is not only affecting the quality and duration of sleep, it is also leading to a higher incidence of insomnia, psychiatric disorders such as depression, anxiety, alcohol addiction, and attention deficit in college students, it has also negatively influenced the duration of bedtime sleep, caused daytime fatigue, and impaired work performance. Objective of the study was to report internet addiction and its association with poor sleep and depressive symptoms among medical students.

Materials & Methods: A cross-sectional, questionnaire-based study was conducted among 275 undergraduate medical students at Government Medical College, Ambikapur, Chhattisgarh. Data pertaining to pattern of internet use, socio-demographic characteristics, sleep quality and depressive symptoms were collected with the help of pre designed and pre tested questionnaire. Data entry will be done by using MS word excel sheet and data analysis will be done by using epi info software.

Results: Out of the 275 undergraduate medical students, 41.1% Participants are normally using internet while 2.5 % participants are severely addicted, majority are female (56%) and between 18-22 years age group. Most of the students belonged to the urban domiciles (64.7%) and among them only 16.5% was living with their family. Direct association between internet addiction and insomnia is seen among medical students. More internet addiction was seen among upper and upper middle-class people. The place of residence was significantly associated ($p = 0.03$) with internet addiction. Stress and depression were independent predictors of sleep quality.

Conclusion: Quality sleep is the key for good health. Based on limited samples, this study showed that pattern of internet use was associated with poor sleep quality. Hence, continuous counselling is suggested for supporting students managing their use of internet and stress. Stress and depression were independent predictors of sleep quality.

Keywords: Internet addiction, Insomnia, undergraduate.

INTRODUCTION

Over the last two decades, Internet use has become one of the most important tools of information, education, job opportunities, entertainment including social media gaming and networking. Internet use has grown exponentially worldwide to more than 2.5 billion active users,[1-2] with the majority being adolescents and young people.[3] It is estimated that in India, about 18 per 100 of the general population are active Internet users and most are young adults.[4]

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ORIGINAL RESEARCH

Estimation of Serum Iron Level in Undernourished Children in Rhohilkhand Region U.P Bareilly

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[1,2]Assistant Professor, Department of Biochemistry, RSDKS GMC, Ambikapur
[3]Assistant Professor, Department of Biochemistry, GMC, Korba
[4]Associate Professor, Department of Physiology, RSDKS GMC, Ambikapur

ABSTRACT

Background: The overall objective is to "Assess the serum iron level in moderate & severe undernourished children (1-5 years)" in Rohilkhand Medical College & Hospital, Bareilly.

Materials and Methods: The nutritional status of the children was assessed by plotting the weight and height of the children on WHO 2006 Growth Standards growth charts. Weight for age and height for age assessment was done by plotting the study subject's weight and height on different growth charts for boys and girls. Nutritional status as per BMI for age criteria was also assessed by plotting the study subject's BMI for their respective age.

Results: Out of 202, 103 children were undernourished children and 99 children were healthy children which were control. Total cases were 51%, among cases 22.8% were severe malnourished children and 28.2%Serum Iron level of control were 139.31±20.19 ug/dL and moderate and severe malnourished children were 99.49± 10.05 and 75.71± 10.92 ug/dL respectively. Serum iron level of malnourished cases was significantly low having p value less than 0.001.

Conclusion: Serum iron profile can be used as a prognostic marker in PEM patients. Routine measurement of serum iron and its subsequent supplementation in PEM children could improve the management of this group of patients.

Keywords: Protein energy malnutrition (PEM), Socio-economic factors, iron deficiency, developing countries, Nutritional anemia.

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INTRODUCTION

Protein energy malnutrition (PEM) is one of the most important public health problems in many developing countries including India, South East Asia and Africa. It is a wide-spread deficiency disease among children of low socio-economic groups. According to UNICEF in India, around 46 percent of all children below the age of three are malnourished and underweight 1 in 3 of the world's malnourished children lives in India.[1] Nutritional deficiency in infants and children may occur as a result of inadequate intake, impaired absorption, hyper—excretion or occurrence of disease that affect metabolism of nutrient, increase losses due to diarrhea, along with a lack of breast feeding.[2] Although clinical features of PEM are well defined, its pathophysiology is stil poorly understood. Recently free radicals have been implicated in pathophysiology of PEM.[3] India, like other developing countries, has a high burden of micronutrient deficiencies, with almost 75% of its children sufferingfrom iron deficiency anemia and over 50% of children from zinc deficiency.[4,5] Iron is an essential part of hemoglobin, myoglobin and various enzymes. Its deficiency leads,

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Original Research Article

Effects of different phases of menstrual cycle on lung functions in young girls of 18-24 years age

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ABSTRACT

Background: The dynamic cyclical changes in the levels of various hormones during different phases of menstrual cycle are known to affect functioning of different systems of the body, including the respiratory system. Objective of the study was to study the effects of different phases of menstrual cycle on lung functions in young girls of 18-24 years age.

