THE COMPENDIUM OF JUBILEE RESEARCH DAY

ACCENTUATE 2024

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FOREWORD

For the second consecutive time, the Jubilee Centre for Medical Research (JCMR) facilitates researchers from all Jubilee institutions to showcase their research ideas and ongoing projects on the auspicious occasion of the Jubilee Research Day, part of the decennial celebrations of the Research Centre's establishment. The Jubilee Research Day is exclusively conducted for Jubileeans to interact with fellow researchers and discuss their novel findings. It is a fountainhead for new ideas, thoughts, concepts, and innovations, which will be translated into discoveries in the future.

As part of the Jubilee Research Day celebrations, I am pleased to present the abstracts of selected research works conducted at Jubilee institutions over the last year. I take this opportunity to thank all the authors for their contributions to this book. I hope this book will encourage further research and inspire more researchers to participate in the coming years. Although this book contains only a small part of the research conducted at Jubilee, I believe it will provide readers with a glimpse of the excellent work happening here.

I wish to congratulate and express my gratitude to the entire team of JCMR for their dedication and commitment to celebrating the Jubilee Research Day. I look forward to the continued support of all Jubileeans in our future endeavors.

Dr. D M Vasudevan
Research Director

JUBILEE CENTRE FOR MEDICAL RESEARCH

Jubilee Centre for Medical Research (JCMR) is the central research facility of all the institutions under the Jubilee Mission Hospital Trust. This is a DSIR recognized and KUHS approved research center. It is a recognized center by Ministry of finance u/s 35 I (ii) to receive donations and Ministry of Corporate Affairs for carrying out CSR activities.

JCMR is established by the Jubilee Mission Hospital Trust. The other Institutions under the Trust are the following.

1. The Jubilee Mission Medical College Hospital established in 1951 and now one of the largest hospitals in Kerala with a 1500 beds inpatient capacity and 1750 out patients per day with 32 specialty departments. Also offers DNB programme of Central Board.
2. Jubilee Mission Medical College affiliated to Kerala University of Health Sciences (KUHS)
   Medical College offers MBBS course, 18 MD/MS courses and 2 DM programmes.
3. Jubilee Mission College of Nursing, B.Sc & M.Sc nursing courses
4. Jubilee Mission School of Nursing
5. Jubilee Ayurveda Mission Hospital & Research Institute
6. Jubilee Mission College of Allied Health Sciences

To involve in research activities, along with clinical practice, is a commitment of faculty and students of these institutions. The faculty and students are actively participating in various research programs funded by government and private sectors and the parent institution. JCMR has completed several research projects funded by ICMR, DRDO, DST, DBT,DHR, KSCSTE etc. Currently there are 17 external funded research projects. JCMR has central govrnment recognized Human and Animal Ethical Committees. Ph.D programs in the faculty of Medicine, Nursing, Paramedical & Allied Health Sciences are undertaken.

Contents

Research Scholars

Faculty-JCMR

DIAGNOSTIC ACCURACY OF FROZEN SECTION DIAGNOSIS IN BREAST AND CNS LESIONS AT A TERTIARY CARE CENTRE IN CENTRAL KERALA

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Background

Frozen section diagnosis plays a vital role in the intraoperative diagnosis of surgical specimens enabling clinicians to determine the nature of the lesion, tumor type and margin status guiding them in further management. Though this technique has been widely utilized for rapid histopathological diagnosis and decision making, its accuracy remains a topic of deep concern and debate within the field of surgical pathology. While frozen section analysis offers numerous benefits in terms of real-time decision-making and intraoperative management, its utility is contingent upon its diagnostic accuracy. Sensitivity and specificity are key parameters to assess the performance of a diagnostic test, reflecting its ability to correctly identify true positive and true negative cases, respectively. Understanding the sensitivity and specificity of frozen section diagnosis is crucial for optimizing its clinical utility and ensuring the highest standard of patient care. So we intend to validate the efficacy of frozen section in the intraoperative management of breast and cns lesions by comparing it with the permanent paraffin sections.

Objective

- To assess the sensitivity and specificity of frozen section diagnosis in Breast and CNS lesions including spine at a tertiary care centre in central Kerala -A study over a period of 111 months

Methodology

This is a retrospective hospital based study conducted in the department of pathology of a tertiary care centre in central Kerala. Data was obtained from frozen section registers and a

total of 126 cases who had undergone frozen section for breast, brain and spine lesions over a period of 111 months, were analysed from January 2015 to March 2024. Frozen section diagnosis as well as corresponding paraffin section diagnosis were recorded. After eliminating the records with incomplete data, frozen section diagnosis of the above lesions were compared with the final histopathologic diagnosis. The diagnosis was either concordant or discordant. The diagnostic accuracy, sensitivity, specificity, positive and negative predictive value was calculated. Data analysis was done using IBM SPSS Version 25.

Result

In our study the total sensitivity, specificity, positive predictive value and negative predictive value of frozen section diagnosis was found to be 92.8%, 80%, 92% and 80% respectively. Overall accuracy was 87.3%. In a similar study conducted by Purbesh et al in Nepal sensitivity, specificity, PPV and NPV are 100%, 87.5%, 91.6% and 100% respectively. In another study done by Fariba Abbasi et al in Iran concordance rate was 74.5% and discordance rate was 4%.

Conclusion

Our study can contribute to the existing data on frozen section diagnostic accuracy, therby enhancing the reliability and effectiveness of frozen section diagnosis in clinical practice. This can further lead to continuous improvement in patient care. By elucidating the strengths and limitations of this diagnostic modality, we strive to empower surgeons and pathologists with the knowledge and tools needed to make informed decisions and provide optimal patient care.

