

Assessment of Knowledge about Vital Signs among Paramedical Students

Ambooj Thakur¹, Niraj K Sah², Raushan Kumar³, Navreet boora⁴

¹ Corresponding Author, Department of Radiological Imaging Techniques, Teerthankar Mahaveer University, Moradabad (U.P.)

² Assistant Professor, Department of Radiological Imaging Techniques, Teerthankar Mahaveer University, Moradabad (U.P.)

Abstract:-

Background: The objective measurements of vital signs for clinical evaluation of individual health. As vital signs working function parameter of individual health. So its knowledge will be essential for health care professionals. Health care providers must understand the importance of vitals as it deals with various pathological & physiological acts on above set regarding evaluation & their appropriate. There are 4 chief vital signs basically measured routinely by medical workers analysis. ⁽¹⁾ Generally, signs of life consist about human Blood Pressure (B.P.) human heart rate, human respiration rate, and human body temperature.

Aim

- Estimate the level of knowledge from paramedical students about vital signs.

Objective

- To evaluate the knowledge about vital signs to paramedical students.
- To aware about vital signs to paramedical students of paramedical collage of Teerthankar Mahaveer University

Material and method: • A Cross-sectional Prospective and Questionnaire-based study was conducted at College of Paramedical Sciences, Teerthankar Mahaveer University, Delhi Road Moradabad, Uttar-Pradesh for period of one year. The survey includes multiple choice questions (MCQs) related to demographic characteristics (Age, Gender) Knowledge the about vital signs among paramedical students' college of paramedical students. The study will include 226 volunteer participants from the College of Paramedical Sciences (except radiography). The questionnaire used in the study consists of 20 questions about checking the level of knowledge about x-rays among non-radiography student.

Results: The cross-sectional prospective study carried out with sample size of 226 students which is carried among paramedical students of collage of paramedical sciences in Teerthankar Mahaveer University. The number of 136 (60.2%) male & female of number 90(39.8%) female responded of age group of 18-28 above years on the topic of assessment of knowledge about vital signs among paramedical students gave statistical result

18-21 is 144(63.8%), 22-25 is 59(26.10%) & 26-28 above is 23 (10.17%)

Conclusion: In the cross-sectional prospective study Knowledge about vital signs & its measurement skills are one the foremost need of health care workers. Awareness about vital signs should be spread to paramedical students as they are under common roof of hospital. As we know vital signs measurement is prior to be taken before any investigation so knowledge about it to health professional should needful in need. From the result it can be concluded that paramedical students should be provided with knowledge of vital signs in the theoretical as well as in the clinical posting. As measurement of vital signs is a skilful work & need time to practice. Knowledge of vital signs to health care workers will help to ease the patient & save their time too in the emergency conditions. From the literature review mentioned here clarify as that time to conferences about vital signs & other educational papers should be given to the health professions. From the above observations we are able to state that proper knowledge about vital signs should be given to the paramedical students in way which is convenient to them as also aware them how important is knowledge of vital signs for them in their coming future when they will health care professionals in hospitals or medical centres.

Keywords:- Knowledge, Vital Signs, Paramedical, Student.

I. INTRODUCTION

VITAL SIGNS: A vital sign is the objective measurement of essential body working of living being. The term vital as their as their measurements & assessments is the evaluative initial stair determiner of clinical evaluation the basic of person triage in the acute care & essential care if medical care unit exists in it confess vital signs physical grade of disarrangement that is occurring out of base line of body. Health care providers must understand the importance of vitals as it deals with various pathological & physiological acts on above set regarding evaluation & their appropriate. There are 4 chief vital signs basically measured routinely by medical workers analysis. ⁽¹⁾ Generally, signs of life consist about human Blood Pressure (B.P.) human heart rate, human respiration rate, and human body temperature. Although there are No. of guideline which might be important along these 4 vital signs variable as many studies have suggested

that smoking & drinking status affect the outcome of pulse oximetry. ECG & pulse oximetry assist to illuminate person biological conditions. It also gives clue about diagnosis & appears improvement against rehabilitation as we know usual scope of vital signs vary with vary with age weight, gender, height overall health. Vital signs may include other measurement to as 5th & 6th vital sign so it can be also divided in two according to their necessity.