Methods: 78 girls who were medical students of G.R. Medical College, Gwalior, India were chosen for the study. Their lung function parameters were recorded on Spiro Excel, a computerized spirometer. Four lung function parameters i.e. FVC, FEV1, FEV1/FVC% and PEFR were recorded in the different phases of menstrual cycle i.e. menstrual phase, proliferative phase and secretory phase.

Results: All lung function parameters except FEV1/FVC% were least in menstrual phase and highest in secretory phase with in between values in proliferative phase. The values were significantly different among the three phases. FEV1/FVC% values were maximum in menstrual phase, lowest in secretory phase with intermediate values in proliferative phase but the values were not significantly different among the three phases. Mean values of FVC, FEV1 and PEFR were higher in all the phases of menstrual cycle in normal BMI subjects as compared to the corresponding phases of underweight subjects.

Conclusions: Higher values of lung functions during proliferative and secretory phases can be attributed to the higher concentrations of sex hormones specially progesterone because in most of the studies progesterone is known to cause relaxation of bronchial smooth muscle.

Keywords: Lung function, Menstrual cycle, Young girls

INTRODUCTION

The normal reproductive years of the female are characterized by monthly rhythmical changes in the rates of secretion of the female hormones and corresponding physical changes in the ovaries and other sex organs. This rhythmical pattern is called the female monthly sexual cycle (or, less accurately, the menstrual cycle). The duration of the cycle averages 28 days and for 3-5 days actual bleeding occurs.[1] Menstrual cycle occurs in three phases: Menstrual, proliferative and secretory phase, which are regulated by sex hormones: estrogen, progesterone secreted from the ovary and also by gonadotropins: Luteinizing and follicle stimulating hormones secreted from anterior pituitary. Endogenous hormone levels vary around puberty and in menarche, menstrual phases, menstrual irregularity, lactation, during proximity to menopause etc. Furthermore many women

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Original Article

Education Section

Perception of Phase 1 MBBS Students Regarding the Foundation Course: A Cross-sectional Study

MANISH GOYAL[1], KAVITA[2], RAVI KANT TIWARI[3], PRAVIN GUNDERAO DHONE[4]

ABSTRACT

Introduction: A one-month Foundation Course (FC) was introduced by Medical Council of India (MCI) in its Competency Based Medical Education (CBME), from the academic session 2019 onwards. The course was introduced with the purpose to orient fresh MBBS students about the challenging academic environment of medical colleges, apart from giving them the opportunity to early assimilation, peer-communication, group-interaction and introducing them to some basic skills.

Aim: To obtain the perception of the students about their experience on the foundation course, and to collect feedback for further improvements in the next sessions.

Materials and Methods: A questionnaire-based observational cross-sectional study was conducted at the end of FC from April 2021 to July 2021. The participants were 92 newly joined phase 1 MBBS students at Rajmata Shrimati Devendra Kumari Singhdeo Government Medical College, Ambikapur, Chhattisgarh, India. The experience and the perception of students about the FC was taken as feedback, obtained on a prestructured and validated questionnaire consisting of 33 closed-ended questions and distributed over five modules. The feedback to these questions was to be answered as a single response based on the five-point Likert scale with decreasing order of agreement. Data analysis was done by using the Statistical Package for the Social Sciences (SPSS) version 16.0 software.

Results: The mean age of study participants was 19.05±1.21 years. Thirty four (36.9)% of the study participants graded the overall experience to FC as highly satisfactory. Among them 14 were male and 20 were female. The feedback on the orientation module and field visit module scored the average mean (4.2) on a five-point Likert scale. While the feedback on the module on computer, language, learning and extracurricular activities obtained the lowest average mean score (3.6).

Conclusion: The FC is a welcome change in the curriculum according to the newly introduced CBME. The topics such as 'cadaver as first teacher', 'visit to dissection hall', 'visit to blood bank', 'role of doctors in society' and 'Basic Life Support (BLS)' scored the higher mean value, while 'substance abuse and cyber-addiction' and 'sports and hobbies' scored the lower mean values on a five-point Likert scale. The FC helped to assimilate and acclimatise the newly joined phase 1 MBBS students with the main stream of medical course.