A POPULATION-BASED SURVEY ON KNOWLEDGE, ATTITUDE & PRACTICE OF GENERAL POPULATION ON ANTIBIOTIC USE AND RESISTANCE

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Background

Antibiotics have revolutionized medicine, but their widespread use has led to antibiotic resistance, where bacteria adapt and survive exposure to these drugs. In 2015, the World Health Assembly drafted a plan to enhance public knowledge on antimicrobial resistance. Our study examined the awareness and knowledge of antibiotic use and resistance among the general population in Thrissur district, Kerala.

Objectives

- To assess the knowledge, attitude and practices of antibiotic usage and antibiotic resistance among the general population.
- To determine factors that influence antibiotic use and resistance in general population.

Methodology

A cross-sectional quantitative survey was conducted among 353 community members in Thrissur district, Kerala, using convenient, purposive sampling. The primary study tool was a pre-validated questionnaire developed by Anant et al. of Nepal. Data was collected using an online questionnaire (Google Form) distributed through messaging services like WhatsApp after obtaining informed consent. Respondents without smartphones or internet access were contacted directly. Both English and Malayalam version of the questionnaire were used in the process. The English version of the questionnaire was translated into Malayalam and back-translated into English to

ensure the accuracy of the translated text. SPSS version 25 was used to code, enter, and analyze the data in Microsoft Excel. Qualitative data is expressed as frequency and proportion and quantitative data is expressed as mean and standard deviation. Both univariate and multivariate regression analysis were used to examine the association between the various factors.

Result

The respondents were mainly young adults with average age of 36 and more than half were female. The respondents showed good aptitude in ‘identification of antibiotics’ & ‘antibiotic resistance' while showing comparatively less aptitude in ‘knowledge of the role of antibiotics. The key factors leading to high aptitude was health education background & educational status. Most respondents answered that ‘misuse of antibiotics will lead to resistance’ correctly (95.1%), while around 36.4% weren’t aware that antibiotics aren’t required for colds or flu. . In the attitude section, the domain of ‘preference for use of antibiotics’, most respondents were well aware that there is no need to take antibiotics for cold (81.5%) and preferred not to take an antibiotic when not necessary (81.3%). In the practice section, majority of patients (62.2%) always consult a doctor before using antibiotics, check the expiration date of antibiotics (69.9%) and complete the entire course of even if they get better from the initial doses (61.9%) correlation between the fields of knowledge, attitude and practice was done using Pearsons’s correlation. Accordingly, those with high knowledge showed poor attitude and practice and vice versa; likewise, those who scored high in the attitude section showed better practice.

Conclusion

The study examines antibiotic use knowledge in Thrissur, aiming to reduce misconceptions and raise awareness about misuse risks. It highlights the need for educational campaigns and reforms. The findings can benchmark future surveys and inform policies like AMRITH for better community health and global antibiotic stewardship.

ARE ANEROID AND DIGITAL SPHYGMOMANOMETERS AS RELIABLE AND ACCURATE AS MERCURY SPHYGMOMANOMETERS?

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Background

Accurate blood pressure measurement is crucial for diagnosing hypertension and assessing cardiovascular risk. Traditional mercury sphygmomanometers are precise but environmentally concerning, leading to the adoption of aneroid and digital devices. This study evaluates their accuracy and clinical utility, aiming to provide insights for hypertension management.

Objectives

- To evaluate the precision of non-mercury instruments in diagnosing hypertension
- To analyze interarm differences in both systolic and diastolic blood pressure using three different sphygmomanometers.

Methodology

This cross-sectional study was conducted among 60 medical students aged 18-25 years at a Tertiary Care Hospital in Thrissur, under the supervision of the Department of Physiology. Eligible participants were both male and female students within the age range, excluding those with chronic diseases or lack of interest. Informed consent was obtained from all participants, and ethical clearance was granted by the Institutional Ethics Committee. Participants completed a proforma detailing demographic information. Blood pressure was measured by a single observer using three instruments: mercury, aneroid, and digital sphygmomanometers, adhering to American Heart Association guidelines to ensure accuracy in terms of observer technique, location, subject position, cuff size, cuff selection, and cuff position. Blood pressure measurements

from both arms were compared using various sphygmomanometers. Interarm differences in systolic and diastolic pressures comparing the alternative devices to the gold standard mercury sphygmomanometer were noted. Statistical analysis involved paired t-tests, chi-square tests and a significance threshold of p value < 0.05. The accuracy of alternative methods as compared to the gold standard was calculated. Sensitivity, specificity, and predictive values were employed to determine the validity of alternative methods in comparison to the mercury sphygmomanometer.

Results

Significant differences in systolic blood pressure readings were observed between the gold standard mercury manometer and digital/aneroid devices (p = 0.00). Both digital and aneroid devices showed limited accuracy in detecting hypertension compared to the mercury manometer, with moderate kappa agreement of 0.57. Despite high specificity (100%), sensitivity was low at 44.4%, risking missed true positive cases. The accuracy for both devices was 91.66%. Cardiovascular risk, based on interarm blood pressure differences (>20mmHg systolic, >10mmHg diastolic), showed both devices with a sensitivity of 25% and fair to poor agreement (kappa values) with the mercury reference. This suggests that both aneroid and digital devices are less reliable than the mercury manometer in identifying patients at cardiovascular risk using these criteria.

Conclusion

This study highlights the reduced reliability of Aneroid and Digital devices in detecting hypertension and assessing cardiovascular risk using specified interarm blood pressure criteria. It emphasizes the importance of healthcare professionals having comprehensive knowledge and vigilance in device selection, and the need for cross-verifying results with gold standard measurements before treatment initiation.

ASSESSING SATISFACTION LEVELS AMONG CARETAKERS AND PATIENTS IN HOME-BASED PALLIATIVE CARE: A STUDY FROM KACHERY, THRISSUR

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Background

Home-based palliative care aims to improve the quality of life for patients with life-limiting illnesses by providing comprehensive care in a familiar environment.