❖ **ESSENTIAL VITAL SIGNS:** These are most important vital signs standard in most medical setting have They are computed below:

- Human Body temperature
- Human Heart rate /pulse rate
- Human Respiratory rate
- Human Blood pressure

❖ **OTHER VITAL SIGNS:** the definition other vital signs with assessment of setting as only emergency medicine (EMT_s) in study have taught how to evaluate about vital signs of human rate of respiration, heart rate, body skin, pupils & human blood pressure (B.P.) After 4 of primary vital signs hospital & healthcare setting take measurement like

- Pain
- Menstrual cycle
- Oxygen saturation
- Human blood glucose/sugar level

❖ **6TH VITAL SIGNS:** There exists not quality 6th vital sign. It apply exists further causal along with control informal & control.

- Air End tidal carbon dioxide (CO₂)
- Functional status
- walking speed
- Dementia ⁽³⁾

❖ **BODY TEMPERATURE:** Body temperature of human beings varies from place to place & person to person as we are warm blooded mammals. So, it is complex as well nonlinear. The usual human physique temperature of well mature is 98.6 °F/37.0 °C /310.15kelvin in adult. Usual physique temperature for infants aged 0-2 years ranges from 97.9-100°F once extract bowel. Temperature of baby also rise a when they are teething little. Usual physique temperature about neonatal exists normally 99.5F.

❖ **FAHRENHEIT:** It is a degree of hotness & coldness grade on physicist Daniel Gabriel Fahrenheit (1686-1736). It is denoted by symbol F. It is defined as the temperature scale at which distilled water melts is describes as 32F & boiling point of water is defined at 212F, both at ground level & under normal atmospheric pressure. 0 F exist establishing while freezing temperature of mixture made of brine made from mixture solution of water, water ice & NH₄cl. Further value was prime estimated of normal person body temperature generally set at 90F, then 96F about 2.6 less than current use due to later reconsider of the scale, but a intermediate

of 32F to the temperature of water ice.



Fig1: thermometer with Fahrenheit (noted on outer dial) & Celsius degree (noted on inner wheel)

KELVIN: It is the one of the foundation units of temperature having mark unit k. in honor of Belfast-born Glasgow university engineer & physicist William Thomson, 1st baron Kelvin (1824-1907). Kelvin is the standard international unit about temperature. One Kelvin is identical to changes in aerodynamics temperature (t) which result on substitute geothermal thermal energy next to $1.380649 \times 10^{-23} \text{ j.k}^{-1}$ by this we can say that Boltzmann constant is equal to 1 Kelvin.

DEGREE CELSIUS: It is component about temperature on Celsius value; it is ideally investigated centigrade scale. This exists label following astronomer Anders Celsius (1701-1744). In 1948 unit Celsius called centigrade from Latin centum which means 10, & grades stands steps. From 1743 Centigrade value is form in 0°C about freezing value of water & 100°C for boiling point at 1atm pressure. The °Celsius remnant identical to Kelvin & 0k is exactly same to -273.15 degree Celsius. The normal human body temperature is 37⁽⁶⁾.

Conversion of temperature: conversion of temperature can be easily converted in to Kelvin, Fahrenheit or degree Celsius by using easily formula.

$$C \setminus 5 = f - 32 \setminus 9 = r \setminus 4 = k - 273 \setminus 5$$

Where c=Celsius, f=Fahrenheit, r=Reaumur, k=Kelvin

Celsius to Fahrenheit: Divide by 5, multiply the result with 9, and add 32

Celsius to Reaumur: Divide Celsius reading by 5, multiply result with 4.