Keywords: Curriculum, Indian medical graduate, Likert scale, Skill

INTRODUCTION

The Medical Council of India (MCI) in its Competency Based Medical Education (CBME) had introduced an initial one month Foundation Course (FC) from August 2019 as a compulsory program since the first day of Phase 1 MBBS students at Medical Colleges. The basic motive behind such change was to sensitise the fresh MBBS students coming from diverse backgrounds, culture, languages, economic and social status. There is a sudden shift from the pedagogic to andragogic pattern of learning and education. To assist in such change and to make it easier and helpful for the students as well as the faculty members, a need for Foundation cum orientation course has been awaited by medical educationists. Before the implementation of FC in CBME, many medical colleges were running and organising some orientation cum introduction programs of variable duration but usually of 2-3 days at the beginning of medical curriculum [1].

Competency based medical education proposes an Indian Medical Graduate (IMG) to be competent enough in acquiring clinical skills as well as having good attitudes, ethics and professionalism, learned through Attitude, Ethics and Communication Module (AETCOM) module. The FC which is the forerunner of CBME acts as first foundation to build the professional career of fresh medical students. It contributes in allaying their anxiety and apprehension and helps them in mixing and acclimatising into the new and challenging academic environment of medical colleges [2].

The major topics to be covered during the FC as suggested by CBME are divided into modules such as orientation module, skill module, professional development module, field visit module and the module on learning, language, communication and the extra-curricular activities. Based on such pattern, various medical colleges across the country conduct FC of one month duration at the start of Phase 1 MBBS course [3]. In view of the above facts this study was planned to assess the perception of phase 1 MBBS students about the FC and to plan and propose further refinement (if any) of this course from the next batch.

MATERIALS AND METHODS

The present questionnaire-based cross-sectional observational study was conducted at the Department of Physiology and Department of Pharmacology, Rajmata Shrimati Devendra Kumari Singhdeo GMC Ambikapur, Chhattisgarh, India, from April 2021 to July 2021. The study was commenced after the approval from Institutional Ethics Committee (IEC/25/2021/GMC Ambikapur/06.04.2021).

Inclusion criteria: The newly joined phase 1 MBBS students (batch 2020-2021) who underwent the FC were the participants in this study. Participation of the students in this study was voluntary and was taken after obtaining informed consent. Confidentiality of the participants was maintained.

Exclusion criteria: The participants who were unable to provide the informed consent were excluded from the study.

Procedure

In this batch, there were a total of 100 students, with 53 female and 47 male. The experience and perception of the students in the FC

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Original Research Article

Evaluation of Hazards of Ionizing Radiation on Nerve Conduction in Superior Extremity with Duration of Exposure at Tertiary Care Institute: A Comparative Study

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Corresponding author: Dr Shefali Singhal

Conflict of interest: Nil

Abstract

Introduction: Peripheral neuropathies are unfavorable consequences of radiation treatment. Tissue changes due to Radiation Exposure result in inflammation and fibrosis that affect the peripheral nerve and lead to peripheral neuropathies. Since the introduction of numerous new radiologic procedures, uses of radiation are increasing in modern medicine. Radiation exposure of Radiologic Technologists (RTs) is about two times higher than that of other occupation groups in the fields , such as physicians, dentists, dental hygienists, and nurses.

For better understanding peripheral nerves functioning Nerve Conduction Study (NCS) are most frequently used in neurophysiological laboratories. we tried to study the effect of chronic radiation exposure on peripheral nerve conduction study parameters in RTs.

Material and Methods: The Present study is a cross-sectional analytic prospective hospital-based study. In present hospital-based study a sum of 60 individuals were selected, of which all of them were Radiologic Technologists (study group/cases), were grouped upon duration of occupational radiation exposure. Group I-RTs with duration of exposure <10 years averaging 6.27 ± 2.05 years. Group II - RTs with duration of occupational radiation exposure 11-25 years averaging 14.44 ± 3.35 years and Group III - RTs with duration of occupational radiation exposure >20 years averaging 23.60±5.21.

The Nerve conduction study parameters were recorded with the help of computerized RMS EMG EP Mark –II, made 2015 machine, Panchkula, Haryana, using conducting jelly and recording electrodes.

Results & Discussion: We found changes in both sensory and motor nerve conduction study parameters in RTs of different duration of occupational exposure. With increase in duration of exposure nerve distal latencies were increased and, Amplitudes (CMAP/SNAP) and NCV were reduced among group I and III. Group II showed variable results.