Objective

This study focuses on assessing the satisfaction levels of patients and their caretakers with the implementation of such services in a selected community in Thrissur.

Methodology

This descriptive study was conducted for seven fully dependent individuals selected based on palliative screening tool. The research design of the study was a non-experimental, one-group post-test-only design and the sample was collected by stratified sampling Tool consisting of Part A -Palliative screening tool for selecting the palliative patient and Part B consisting of sociodemographic and clinical data questionnaire and part C tool was to assess satisfaction level on home based palliative care. After implementing palliative care continuously 5 months to the home based patient, the tool was administered to caretakers and patient by using interview method. Post test was conducted after 5 months using a tool to assess satisfaction. Verbatim accounts from patients and caretakers were also collected and analyzed.

Results

Majority (71.42 %) of the patients were males with age more than 65 years. More than half patients were partially

dependent (57.14%) and most of the patients were conscious (71.42%) others were semiconscious (28.57%), unconscious (14.28%). Out of the total sample, (57.14%) of them were above poverty line and (42.85%) of them below poverty line. Majority of them are not registered to any palliative agency (57.14%). Based on analysis of satisfaction tool and verbatim, all caretakers and patient were fully satisfied on home based palliative (100%) bases of the domain of physical, psychological and support system implemented by health care institution of nursing college

Conclusion

Palliative care is a feasible option for providing excellent support to individuals in need in developing countries, even within healthcare institutions that have limited resources and financial constraints

PREVALENCE OF MORBIDITY AND NUTRITIONAL STATUS AMONG CHILDREN IN SELECTED ANGANWADIS, KACHERY, THRISSUR

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Background

Childhood morbidity and malnutrition remain significant public health concerns in developing countries. This study aims to evaluate the prevalence of illness and nutritional status among children attending selected Anganwadis, which are crucial centers for early childhood care and education in India.

Objective

- To assess the prevalence of morbidity and nutritional problems of children in selected Anganwadis.
- To assess the prevalence of nutritional status of children in selected Anganwadis.
- To find the association between prevalence of morbidity, nutritional problems and nutritional status of children and socio demographic variable and clinical data variables.

Methodology

A quantitative, descriptive design was used to study 80 children aged 6 months to 6 years, selected through cluster sampling. The study employed three tools: *Tool 1* gathered sociodemographic and clinical data, including morbidity, age, gender, parents' ages, immunization status, preterm birth, low birth weight, and morbidity in the past year. *Tool 2* examined nutritional problems such as general appearance, conjunctiva, muscle wasting, and psychomotor changes. *Tool 3* involved anthropometric measurements like head, chest, and mid-arm circumference, height, weight, and degree of malnutrition, using a weighing machine, measuring tape, and scale, with

underweight, stunting, and wasting assessed via the Anthroplus app. The 24-hour dietary recall method assessed carbohydrate, protein, and fat intake to evaluate the fulfillment of daily nutritional requirements. Data were collected from parents through interviews, along with physical examinations and 24-hour dietary recall assessments. Analysis was done using descriptive and inferential statistics.

Result

Among the total study participants, 35(43.8%) samples were between the age group of preschoolers (3-6yrs). 45(55.25%) were males and 51(63.73%) samples belonged to family with above 4 members. Among samples 73 (91.25%), 4 (5%), 11 (13.75%) and15 (18.75%) reported fever, anemia, diarrhoea and vomiting respectively, within one year of age. Nutritional status of samples showed 50(62.5%) stunting, 48(60%) wasting, 3(3.75%) overweight and 35(43.75%) underweight. Result revealed that there was significant association ($p<0.05$) between prevalence of morbidity and nutritional status of children, age of children (P-0.031) with levels of malnutrition, number of family members with morbidity which include fever (P-0.014) diarrhea (P-0.002) (P-0.04) and vomiting. The preterm birth was associated with fever (P-0.004) and age of mother (P-0.024) was associated with level of nutritional status.

Conclusion

The study assessing the prevalence of morbidity and nutritional status of children attending Anganwadis in an urban slum found a significant association between sociodemographic variables and both morbidity and nutritional status.

QUALITY OF LIFE AMONG PATIENTS UNDERGOING ADJUVANT CHEMOTHERAPY IN THE DAY CARE UNIT OF JMMC&RI, THRISSUR

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Background

Adjuvant chemotherapy can profoundly affect patients' quality of life, necessitating comprehensive evaluations to identify areas needing improvement. This study compiles findings from various groups investigating the quality of life of cancer patients undergoing adjuvant chemotherapy in day care units, offering insights and highlighting areas for enhancement.

Objectives

- To assess the quality of life among patients undergoing adjuvant chemotherapy in the Day Care Unit of JMMC and RI.
- To find out the association between the quality of life with social demographic and clinical variables of patients undergoing adjuvant chemotherapy in the Day Care Unit of JMMC and RI.

Methodology

Descriptive study was conducted among 60 adjuvant chemotherapy therapy patients. Samples were selected by non-probability convenient sampling technique. Self-structured questionnaire was used to access the quality of life of patients undergoing adjuvant chemotherapy.

Results

In socio demographic data most of the patients belong to the age group of above 60 years (63.9%). Majority of the sample were male (52.9%). Majority of the patients were educated. Among the total study samples, 60% patients are partially dependent on the caregivers and 53.3% had a history of other

illness. There was significant association between quality of life of patients with age (p=0.009), education (p=0.002), food habits (p=0.038) and dependency (p=0.015).