Celsius to Kelvin: simplest conversion ever has only one step add 273.15 to Celsius reading we will get Kelvin. ⁽⁷⁾

Thermometer: It is the instrument for measuring temperature of human body. It consists of mainly two important components

- Temperature sensor: it is the bulb of mercury in glass thermometer in which change can occur with change in temperature.
- Pyrometric sensor: it is only used in infrared thermometer
- Some means that converts the change in to numerical

absolute value i.e. the transparent scale that is noted on glass mercury thermometer or digital readable on infrared thermometer.

Thermometer is commonly used in machinery & factories to audit its process at the meteorology, in medical & scientific research. The thermostat principle was given by Greek philosopher Henry Carrington Bolton (1900) 2 thousand years ago. Thermometer is developed from crude toy to device of precession active further than century.

TYPES OF TEMPERATURE IN HUMAN BODY: on the basis of organ & gland present internally & superficially. Temperature of body is divided in two types. Skin temperature is not a clear indicator of core temperature. Skin temperature is significant in accessing healthy function of skin. They are computed below:

- A. **CORE BODY TEMPERATURE:** it is temperature of internal organs. It can be measured by using inserting a probe which is invasive process or using pill thermometer
- B. **SURFACE BODY TEMPERATURE:** It is the outer surface of the body. Normal surface temperature of body varies from 33.5 to 36.9 Celsius (96.4- 97.9) whereas in temperature from normal body temperature is fever or degree of hotness& coldness of body is called fever. The temperature of will be in range in 100-104f (38-41) degree Celsius.

Site for measuring human body temperature:

1. **ORALLY:** we can take temperature of body from mouth either by using classic thermometer or modern digital thermometer. The normal body temperature taken from mouth is 98.6 f c (37f) then the normal actual body temperature may actually be 1f or 0.6 during the day depending upon how much activity you are doing in a day
2. **RECTALLY:** The temperature of body can be also taken rectally using classic or digital thermometer. Temperature taken rectally may be 0.5 to 0.7 f higher than the temperature gained from surface of skin.
3. **AUXILIARY:** temperature can be taken from armpit temperature obtained from that way is lean to be 0.3- or 0.4-degree lesser temperature taken from mouth.
4. **TYMPANIC:** temperature of body can be also taken from ear. A special type of thermometer can be used to take temperature from ear. This thermometer uses infrared heat to measure temperature from inside of ear. For best result thermometer should be placed at appropriate distance esp. At distance of 6 inches which is approved by USFDA & ICR. The temperature obtained from ear is core body temperature.
5. **SKIN:** the body temperature is also measured from anybody portion from which temperature loss from thermometer will be minimum. It can be measured form classical clinical thermometer, digital thermometer & infrared thermometer. The temperature obtained from skin can vary from 33.5 to 36.9 degree Celsius (92.3 and 98.4) although temperature lower over protruding parts like nose & higher over muscle & active organ

❖ **HEART RATE:** It is the evaluation of human heart rate alternatively No. about tempo heart beats by minutes. As we know cardiac thrust lifeblood between arteriole. Artery swell & compress with flow of blood so measuring of pulse not single measure heart rate yet too measure computed below:

- Rhythm of heart
- Pulse strength

General heart beat rate of human reach from 60 - 100 beats/ minutes. The pulse rate fluctuates together with increases along sickness, injury, feeling & exercise. Female of age 12 or above in usual be inclined to possess rapid rather apart from males. Person who does a lot of cardiovascular exercise have 40 beats/minute pulses rate with occurrence never obstacles. Using first & second finger tips firmly press but gently on arteries until feeling of pulse are experiences. Being counting pulse when clock is on 12. Count the pulse for 60 seconds.