Nerve Conduction velocity showed a reducing trend with the increasing duration of radiation exposure, this may be due to the reason that Nerve Conduction velocity excludes the individual anthropometric variations.

Conclusion: Conclusion of our study is that ionizing radiations are harmful to all the body tissues including the peripheral nerves. Radiations appear to cause both demyelination and axonal loss.

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Original Article

Biochemistry Section

Correlation of Serum Biochemical Parameters and Oxidative Stress in Malnourished Children: A Case-control Study

NILIMA KUMARI[1], MANISH GOYAL[2], RAVI KANT TIWARI[3]

ABSTRACT

Introduction: There are evidence regarding enhanced oxidative stress in the form of serum Malondialdehyde (MDA) and depleted activities of serum zinc and iron in malnourished children. The deficiency of trace elements predisposes the susceptibility to various infections. Changes in oxidant and antioxidant levels may be responsible for grading in Protein Energy Malnutrition (PEM).

Aim: To correlate the levels of serum biochemical parameters such as proteins, zinc, iron with oxidative stress in the form of Malondialdehyde (MDA), in malnourished children of 1-5 years of age and also to compare the findings with age and gender matched well-nourished children.

Materials and Methods: This case-control study was conducted in the Biochemistry Department at Rohilkhand Medical College and Hospital, Bareilly, Uttar Pradesh, India, from January to December 2014. A total of 202 children (aged 1-5 years) were included in the study. Out of these, 103 children were undernourished and 99 children were healthy control. Out of 103 undernourished children 46 were severe malnourished and 57 were moderate malnourished. Blood samples were analysed for the estimation of serum zinc, iron, MDA, albumin and total protein. T-test, one-way Analysis of Variance (ANOVA) and Pearson correlation were used for statistical analysis and p-value <0.001 was considered significant.

Results: Mean weight of moderate malnourished (10.44±2 kg) and severe malnourished children (9.36±1.54 kg) were significantly low (p-value <0.001) when compared with control group (12.73±2.36 Kg). Compared to controls (0.71±0.18 nmol/mL) the serum MDA level were significantly high (p-value <0.001) in both moderate (1.84±0.38 nmol/mL) and severe (3.44±0.59 nmol/mL) malnourished children. Serum zinc and serum iron levels, serum total protein and albumin of malnourished cases were significantly low (p-value <0.001) as compared to the control subjects.

Conclusion: Compared to control, the malnourished children had significant high level of serum MDA while low levels of serum zinc, iron, albumin, globulin and total proteins. Early replacement of antioxidants, nutrients, proteins, zinc and iron supplement could be useful in the therapy of this disease.

Keywords: Antioxidants, Iron, Malondialdehyde, Protein energy malnutrition, Zinc

INTRODUCTION

Protein Energy Malnutrition (PEM) is one of the common health problems among children of developing countries including India [1]. It is a wide spread deficiency disease among children of low socio-economic groups. Growth retardation due to this condition occurs in children of post weaning age which may be a result of dietary deficiency of specific nutrients [2].

World Health Organisation (WHO) has defined PEM as a range of pathological conditions arising from coincident lack in varying proportions of protein and calories occurring most frequently in infants and young children and commonly associated with infections. PEM includes severe and mild forms of PEM. The severe forms of PEM are kwashiorkor, marasmus and marasmic kwashiorkor [3]. India, like other developing countries has a high burden of micronutrient deficiencies with almost 75% of its children suffering from iron deficiency anaemia and over 50% of children from zinc deficiency [4,5].

The clinical features of PEM are well defined but its pathophysiology is still poorly understood. Antioxidant role of some trace elements such as Zinc (Zn), Copper (Cu) and Selenium (Se) has been shown in some studies apart from the deficiency of calories and proteins [6-8]. Recently free radicals have been implicated in pathophysiology of PEM [9]. In malnutrition there is excessive oxidative stress in the form of production of reactive oxygen intermediates within the erythrocytes. Malondialdehyde (MDA), a product of lipid peroxidation is generated in excess amounts [10].

The oxidative stress may contribute to pathophysiology in malnutrition. Uttar Pradesh is geographically a large state of India. Review of the published articles on malnutrition in children from Uttar Pradesh and other states of India has shown limited number of studies and none of them have combined the assessment of the parameters of oxidative stress, the trace elements in serum such as zinc and iron and the serum proteins, albumin and globulin in a single study [11-13]. Keeping the above fact in mind, the present study was aimed to assess the intensity of oxidative stress in undernourished children one-five years of age by measuring MDA level along with serum zinc, iron and protein levels and to compare with age and gender matched well-nourished children.