Conclusion

The study shows that quality of life among patients is good in social and spiritual domain. Quality of life is moderate in physical domain, psychological domain and cognitive domain. Most of the patients rated their overall health during the past week as moderate. There was significant association between quality of life of patients with sociodemographic variables such as age, education, food habits and dependency. There is no significant association between quality of life of patients with gender. marital status, occupation and monthly income There is no significant association between quality of life patients with sociodemographic variables like religion, family support support, relationship with caregiver and clinical variables.

HEALTHCARE SATISFACTION AMONG CARETAKERS OF NEWBORN ADMITTED IN NICU AND POSTNATAL WARDS OF JMMC&RI, THRISSUR

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Background

The experience of having a newborn admitted to the Neonatal Intensive Care Unit (NICU) or postnatal wards can be stressful for caretakers, highlighting the importance of assessing their healthcare satisfaction. This study aims to evaluate caretakers' satisfaction with healthcare services at JMMC&RI, Thrissur, providing valuable insights for improving care delivery.

Objective

- To assess the health care satisfaction among the caretakers of newborn admitted in NICU & postnatal wards of JMMC&RI
- To find out the association of healthcare satisfaction of caretakers of newborn with selected sociodemograhic and clinicaldata variables.

Methodology

The study was conducted among 40 caretakers of newborn using the descriptive design and purposive sampling. Data collected through rating scale. Tool was divided into sociodemographic variables and Modified EMPATHIC N satisfaction scale.

Result

When sociodemographic data were analysed, it was observed out of 40 samples majority (87.5%) of samples were females and (12.5%) were males. Among the total samples, (40%) belongs to Christian, (37.5%) to Hindu and (22.5%) to Muslim. Among the total samples, (72.5%) unemployed and (27.5%) employed. When education were compared, (60%) are

graduates, (30%) have secondary education and (10%) have primary education. Among the caretakers (57.5%) were mothers and (42.5%) are others. Among the mothers, (62.5%) of mothers had more than one child, (37.5%) of mothers had only one child. Among the neonates (60%) were of age within 1- 7 days ,(17.5%)were of age 22-28 days, (17.5%) were of 8-14 days of age and (5.6%) are 15-21 days of age. Out of 40 newborns, (60%) were term babies and (40%) preterms. Out of 40 newborns, (45%) newborns had birth weight within 2-3 kg, (32.5%) had birth weight 1-2 kg ,(20%) had birth weight 3-4 kg and (2.5%) had birth weight under 1 kg. The birth order of (50%) newborns are 1, (45%)of newborn are 2 and (5%) of newborns are 3. Mode of delivery of (55%) samples were caesarean, (42.5%) were normal and (2.5%) were vacuum assisted delivery. Majority of the samples (90%) were highly satisfied and (10%) were satisfied. The highest level of satisfaction was observed in the domain of professional attitude (92.5%). There is significant association ($P<0.05$) between Socio demographic variable occupation ($\chi 2=5.030$, $P<0.02$) with level of satisfaction among caretakers of newborn admitted in NICU and postnatal wards.

Conclusion

The findings of present study showed that the satisfaction level among the unemployed caretakers are high compared to the employed caretakers and there is significant association between socio demographic variable occupations with level of satisfaction.

EFFECT OF PLANNED TEACHING PROGRAM ON LEVEL OF KNOWLEDGE AND BARRIERS REGARDING USE OF MENSTRUAL CUPS AMONG WOMEN

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Background

The use of menstrual cups is gaining popularity due to their cost-effectiveness and environmental benefits. This study aims to assess the impact of a planned teaching program on women's knowledge and barriers related to menstrual cup usage.

Objectives

- To assess the level of knowledge and barriers regarding the use of menstrual cups among women.
- To assess the effect of the planned teaching program on the level of knowledge regarding the use of menstrual cups among women.
- To find the association between the level of knowledge regarding the use of menstrual cups among women with selected sociodemographic and clinical variables.

Methodology

A quantitative study was conducted among 30 women. Samples were selected by non-probability convenience sampling technique. A structured questionnaire and checklist were used to assess the effect of the planned teaching program on the level of knowledge and barriers regarding the use of menstrual cups among women.

Results

When sociodemographic data were compared, 12 (40%) samples were between the age group of 31 - 38 years and 19(63.33%) were Hindus. While 10 (33%) had primary

educational qualification and 15(50%) had income between 10,000 - 20,000 rupees per month. Among the total study sample, 20 (66.67%) samples were married and 12 (40%) had no children. All of them attained menarche between the ages 10-16 years. Of the total sample, 30(100%) had regular menstruation and none of them uses a menstrual cup. In the sample group, 17 individuals (56.67%) reported knowing someone who uses a menstrual cup, while 15 participants (50%) reported using fewer than 10 menstrual pads in a menstrual cycle. While 24(80%) had previous knowledge about menstrual cups and 17 (56.67%) had sources of information from the internet and 13 (43.33%) had knowledge of purchasing it from a medical shop. During pre-test the majority of the samples 27 (90%) had inadequate knowledge and 3 (10%) had moderate knowledge and none of them had adequate knowledge on use of menstrual cups. During post- test, 15 (50%) of the samples had adequate knowledge and 14(46.67%) had moderate knowledge and 1 (3.33%) of them had inadequate knowledge on use of menstrual cups. And the calculated t value was -17.798($p<0.001$). Regarding the barriers, the majority 27(90%) of the samples have cognitive barrier in feeling difficulty in the method of insertion and removal, 26(86.66%) of the samples had emotional barrier in fear of using the cup and 16(53.33%) had perceived that one may need a help of others to insert the cup. There was no significant association between the level of knowledge regarding the use of menstrual cups among women with selected sociodemographic and clinical variable.

Conclusion

The planned teaching program effectively enhanced the knowledge levels of women regarding menstrual cup usage. This suggests that educational interventions can play a crucial role in promoting awareness and understanding of menstrual health practices among women.