The site for measuring pulse rate is human radial pulse, human ulnar pulse, human brachial pulse on arms & dorsal Tibialis or dorsal pedis pulse while femoral pulse in legs. Medical practitioners used to evaluate carotid pulse on neck. The parameter about evaluation pulse includes its rate, rhythm, volume, amplitude, rate of increase besides symmetry. The rate of measurement of pulse exists notable to calculate pathological as well as pathological affecting the body. The pulse rate is also specific to age range for pediatric are as neonatal (awake rate) =100-205 beats/minutes (sleeping rate) =90-100 beats/minutes, infant (awake rate) =100-205beats /minutes (sleeping rate) = 90-160beats/minutes

Toddler (awake rate) = 98-140beats /minutes (sleeping rate) =80-120beats /minutes

Preschooler (awake rate) = 80-120beats/minutes (sleeping rate) = 65-100beats /minutes

School aged child (awake rate) = 75-118 beats/minutes (sleeping rate) = 58-98beats/minutes

Adolescent (awake rate) =60-100beats/minutes (sleeping rate) = 50-90beats / minutes

❖ **RESPIRATION RATE:** Respiration rate is exhale & inhales respire/minute. General respiration change exits 12-20 beats per minutes in average adults. Parameters important for respiration consists individual rate, depth of breathing, and its pattern rate of breathing. Higher in the rate of respiration rate is termed as Tachypnea whereas; bradypnea is the less in the respiration rate. In condition like exercise, emotional, pain, asthma, foreign body aspiration, septic injection, carbon monoxide (CO) toxic can be reason of Tachypnea. Respiration rate parameter consists respiration rate; & its deigns rate about breathing is its essential parameter. Tachypnea be termed while are spiration more that 20 beats per minute may be able to occur normally in some physiological condition like pregnancy, emotional changes, and exercise. Some pathological condition like pain, diabetic ketoacidosis, sepsis, loss of breath, foreign body aspiration, pulmonary embolism, apprehension condition

carbon flue gas monoxide positioning can present with Tachypnea. Bradypnea is defined as rate of respiration rate less than 12beats/minutes.

- ❖ **HUMAN BLOOD PRESSURE:** it is most essential vital signs which are about power of blood thrust in opposite to artery wall through shrinking & expanding of heart. One & all rhythm of heart pumps blood this is with certain pressure that is termed as blood pressure. Each times heart pumps blood pressure falls. Two numbers are recorded when measuring blood pressure. The normal blood pressure is 80/120mm/hg for adult, in adult systolic pressure as well as diastolic pressure is lower than the normal adult range of blood pressure so normal old age blood should be in range of 70/110. For infant normal range of blood pressure is 80 to100/55to65mm/hg for 6-12 months infants & for 3-0-6 month's 65to90/45to65mm/hg. For child 90 to110/75mm/hg. The higher number is systolic pressure & lower number is diastolic pressure. Elevated in the blood pressure is termed as high blood pressure or hypertension. Along elevated blood pressure, artery can possess elevated opposing in opposition to move about blood; begin heart to push forceful to flow blood. fall in the blood pressure is termed while hypotension. Blood pressure is affected by lifestyle of person & food habit of person. As we know BP is a needed vital to hemodialysis state about person.

So, all health care providers should be aware of measurement of vital signs. They should be provide time to time education session for proper implitation of instrument for measuring vital signs because for measuring vital signs healthcare providers need clinical as well as abundant interpretation as most of health care providers have to sharpen their skills & knowledge in the assessment of vital signs. As well as clinic as well as collage & university contend to examine as well as teach individual responsibilities & additional workers to improve their knowledge.

PAIN: pain is the intolerable commotion within the physique. It stalk about stimulates about as to nervous system pain can be ranged from irritating to weaking.suffering in patients as exemplified by fifth vital signs as it shows serious deficits in clinician's education as well as practice. Because commonly explains pain level to clinician's in recent decades prescribing opioids medications has increased. But pain is proven to be more complex to assess, evaluate, & manage than originally anticipated. ⁽¹³⁾