MATERIALS AND METHODS

This case-control study was conducted in the Department of Biochemistry, Rohilkhand Medical College and Hospital (RMCH) Bareilly, Uttar Pradesh, India, from January to December 2014. The study was conducted after getting approval from Institutional Ethical Committee (IEC/32/2013). After explaining the aim and objectives informed consent was taken from parents of children for participation in this study.

Inclusion criteria: The moderate and severe undernourished children, aged between 1-5 years, attending Outpatients Department of Paediatrics of the study institute, were included as cases. Age and sex matched healthy well-nourished children were included as control.

Exclusion criteria: Child with sepsis or any acute illness, any systemic illness/liver disease, nephrotic syndrome, thalassaemia, children on micronutrient supplementation {Zn, Se, Cu, Magnesium (Mg)}, children on vitamin C or vitamin E supplementation, those parents' not giving consent/child refusal were excluded from the study.

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To evaluate of antioxidant activity of *Costus igneus* in ethanol induced peroxidative damage in albino rats

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Abstract---The free radical oxidants such as reactive oxygen species, reactive nitrogen species, and reactive sulphur species are produced inside cells through various metabolic processes. The body is equipped with an antioxidant defence system that guards against oxidative damage caused by these reactive oxidants and plays a major role in protecting cells from oxidative stress and damage. *Costus igneus* possess various pharmacological activities like hypolipidemic, diuretic, antioxidant, anti-microbial, anti-cancerous. Preparation of *Costus igneus* leaves extract. The leaves of CI were collected from the plants grown. The leaves then were shade-dried and finely powdered; the ethanolic extract is obtained by Soxhlet extraction (20 g in 100 ml of 95% ethanol at 55 °C). The rats were divided into four groups: Group I: Normal Control rats received 0.9% normal saline. Group II: Ethanol (20% w/v of 2g/kg body weight). Group III: 20% w/v of 2g/kg ethanol + ethanolic extract of Costus igneus 300 mg/kg body weight. Group IV: 20% w/v of 2g/kg ethanol + ethanolic extract of Costus igneus 600 mg/kg body weight. All the study groups received treatment through oral route for thirty days at a constant volume of 10 ml/kg. For further estimation of reduced GSH (glutathione), superoxide dismutase (SOD), catalase (CAT) antioxidant enzymes and lipid peroxidation. Reduced glutathione decreased in ethanol treated group compared to control group and increased in group 3 and 4 compared to ethanol group. Its level in the test group recovered to the

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Association of visceral fat with cardiopulmonary fitness, oxidative stress and inflammatory markers in asymptomatic individuals with and without family history of type 2 diabetes mellitus

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Abstract---Diabetes mellitus (DM) is a metabolic disorder characterized by chronic hyperglycemia with derangement of carbohydrate, fat, and protein metabolism due to absolute or relative deficiency of insulin secretion and action, or both. DM, especially type-2 DM, is a serious general medical issue which has arrived at scourge extents because of the quickly expanding paces of this ailment around the world. Target organ confusions, auxiliary to diabetes, are one of the most significant restorative worries of right now. The main findings of our research were no significant differences in baseline characteristics like age and height of both groups. Weight, BMI and waist hip ratio was significantly high in cases. Heart rate (HR), systolic blood pressure (SBP), diastolic blood pressure (DBP), mean arterial pressure (MAP) and rate pressure product were significantly high in Cases individuals; however, no significant difference was noticed in pulse pressure (PP). Significantly higher body fat and visceral fat %, lower levels of cardio respiratory fitness assess by cooper 12min run test and significantly higher levels of fasting blood sugar (FBS) was observed in cases. The oxidative stress assessed by total antioxidant status (TAOS) was significantly less and

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TITLE: HELMINTHIC INFECTION A PUBLIC HEALTH PROBLEMS IN CHILDREN: A CROSS-SECTIONAL STUDY IN A TERTIARY CARE INSTITUTION OF CENTRAL INDIA.