ASSESSMENT OF PUBLIC AWARENESS ON RISK FACTORS AND EARLY IDENTIFICATION OF STROKE

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Background

Stroke is a leading cause of disability and death worldwide, yet public awareness of its risk factors and early signs remains insufficient. Early identification and timely intervention are crucial for improving stroke outcomes. This study aims to assess the level of awareness among the general population regarding stroke risk factors and early identification to inform targeted educational initiatives.

Objectives

- To assess the level of awareness on risk factors of stroke among the general population.
- To assess the level of awareness on early identification of stroke symptoms among the general population.
- To associate the level of awareness of the risk factors and early identification of stroke with selected demographic variables.

Methodology

A non-experimental descriptive study design was used. For this study, 60 samples were selected by using a non-probability convenient sampling method. The knowledge was assessed by using a self-structured questionnaire. The study was conducted in the medical and surgical wards of JMMC&RI. The study population included individuals above 18 years of age among the general population.

Result

The result revealed that 58.33% of the general population had good knowledge regarding the early identification and risk factors of stroke. Among the total study population, 31.67% of the general population has excellent knowledge regarding the early identification and risk factors of stroke. Statistical analysis revealed that there is no significant association (p=0.191) between socio demographic data such as gender, marital status, educational status, family history, residential area and income with knowledge regarding the early identification of stroke. And there was an association (p=0.015) between age and occupation. Majority 42(70%) of the subjects were females and 18(30%) were males. Pertaining to occupation majority of the subjects have jobs 35(58.33%) and 25(41.66%) does not have any job. Most of the subjects 48(80%) were married. With regards to socio economic status most of the subjects income 32(53.33%) were above 5000 and 28(46.7%) were below 5000. With regards to residential areas 44(73.3%) were rural and 16(26.7%) were urban, regarding family history of stroke 47(78.33%) does not have any family history of stroke.

Conclusion

The study revealed that 58.33% of the general population had good knowledge of stroke risk factors and early identification, with 31.67% having excellent knowledge. Age and occupation were significantly associated with this knowledge (p=0.015), while other sociodemographic factors showed no significant association. These findings highlight the importance of targeted educational interventions based on age and occupation.

ASSESSMENT OF CAREGIVERS' KNOWLEDGE AND PRACTICES IN PREVENTING DIAPER DERMATITIS IN PEDIATRIC WARDS AT JMMC & RI

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Background

Diaper dermatitis, a common inflammatory condition in infants, can cause significant discomfort and complications if not properly managed. Caregivers' knowledge and practices play a crucial role in the prevention and management of this condition. This study aims to evaluate caregivers' understanding and practices regarding the prevention of diaper dermatitis among children in the pediatric wards of JMMC & RI.

Objectives

- To assess knowledge regarding prevention of diaper dermatitis among caregivers of children aged between 6 months to 2 years.
- To assess caregivers practices regarding prevention of diaper dermatitis among children aged between 6months to 2 years.
- To associate selected socio-demographic data variables of caregivers and clinical data variables of child with knowledge and practices among caregivers regarding prevention of diaper dermatitis.

Methodology

Descriptive research design with 60 samples were selected by using convenient sampling method. Knowledge were assessed by self-structured questionnaire. Study was conducted in paediatric medical, surgical wards of JMMC&RI which included caregivers of children aged between 6 months to 2 years who used diapers.

Results

The study revealed that most caregivers (35%) were aged 26-30 years, and 86.67% were female. The majority (68.33%) were unemployed, with 60% belonging to a high socioeconomic class. Among the children, 53.33% were male, 55% were aged 1-2 years, and 30% weighed 10-11 kg. The ordinal position showed 48.33% were middle children. Regarding diaper costs, 36.67% spent 100-400Rs per month. Nutritionally, 65% of children were moderately nourished, with 60% having health issues and 5% experiencing diarrhea. Most children (86.67%) had not had diarrhea in the past month, and 98.33% were vaccinated. A history of diaper dermatitis was present in 65% of children. Caregivers selected diapers based on size (28.33%) and brand (18.33%), used them primarily while going out (78%), and changed them based on timing (48.33%) or when fully soaked (15%). Knowledge assessment showed 48.33% had adequate knowledge of diaper dermatitis and aeration, while 33.33% had adequate knowledge of barrier and cleansing. Practice assessment indicated that 51.66% had appropriate practices regarding diaper dermatitis and aeration, and 45% had appropriate cleansing practices. There was a significant association between caregivers' knowledge and practices with sex ($\chi 2=7.609$, P=0.006) and occupation ($\chi 2=4.034$, P=0.045).

Conclusion

The study shows knowledge and practices of caregiver regarding prevention of diaper dermatitis. There was significant association between sociodemographic variable sex and occupation with knowledge and practices among caregivers regarding prevention of diaper dermatitis.

ASSESSMENT OF ANXIETY LEVELS IN FAMILY MEMBERS OF CHILDREN UNDERGOING OROFACIAL CLEFT SURGERY AT JMMC & RI

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Background

Orofacial clefts are among the most common congenital anomalies, often requiring surgical intervention to improve function and aesthetics. The period surrounding the surgery can be a highly stressful time for the family members of affected children, potentially leading to significant anxiety. Understanding and addressing this anxiety is crucial for providing comprehensive care and support to these families.

Objectives

- To assess the anxiety level of family members of children who has undergone orofacial cleft surgery in JMMC and RI
- To determine association of sociodemographic and clinical data variable on anxiety level of family members of children who has undergone orofacial cleft surgery in JMMC and RI.

Methodology

The study was conducted among 40 family members of children undergoimg orofacial cleft surgery. The research design was descriptive design and sample was selected by convenient sampling technique. The tool used for the study had two sections.

Section A – Sociodemographic and clinical data variable of family members and children. Section B – Modified structured anxiety scale to assess anxiety among family members of children who had undergone orofacial cleft surgery below 10 years of age. Data analysis was done using descriptive and inferential statistics.