- ❖ **MENSTRUAL CYCLE:** it is the monthly series of changes in women body hormonal level. It varies from gills to girls but generally duration varies from 28-35 days but it some as short as 21 days or as long as 35 days. It is further classified in to menstruation phase, follicular phase, ovulation phase & luteal phase. It is necessary about medical professions to possess comprehension bleeding cycle in teen aged girls, with capacity to variance in middle of usual & unusual bleeding cycle as more vitals sign; clinicians' strength its

significance in evaluate general health level of female. ⁽¹⁴⁾

- ❖ **OXYGEN SATURATION:** As we know hypoxemia is not uncommon in hospitals may be over looked because it is late sign of deterioration of patient health. Generally, in hospital to detect oxygen saturation (spO₂) by pulse oximetry is employed. Patients with low spO₂ <92% had multiple morbidities, but all of them have cardiopulmonary disease in common. But routine pulse oximetry is not necessary patient expect with known cardiopulmonary diseases. ⁽¹⁵⁾
- ❖ **END TIDAL CO₂:** It is amount of carbon dioxide which is free finish about blow out throw out breadth. It shows acceptability that cO₂ is transfer in blood rear to lungs & bow out. EtcO₂ possess enhance daily about numerous pediatric intensive units yet due to practical it has restricted utilize through convey End tidal CO₂ observe follow in notable, instantly, exchange in care through convey. It is found that EtcO₂ an crucial adjacent in observe pediatric injury suffer through convey so it should be included with accessing human pulse rate, human blood pressure, human breathing rate, human temperature & temperature & oxygen saturation in so it should be used as vital signs. ⁽¹⁶⁾
- ❖ **FUNCTIONAL STATUS:** It is human capacity to do routine activity need to get daily requirements, realize normal daily parts & continue fitness & wellbeing. It contains related idea about regards useful volume & practical per individual health. The foremost objective of health professional to prevent functional decline & improve health quality of life. Optimizing functional status is central principle. As functional status is not only limited to old aged patient but it is major concern for them. No of diverse sources has come with importance of focusing on functional health. ⁽¹⁷⁾
- ❖ **GAIT SPEED:** It is also known as walking speed valid, sensitive, valid measure appropriate for measuring overall health of individual. It can be calculated including optimal distance, deceleration phase, instructions & instrumentation should be given before its measurement. After assessing it medical professionals need to get what value it represents. Assumed outcome & gait speed values corresponding as well as minimum detectable changes values for particular person & setting are provided. ⁽¹⁸⁾
- ❖ **DELIRIUM:** It is a fluctuating neuropsychiatric syndrome, mainly found in hospital wards. it is associated with higher morbidity, mortality & economic burden. Non pharmacological are 1st employed if not entertain family support are mandatory in this case. Most narcoleptics antipsychotic exists next care to avert own injury. ⁽¹⁹⁾

II. MATERIAL AND METHODS

Study Type

A questionnaire based Cross-sectional study was carried out in college of paramedical sciences at Teerthankar Mahaveer University, Delhi Road Moradabad, Uttar Pradesh, India. This study was questionnaire based on

Assessment of the knowledge about X-Ray among Non-radiography students.

Study Design

This study was prospective, comparative & questionnaire based designed and carried out among paramedical students of College of Paramedical Sciences at Teerthankar Mahaveer University Delhi Road Moradabad. The project was approved by the college review committee.

Study Area

College of Paramedical Sciences, Teerthankar Mahaveer University.

Study Duration

This questionnaire-based study carried out for the time period of one year from May 2020 to May 2021 at College of Paramedical Sciences Teerthankar Mahaveer University.

Selection Criteria

• Inclusion criteria

1. Students pursuing bachelor's in paramedical courses (2nd year and above) and masters of paramedical courses.
2. Male and female
3. Participants that is willing to participate on their own interest.

• Exclusion criteria

1. Students of first year of paramedical sciences.
2. Unwilling to participate.
3. Pursuing non-medical course.

Study Population

Students pursuing bachelor in radiation imaging techniques, bachelor's degree in department of optometry, medical laboratory techniques and forensic sciences. Sample size of the population was approx. 226 students. The study population consisted of all students including both male & female who were physically & mentally well being.