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Abstract:

Background: About two billion people in the world's population are affected by the soil-transmitted helminth infection, with children being the most affected with Soil Transmitted Helminth infection.[1] India alone contributes nearly 25% to the total global cases, with 220.6 million children in need of preventive chemotherapy. [2] In view of the above context, the present study was conducted with the aim and objective of to the prevalence of soil-transmitted helminth (STH) infection and its risk factors. Material and Methods: Study Design: A Cross-sectional Observational Study Study Setting: Department of Microbiology, AIIMS, Raipur, from January 1 to June 30, 2023 (6 months). Sample Size: 384 ($n=Z^2$ 1-ά/2 $P(1-P)/d^{2)}$ P=50%, CI=95%, d=5% Absolute Precision. Results: STH prevalence was 13.3%, more in males (68.8%), and significantly high (62.5%). $P < 0.05$) in school-going children between 6 and 12 years of age. The predominant STH was *Ancylostoma duodenale* (56.2%); STH infection was much less (12.5%) in those practising handwashing with soap. Fifty percent of children had an STH infection even after receiving deworming within the past six months. More egg counts—216 eggs per gramme of faeces—were found in 29 cases by the KK method. *Entamoeba histolytica* (56.5%) was predominant among non-STH infections. Conclusion: Contrary to the assumption of 50% prevalence, the actual prevalence was very low, only about 13.3%. School-going children aged 6–12 years were more affected, and handwashing with soap was the key factor in preventing STH infection. The proportion of participants having toilet facilities and using footwear regularly had no role in STH prevention.

ORIGINAL RESEARCH PAPER

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ROLE OF CYSTATIN-C IN DIABETIC NEPHROPATHY PATIENTS WITHTYPE-2 DIABETES MELLITUS

Biochemistry

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ABSTRACT

India regarded as Diabetic capital in the world with largest number of diabetic population which is expected to rise around 69.9 million by 2025 if preventive steps are not being taken.Uncontrolled diabetes for a long duration in type-2 Diabetes Mellitus (T2DM) patientsis closelyassociated with complications such as cardiovascular disease, neuropathy, retinopathy and nephropathy etc . T2DM patients are at high risk towards diabetic nephropathy (DN), chronic kidney disease followed by renal failure. DN is the largest single cause of end-stage renal disease. In recent years new pathways involved in the development and progression of diabetic kidney disease have been elucidated. Cystatin-C a surrogate endogenous marker known to be associated with early renal impairment for estimating early decline in GFR in diabetes which can help to detect early kidney injury. **Materials and Methods:** A total of 150 samples from type-2 diabetes mellitus patients with diabetic nephropathy were collected from SBIMS hospital, Bhilai (C.G). Serum will be separated by centrifugation. Parameters will be estimated by the following methods- a) Estimation of serum Cystatin-C by Immunoturbidimetry. **Result:** In the study out of 150 patients, 47 were females and 103 were males. All the patients having mean age of 53.16 ± 9.49 years. Mean Cystatin-C level among males was 2.85 ± 1.96. and that of in females was 2.44 ± 1.69. The present investigation shows that the cystatin c in serum was elevated significantly in DN. **Statistical Analysis:** Results will be subjected for appropriate statistical analysis. Students't'- test will be used for group wise comparison of biomarkers. Co- relation analysis will be used to measure the relationship between the biomarkers. **Conclusion:** This study concluded that the cystatin C could be better serum marker for early recognition of DN.

KEYWORDS

T2DM, DN, Cystatin-C

INTRODUCTION

Diabetes is a common global disease. India leads the world with largest number of diabetic subjects. According to the Diabetes Atlas 2006 published by the International Diabetes Federation, the number of people with diabetes in India currently around 40.9 million is expected to rise to 69.9 million by 2025 unless urgent preventive steps are taken.[1,2,3] Prolonged uncontrolled diabetes is associated with complications such as nephropathy, retinopathy, neuropathy, cardiomyopathy, vasculopathy and atherosclerosis.[4]

Diabetic nephropathy is the largest single cause of end-stage renal disease.[5] It is a multistage clinical syndrome with an acquired sclerotic injury associated with thickening of the glomerular basement membrane and mesangial expansion with progression into glomerulosclerosis, tubular necrosis and intestinal fibrosis which ultimately leads to renal failure.[6]

The overall prevalence of microalbuminuria & macroalbuminuria in patients with type 2 diabetes mellitus is 25% (13-27) & 14% (5-48) respectively.[7] Studies based in southern India have estimated that the current prevalence of overt nephropathy is 2.2% and of micro albuminiroa is 26.9%.[8]

In recent years, new pathways involved in the development and progression of diabetic kidney disease have been elucidated. Among several biomarkers, Cystatin-C as a surrogate endogenous marker for estimating early decline in GFR in diabetes has been proposed to be a promising marker which can help to detect early kidney injury.[9] Cystatin-C is a low molecular weight non glycosylated protein, which is produced by all nucleated cells in the body. It is removed from the blood stream and freely filtered by the glomerular membrane in the kidney and is not secreted by renal tubules & is completely reabsorbed by the tubules.[10] Several recent studies have also shown that patients with type 2 DM and overt nephropathy exhibit high levels of diverse acute phase markers of inflammation, including high senstivity C-reactive protein (CRP), tumor necrosis factor (TNF-α), fibrinogen, and IL-6.[11-16] Accumulated data have emphasized the critical role of kidney injury in the pathogenesis of diabetic nephropathy.