Results

On data analysis it was observed that, 6(15%) family members had mild anxiety and 29(72.5%) family members had moderate anxiety and 5(12.5%) family members had severe anxiety. Among the children of study participants, 13 (32.5 %) of children were infants, 18(45%) were male and 16 (40%) were having both cleft lip and palate. More than half of the family members 26(65%) belong to the age group of 31 to 40 years and 22(65%) of study subjects were females. In the psychological domain, 23(57.5%) have moderate anxiety and in Physical domain 21(52.5%) have moderate anxiety. In the spiritual domain, 33(82.5%)have neutral anxiety. In the social domain 19(47.5%) have mild anxiety and 19(47.5%) have moderate anxiety. In the financial domain,16(40%) have mild anxiety.There is significant association between sex of the child and anxiety level of family members($p<0.05$).Therefore the researcher hypothesis H1(There is significant association between sex of the child with selected sociodemographic variable)was accepted

Conclusion

The study revealed that a majority of family members experienced moderate to severe anxiety, with significant variation across different domains. A notable finding was the significant association between the sex of the child and the anxiety levels of family members. These results underscore the importance of providing targeted psychological and social support to families, particularly those with male children and complex cleft conditions.

EFFECTIVENESS OF A VIDEO-ASSISTED TEACHING PROGRAM ON VECTOR-BORNE DISEASE PREVENTION AMONG ADULTS IN THRISSUR DISTRICT: A COMMUNITY-BASED STUDY

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Background

Vector-borne diseases, pose significant health challenges in many regions, including Thrissur District. Traditional methods of education on disease prevention often fall short in engaging the community and promoting sustained behavioral changes. This study investigates the effectiveness of a video-assisted teaching program, designed to enhance the knowledge and practices of adults in Thrissur District regarding vector-borne disease prevention.

Objective

- To assess knowledge and practice regarding the prevention of vector borne diseases among adults.
- To compare knowledge and practice regarding the prevention of vector borne diseases before and after video assisted teaching programme.
- To find the correlation between knowledge and practice regarding the prevention of vector borne diseases.
- To find the association between the knowledge and practice regarding prevention of vector borne diseases with selected socio-demographic variables

Methods

The descriptive study was conducted on 100 participants aged 18 to 60 years. The research design was a non-experimental one-group pretest-posttest design, and the sample was collected using non-probability purposive sampling.

The tool consisted of three sections: Section A included a socio-demographic and clinical data questionnaire, Section B included a self-structured knowledge assessment questionnaire, and Section C included a checklist on the assessment of practices for the prevention of vector-borne diseases. The tool was administered to participants using the interview method. Following this, a video-assisted teaching program was conducted. A post-test was conducted after 7 days using the same self-structured questionnaire and practice checklist.

Results

Sociodemographic data revealed that 40% of participants belonged to the age group >49 years, 81% had primary education, 44% were married, 73% were above the poverty line, 89% had their own well, and 48% had undersurface drainage. Additionally, 92% followed their own property for dumping waste, 92% used media for knowledge, 74% used burning as a method of waste disposal, 95% kept their locality clean, 72% cleansed water sources once weekly, 95% had no past history of infection, and 96% were not hospitalized for infection. The results show that the good knowledge and good practice scores increased from 43% to 97% and 55% to 100%, respectively, after the video-assisted teaching program. The mean knowledge score increased from 20.60 to 32.02, and the mean practice score increased from 7.64 to 9.21, both with a p-value of 0.001 and <0.001, respectively. There is a significant correlation ($p=<0.05$, $r=0.891$) between knowledge and practice regarding the video-assisted teaching program.

Conclusion

Proper education regarding vector-borne diseases can significantly enhance the knowledge and practices of individuals in society. Implementing such educational interventions can play a crucial role in reducing the incidence and impact of vector-borne diseases in the community.

PERCEPTION OF EMPOWERMENT AMONG NURSING STUDENTS: A DESCRIPTIVE STUDY ON PROSPECTS AND CHALLENGES

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Background

Empowerment is a critical aspect of nursing education, influencing students' confidence, motivation, and readiness for professional practice. Understanding nursing students' perceptions of empowerment can provide valuable insights into the effectiveness of educational strategies and highlight areas for improvement. This study explores the prospects and challenges faced by nursing students in feeling empowered throughout their training.

Objectives

- To assess the perception of empowerment among Nursing students.
- To associate level of empowerment among Nursing students with their selected socio demographic variables.
- To assess the prospects, challenges and suggestions for overcoming the same perceived by Nursing students.

Methodology

The study utilized a mixed methodology approach with a descriptive research design. It was conducted at Jubilee Mission College of Nursing (JMCON) in Thrissur, targeting the nursing students of JMCON. The sample size for Tool 1 consisted of 150 students, with 30 samples taken from each batch. For Tool 2, the sample size was 20 students from each batch, including a mixture of students who participated in Tool 1 and those who did not. The sampling technique employed was random sampling. The inclusion criteria were students who were willing to provide information.

Result

The results showed that graduates exhibited the highest perception of empowerment, with 90% demonstrating a strong sense of empowerment. The highest perception was noted in the domain of 'positive emotions towards the course.' There was a significant association between age and the level of perception of empowerment ($\chi 2=10.056$, $p<0.007$). Additionally, a significant association was found between gender and the level of perception of empowerment ($\chi 2=13.034$, $p=0.001$).

Conclusion

The integration of nursing education with practical nursing service, alongside learning new subjects and receiving strong faculty support, significantly enhances the empowerment of nursing students. These factors collectively foster a more confident, motivated, and prepared nursing workforce.