METHOD OF DATA COLLECTION

The study was carried out among students of four department of paramedical science i.e., bachelor in radiation imaging techniques, bachelor of medical lab techniques, and optometry of paramedical science. Bachelor of forensic sciences excluding the candidates who fell under exclusion criteria and who were willing to participate were included in the study. The purpose of the study was explained to each and every individual. After assessing these criteria, a total number of 226 participants were included in the study. Verbal consent was obtained from all students included in this study. The questionnaire was structured by using google form & was distributed in different social media groups. The questions were incorporated after going through various literature related to that, which consisted of self-structured questionnaire divided into two sections. The first section of questionnaire consisted of demographic data including Name, Age, Gender, Program, Department, and Semester. The second section of questionnaire consisted of 20 basic questions regarding assessing adequate theoretical and practical knowledge of the participant about vital signs.

The aspect interrogated in the first question was 'Are you familiar with vital signal?' second question was "Do you know about blood pressure?". Third question was "Does vital signs measuring equipment's uses radiation?" Fourth question was "What is the equipment used for measuring blood pressure?" Fifth question was "What is the equipment used for measuring the heart rate?" Sixth question was "What is the equipment measuring for pulse rate?" Seventh question was 'What is the normal range of blood pressure for adult?' Eighth was 'Is normal breath rate in adult is 15-16 breath per minutes?' Ninth question was "What is normal heart rate?" Tenth was "What is normal body temperature in adult?" Eleventh was "Is it necessary to have vital sign investigation before any radiological procedure?" Twelfth was "Are vital signs knowledge necessary during clinical posting?" Thirteenth was "Do you think is it necessary to have knowledge about vital signs as medical practitioner?" Fourteenth question was "Is only mercury thermometer is used to check the temperature?" fifteenth question was "Do you agree that measurement of vital signs necessary before clinical investigation?" Sixteenth was "Does vital signs included height and weight?" Seventeenth question was "Is it necessary to relax patient before taking vital signs?" Eighteenth question was "Do you think smoking, drinking coffee before 30 minutes taking blood pressure affect measurement?" Nineteenth question was "What is elevated blood pressure called?" Twentieth was "What is elevated heart rate count?"

SETTING AND RESOURCES:

The project setting was done in College of Paramedical Sciences Teerthankar Mahaveer University, located in area of Moradabad district of Uttar Pradesh, India. This University is well established with various paramedical courses with various programmes required for this study including bachelor in radiation imaging techniques, bachelor of medical lab techniques and optometry & Bachelor of forensic science.

Statistical analysis

The data collected was compiled, tabulated and analysed. Analysis was done using mean value at the end of study.

Procedure:

For this study 226 participants were taken from the college of paramedical sciences in Teerthankar Mahaveer University, Moradabad as per the inclusion and exclusion criteria.

All the subject was informed about the study and the confidentiality was assured to all the subject that was necessary as per the self-participation in the study.

The questionnaire used in the study consists of 20 questions about checking the level of the knowledge about vital signs among paramedical student. The data collection is done by the online source [Google form] and the link of the form was shared in the classroom under the inclusion criteria, by which all the responses were obtained in MS-excel and the data were subjected to the SPSS software.

STATISTICAL ANALYSIS:

The data collected was compiled, tabulated, and analyzed. Analysis was done using Google form in MS Excel.