The present study has undertaken to evaluate the association/role of cystatin-C levels in early detection of DN in type-2 diabetes mellitus patients of India which in turn will help in the early intervention and management of diabetic nephropathy cases.

MATERIALS AND METHODS

It is an observational type of study. A total of 150 samples from type-2 diabetes mellitus patients with diabetic nephropathy were collected from SBIMS hospital, Bhilai and they were interviewed to obtain relevant data. The Biochemical investigations are done in the Department of Biochemistry. All patients suffering from type-2 diabetes having diabetic nephropathy will be diagnosed and confirmed by physician with FBS and PPBS according to American Diabetes Association criteria (FBS ≥126 mg/dl & 2 hour PPBS ≥ 200 mg/dl) and micro albuminuria.

Statistical Analysis:

Results will be subjected for appropriate statistical analysis. Students't'- test will be used for group wise comparison of biomarkers. Co- relation analysis will be used to measure the relationship between the biomarkers.

RESULT AND OBSERVATIONS

Table 1(a)

Age wise distribution		
Age group	Frequency	Persent
31-40	17	11.3
41-50	43	28.7
51-61	55	36.7
61-70	35	23.3
Total	150	100.0
Mean ± S.D = 53.16 ± 9.49		

Table 1(b)

Sex wise distribution					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	F	47	31.3	31.3	31.3

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ORIGINAL RESEARCH

An audit of cesarean sections in Pt. J.N.M. Medical College & Dr. B.R.A.M. Hospital, Raipur

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ABSTRACT

Background: Over the past decades, there has been a steady rise in the rate of caesarean delivery. Although liberal decisions were taken for primary CS, lack of proper intrapartum monitoring of others, and multiple factors have contributed to this uptrend. The goal of cesarean delivery is to avoid the complications that might develop after vaginal delivery. However, this major surgery is not without significant impact on maternal and fetal outcomes. Maternal complications include the increased risk of postpartum hemorrhage, risk of hysterectomy, infection, and deep venous thrombosis, besides a longer hospital stay. **Methods:** This was a prospective observational study done in the department of obstetrics and gynecology at This study was conducted prospectively for a period of twelve months from May 2018 to April 2019 in the gynecology and obstetrics department of Pt. JNM Medical College associated with Dr. BRAM Hospital, Raipur (C.G.). It included all patients who underwent caesarean section. **Results:** In our study, the maximum number of patients were in group 1 (32.67%) according to Robson's classification, followed by group 5 (27.47%). **Conclusions:** In conclusion, the rate of caesarean delivery is trending up, and this has contributed to significant medical, social, and financial impacts on the involved families. The most common indication for CS is Robson's Group 1, followed by Robson's Group 5 (27.47%) CS. Therefore, the rate of CS can be controlled if CS is done in primigravidae with the genuine indication.

Keywords: Caesarean section, Robson classification, Maternal characteristics

INTRODUCTION

When we see the trends in cesarean sections, we can easily make out the fact that from ancient times until now, rates of cesarean sections keep on increasing. [1] Globally, the highest cesarean section rates are in Turkey (50.4%), followed by Mexico (45.2%) and Italy (36.1%), while the lowest rates are in the Netherlands (15.6%). [3] In an overall view, Latin America and Caribbean countries have the maximum rates (40.5%), northern America as well as Australia and New Zealand (32.3%) followed by Europe (25%) and the least rates in Africa (7.3%). In Asia (19.2%), it is the maximum in eastern Asia (34.8%), followed by western Asia (24.5%), in southeastern and south-central (14.8 and 11.4%), respectively. [2] In India, a rising trend in cesarean sections is observed from 2.9 in 1992-93 to 7.1 in 1998-99, 10.6 in 2005-06, and 17.2 in 2015-16. While maximum rates are from Telangana (55%), J&K (46%), and Goa (45.61%), the minimum is from Bihar (5.96%) and Jharkhand (8.18%). [3] With this much increase in rates of cesarean sections globally, there is an increase in maternal morbidity as well as mortality also. As cesarean sections pose women to infections and multiple blood transfusions and their associated complications, bedridden conditions, risk of deep vein thrombosis, anesthesia-related complications, and many more. WHO (1985) recommends an optimum cesarean section rate to be 10-15% globally, with no justification in any region of the world to have higher rates than this. [4] In order to reduce the rates and to address these issues, it is necessary to first carry out an audit to know the indications and reasons to know