ASSESSMENT OF KNOWLEDGE REGARDING CORONARY ARTERY DISEASE AMONG DIABETIC PATIENTS AT JMMC AND RI, THRISSUR

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Background

Non-communicable diseases (NCDs) such as type 2 diabetes mellitus (T2DM) are influenced by genetic, physiological, environmental, and behavioral factors. A 2019 study under the National Health Mission revealed a high cumulative incidence of T2DM (21.9%) and pre-diabetes (36.7%) in Kerala, with approximately 60% of individuals progressing from impaired plasma glucose to T2DM. This trend underscores an emerging epidemic of T2DM in the region. T2DM significantly impacts the long-term prognosis of patients, with those affected facing a 2-to-4-fold increased risk of mortality from heart disease. Aggressive management of hyperlipidemia and hypertension, along with primary prevention strategies, are crucial in reducing the incidence of coronary artery disease in diabetic individuals.

Objective

- To assess the level of knowledge regarding prevention of coronary artery disease among diabetic patients
- To find out the association between the level of knowledge regarding coronary artery disease among diabetic patients and their selected Socio-demographic and clinical data.

Methodology

A descriptive study was conducted among 150 diabetes patients using a non-probability convenience sampling technique. A standardized self-structured questionnaire was employed to assess the knowledge level regarding coronary artery disease among the diabetic patients.

Results

In the socio-demographic findings, the majority of the sample (69, 46%) belonged to the age group between 51-60 years. Most of the sample (89, 59.3%) were male, and a significant portion (111, 74%) had completed school education. The majority were married (137, 91.3%), and almost half had a monthly income below 5000 (64, 42.6%). About half of the sample identified as Hindus (74, 49.3%) and the majority reported following a mixed food habit (136, 90.6%). More than half of the sample (79, 52.6%) had been diagnosed with diabetes, with the majority (110, 73.3%) not undergoing insulin therapy. All participants reported having other illnesses (150, 100%), and most had their cholesterol and blood pressure checked (120, 80%). The majority (132, 88%) had no knowledge about cardiovascular disorders, and more than half (89, 59.3%) reported having unhealthy habits. None of the participants had a history of heart disease (150, 100%), and most (115, 76.6%) had no history of disease among family members. Additionally, the majority (92, 61.3%) did not exercise for at least 2 hours and 30 minutes per week.

Conclusion

The study found that the majority of the sample (122, 81%) had moderate knowledge, while 23 (15%) had inadequate knowledge, and 5 (4%) had adequate knowledge regarding coronary artery disease. The study concluded that there is no significant association between the level of knowledge regarding coronary artery disease among diabetes patients and selected sociodemographic and clinical variables such as occupation, monthly income, and religion. However, there is a significant association between knowledge levels and factors such as food habits, exercise, and unhealthy habits.

HISTOPATHOLOGICAL SPECTRUM OF CNS LESIONS - A RETROSPECTIVE 12 YEAR STUDY OF 2233 CASES FROM A TERTIARY CARE CENTRE

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Background

Space-occupying lesions of the brain and spinal cord are a heterogeneous group with diverse etiologies. Central Nervous System (CNS) tumors involving the brain and spinal cord constitute 2.5% of the global cancer burden and are associated with significantly high morbidity and mortality. Differentiating between the various non-neoplastic and neoplastic lesions poses a major diagnostic challenge, with histopathological examination being the mainstay and gold standard for diagnosis.

Objective

- To analyze the spectrum of CNS lesions as regards to age, sex and topography.
- To classify the CNS tumors according to histological type and grade of tumors (WHO 2007 classification).

Methods

This hospital-based retrospective study was carried out over a 12-year period (2010 to 2021) in the Department of Pathology at a tertiary care center in South India. Data from 2,233 CNS biopsies, including those of the spinal cord and meninges, were procured from the archives of the Department of Pathology and the hospital medical record system after obtaining approval from the institutional ethics committee. The lesions were categorized according to age, sex, and location. Histopathologically confirmed CNS neoplasms were further subtyped according to morphology and graded based on the WHO 2007 classification of tumors of the CNS. SPSS Version 29 was used as the data evaluation tool for the study.

Results

Majority of the CNS lesions were benign (42.3%) followed by malignant (36.5%) and non-neoplastic lesions (21.2%). Males (52.7%) outnumbered females (47.3%) in the ratio 1.1: 1. Most adult CNS lesions occurred in the age group of 41-50 years (22.7%). Meningiomas constituted the bulk of CNS tumors (13.86%) and anterior fossa being the most common site of involvement (39.2%). Paediatric CNS lesions accounted for 8.9% of the total number of cases, with the posterior fossa being the commonest site of involvement (22.6%). Pediatric CNS tumors showed great histological diversity, with astrocytomas comprising 16.54%. Additionally, 11.2% of pediatric tumors were grade 4 medulloblastomas. 5. Sellar tumors (pituitary adenomas) accounted for 5.19% of all CNS lesions. The primary CNS tumors constituted 89.3% of all tumors in which the frontal lobe was the most common site (13.33%). 29.2% of all CNS lesions were in the spinal region of which schwannomas were the most common (26.3%). Spinal tuberculosis accounted for 7.8% of spinal lesions with majority of cases found in the lumbar spine (52%). Metastatic carcinomas constituting 10.7% of all CNS tumors, were most commonly encountered in the lumbar spine (31%) with lung as the most common primary site of origin (35.8%).

Conclusion

CNS tumors are a consistently pressing concern for the global medical community. The present study provides a comprehensive overview of CNS tumors and tumor-like lesions, thereby significantly contributing to the existing data and subsequent patient management for better treatment outcomes.

EXPLORING SECOND-YEAR MBBS STUDENT'S REFLECTIVE WRITING ON ROLE-PLAYING SCENARIOS IN BREAKING BAD NEWS: A QUALITATIVE STUDY

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Background

Reflective narratives and roleplays independently have shown to enhance affective domain among medical students, building essential communication and empathy skills.