III. RESULT

A Cross-sectional Prospective and Questionnaire-based study were carried out with the size of 226 students on the topic "knowledge about vital signs among paramedical students in Teerthankar Mahaveer University The number of 136 (60.2%) male & female of number 90(39.8%) female responded of age group of 18-28 above years on the topic of assessment of knowledge about vital signs among paramedical students gave the computed result are on table, pie chart & bar graphs shown .From this assessment result are summarized the assessment is done on paramedical student of particular collage we get to know that 81.9 % (185) respondents are familiar with vital signs out of 226. Out of 226 96.9% (257) respondents known about blood pressure but only 95.1% (214) know about normal range of blood pressure are known about normal range of blood pressure.88.1% (199) respondents know that sphygmomanometer is a device used for measuring blood pressure.206 (91.6%) out of 226 know that elevated blood pressure is termed as hypertension. 67.7% (153) known that ECG is also used for measuring heart rate. 141(62.8%) out of 226 know that pulse rate & heart are same term. 94.7% (214) familiar about normal heart rate. 59.3% respondent are aware of that tachycardia is elevated heart rate.42.5% respondent consider capnography as respiratory rate equipment. Out of 225 respondent 129 have grasp on that Tachypnoea is term for elevated respiration rate.53.1% know the answer that some vital signs measuring equipment uses radiation. Out of 225 respondents 182 are cognizant of normal body temperature in fahrenheit.86.7% respondent that there should be vital signs measurement before any radiological procedure. Out of 226 respondents 211 want knowledge of vital signs during clinical posting.63.3% are aware that glass mercury thermometer is used for measuring temperature.222respondents think vital signs knowledge is necessary for medical practitioner. 92.5% respondent think that there is an effect of drinking coffee & smoking has effect 30 minutes prior to vital signs measurements.197 out of 226 respondents think that it necessary to relax patients before vital signs measurement.148(65.5 %) respondents appreciates that Height & weight are included in vital signs &78(34.5%) didn't appreciates height & weight included in vital signs.

Table 1: Illustrates about course wise dispersal of subject study. It is indicated from table that maximum respondents are from BRIT 4 semester 46 (20.4%), BMLT 4 semester 44(19.5), BRIT 6semester 39(17.3%), BMLT 4 semester 27(11.9), MRIT 4 semester 19(8.40), B.OPTOMETRY 6 semester 17(7.5%), MRIT 2semester 14 (6.2%), B.OPTOMETRY4 semester 7(3.1%) ,BACHELOR IN FORENSIC STUDIES 4 semester 6(2.7%), BACHELOR IN FORENSIC STUDIES 6 semester (1.8%) & MASTER IN OPTOMETRY 4 semester ,6 semester, MMLT 4semester, 6 semester, M.OPTOMETRY Shows 1respondent from each of them & contributing (0.1%)

Course interval (year)	No. of Participant	Percentage %
BMLT 4 th semester	44	19.5%
BMLT 6 th semester	27	11.9%
BMLT 4 th semester	1	0.4%
MMLT 2 th semester	1	0.4%
MMLT 6 th semester	1	0.4%
B.OPTOMETRY 4 th semester	7	3.1%
B.OPTOMETRY 6 th semester	17	7.5%
M.OPTOMETRY 4 th semester	1	0.4%
M.OPTOMETRY 2 th semester	1	0.4%
BRIT 4 th semester	46	20.35%
BRIT 6 th semester	39	17.3%
MRIT 2 th semester	14	6.2%
MRIT 4 th semester	19	8.40%
BFS 4 th semester	6	2.7%
BFS 6 th semester	4	1.8%
TOTAL	226	100%

Table 2 represents no of male & female participant

Gender	No. of respondents	Percentage N=226
Male	136	60.2%
Female	90	39.8%
TOTAL	226	100

IV. DISCUSSION

In the present prospective study, we evaluated 200 participants of paramedical sciences from non-radiography OPTOMETRY, BMLT, BFS and DIPLOMA department who were undergoing the knowledge about x-rays as a part of their bachelors or diploma students. The participants were selected by the random convenience sampling by satisfying inclusion and exclusion criteria. Data was analysed by calculating the mean or average of the answers given by the participants and then converting it into percentages.

In our study total 200 students participated out of which 132 were Males and 68 were Females out of which total 132 "(66 % of the students reported with positive response with "Yes") and rest 68 "(34 % responded with negative response with No").

Table 3: Illustrates about dispersal of study subject according to the age which shows that maximum number of respondents are from age group 18-21 is 144(63.8%), 22-25 is 59(26.10%) & 26-28 above is 23 (10.17%)

AGE	NO. OF RESPONDENT	PERCENTAGE %
18 -21	144	63.8%
22-25	59	26.10%
26-28ABOVE	23	10.17%
TOTAL	226	100%

LIMITATIONS

The analysis of the questionnaire was done on the basis of participant's response. However, some of the participants may not have given the sincere response to the questions.

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