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Significance of six minute walk test (6MWT) in COPD patients

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Abstract
Background: *The aim of present study was to evaluate the effect of 6 minute walk test in patients suffering with COPD. The study was conducted in 120 male and female subjects between 40- 80 years of age (30 subjects were taken as control and 90 subjects were patients suffering from COPD). Then COPD subjects were further sub-divided on basis of Gold classification (3).Subjects taking current chronic treatment with steroids or history of cystic fibrosis or any respiratory tract infection were excluded from study.*
Material and method: *A structured proforma was given to subject to elicit lifestyle and systemic diseases. Then assessment of anthropometric parameters, cardiovascular parameters and exercise capacity by 6 minute walk test was done as per ATS guidelines 2002 (1). VO_2 max was calculated and was compared with normal values (2). Dyspnea and fatigue levels were assessed using Borg dyspneic scale.*
Result: *Study confirms the reliability of 6 minute walk test in clinical follow up and rehabilitation in patients of COPD and with reduced physical activity and thus it is proved that this test helps to reduce dyspnea and improves survival.*
Conclusion: *From this study it is concluded that there is decrease in oxygen uptake in COPD patients and person is not able to cover total walk path. But continuous follow up of this 6MWT help to revert the physical activity in patients with mild to moderate COPD as per Gold classification (3).*
Keywords: *Six minute walk test (6MWT), chronic obstructive pulmonary disease (COPD), Borg dyspneic scale*

I. Introduction

Chronic obstructive pulmonary disease (COPD) is syndrome used to describe slow progressive airway obstruction mainly associated with increased frequency of smoking which is not reversible (4). Patients with COPD have varying degree of three pathological processes each related with smoking, mainly chronic bronchitis, small airways obstruction and emphysema. In each study COPD increases with age and the data available indicate the morbidity due to increase with age (5) Surveys in several parts of world had documented that the prevalence of COPD among nonsmokers is 3 to 11 % (6). Physical activity is an important clinical parameter related to mortality and morbidity in many chronic diseases. Along with chronic obstruction of lung airflow COPD has detrimental extra pulmonary effect such as weight loss and skeletal muscle dysfunction. The relationship between physical activity and COPD was studied (7) and general practitioners were advised to improve patient's physical condition by expanding pulmonary rehabilitation programme. Relationship between physical activity, disease severity wealth state and prognosis in patients with COPD was also studied (8). The six minute walk test is widely employed to assess changes in functional exercise capacity in patients following pulmonary rehabilitation. It was observed that 6 minute walk test need to differ to signify noticeable difference in walking ability for patients. This smallest difference in walking distance noticeable in patients may help the clinician to interpret the effect of symptomatic treatment for COPD (9). This 6 minute walk test is a potentially useful biomarker of disease severity (10). The COPD stage at which physical activity is restricted was also studied (11). A population base study found that all levels of regular physical activity was associated with an adjust to reduce risk of all causes of mortality and respiratory mortality.

II. Material And Method

The present study was conducted in Department of Physiology NIMS Medical College Jaipur. The subjects were taken from NIMS hospital and NIMS medical college. Sample size consisted of 120 male and females subjects of whom 30 were taken as control group and remaining 90 were subjects suffering from COPD. These were further subdivided following Gold classification. Subjects on steroid, asthmatic or having cystic fibrosis or upper and lower respiratory tract infection were excluded from study and detailed history and physical examination was carried out for every subject. An approval was taken from ethical committee of NIMS medical college and hospital and consent was taken from all subjects. The parameters analyzed was 1.anthropometric parameters like height, weight, BMI (calculated using Quetelets formula weight/height^2 (Kg/m^2), waist and hip circumference was also observed. 2. Cardiovascular parameters like blood pressure, pulse rate, and respiratory rate was also observed. 3. Six minute walk test (6MWT) as per ATS guidelines 2002 was performed in both control and COPD subjects. 4. Post test parameters like dyspnoea and fatigue (Borg