Objectives

- To analyse the reflective writings of second-year MBBS students following role-play of breaking bad news, exploring their perceptions, emotions, and communication skills.
- To understand how far students' enjoyed learning through roleplay and their learning outcomes from these exercises.

Methodology

A qualitative descriptive study was conducted with second-year medical students at the Department of Pharmacology, JMMC & RI, Thrissur. Fifty students were divided into two groups to perform role-play depicting good and bad models of breaking bad news. Students were then asked to write reflections based on Gibbs Reflective Cycle. Thematic analysis of these reflections was performed using NVIVO software, with themes categorized under the ABCDE paradigm (Attitude, Behaviour, Communication, Development, and Empathy).

Result

Twenty reflections were selected based on their content quality. Content analysis of the narratives using predetermined codes revealed that adopting an empathetic approach and being aware of the SPIKES protocol significantly improved the

communication of bad news. Additionally, students gained deeper insights into the challenges associated with delivering bad news, when they were exposed to a near to real life learning encounter. This highlighted the complexity and sensitivity required in these interactions.

Conclusion

Reflective narratives can complement role-play as effective teaching-leaning tool in providing deeper insights on issues in the affective domain that is not conventionally taught. Such self-reflections facilitate attitude and behavioural changes in budding professionals to adopt an empathetic approach in patient care

PRIMARY EXTRANODAL LYMPHOMAS – A 5 YEAR RETROSPECTIVE ANALYSIS OF CLINICOPATHOLOGIC FEATURES IN A TERTIARY CARE CENTRE

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Background

Malignant lymphomas can arise in various extra-nodal sites, including the gastrointestinal tract, thyroid, salivary glands, skin, gonads, thymus, ocular adnexa, breast, tonsil, brain, and dura. Histologic types vary widely. Predisposing factors include chronic H. pylori gastritis, autoimmune diseases, and immunodeficiency syndromes like HIV and post-transplant status. Post-transplant lymphoproliferative disorders (PTLD), often EBV-related, are life-threatening and usually occur within months of transplant. Some lymphomas, like gastric MALTomas, may remit with anti-H. pylori therapy, while others may transform into diffuse large B-cell lymphomas. Diagnosis relies on tissue biopsy and ancillary tests. Prognosis depends on disease extent, with primary brain lymphoma having the poorest outcome.

Objectives

- To study the clinical and histopathological features of lymphomas in extra nodal sites.
- To classify the extra nodal lymphomas with immunohistochemistry and compare them on the basis of their site of origin.

Methodology

A 5-year retrospective study on Lymphomas in extra nodal sites from 2019 to 2023 in the department of pathology of a tertiary care centre.

Results

The extra nodal sites encountered in this study include ileum, jejunum, stomach, testes, ovary, lung, thyroid, breast, brain, meninges, bone, skin, nasal cavity and appendix. Majority of cases studied had their origin in the Gastrointestinal system. Most cases were of Diffuse large B cell Lymphoma subtype. Other types include mantle cell lymphoma, follicular lymphoma, primary cutaneous lymphoma and a few others.

Conclusions

Approximately 30% of lymphomas occur outside lymph nodes and their incidence has been found to be steadily increasing in the past decade. Extra nodal lymphomas in different anatomical sites often have distinct cellular origin, pathogenic mechanisms and clinical manifestations, significantly influencing their diagnosis and treatment. Conventional treatment modalities include chemotherapy, radiation therapy, targeted therapy and immunotherapy. In addition, autologous hematopoietic stem cell transplantation (ASCT) and Chimeric antigen receptor T cell therapy (CAR-T) have also been found to be effective salvage measures for extra-nodal lymphomas. Prognosis and survival largely depends on the stage and histologic subtype, the prognosis being largely unsatisfactory in advanced cases. This study was undertaken to create awareness about extranodal lymphomas, highlighting the significance of an inter disciplinary team and comprehensive diagnostic evaluation in formulating effective treatment strategies for its management.

DETERMINANTS OF THE COMPLICATED WITHDRAWAL IN INDIVIDUALS WITH ALCOHOL DEPENDENCE SYNDROME(ADS) IN A TERTIARY CARE CENTRE IN SOUTH KERALA

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Background

Alcohol withdrawal delirium and withdrawal seizures are associated with severe complications and high mortality. Prospectively identifying patients with increased risk of developing complicated withdrawal would have important preventive and therapeutic implications. There are very few well designed studies from low income settings in South India.

Objective

- To determine the factors associated with complicated withdrawal in individuals admitted with Alcohol Dependence Syndrome

Methodology

A Case-control study design was employed after obtaining institutional ethics committee clearance. Admitted patients who fulfill ICD-10 criteria for Alcohol Dependence syndrome with complicated withdrawal were selected as cases and ADS with Uncomplicated withdrawal as controls between October 2019 and April 2021. Cases and controls were screened using a semi-structured proforma, MINI, CAM, SADQ, CIWA, and the PAWSS after obtaining informed consent.

Result

Past history of withdrawal seizures (p=0.011, OR-5.040), Continuous drinking pattern (p=0.006, OR=7.207), comorbid Nicotine use (p=0.008, OR=5.92), Higher CIWA-Ar score at intake (p=0.000, t=12.934), Higher PAWSS score (p=0.009, t=2.671) and higher SADQ score (p=0.000, t=7.639)

were significantly associated with complicated withdrawal in individuals with Alcohol Dependence Syndrome

Conclusion

Alcohol related withdrawal is a clinical entity that causes burden on the individual, family and health care system. Effective ways of predicting risk for complicated withdrawal in individuals are essential for early recognition and intervention

ASSESSMENT OF THE PHENOTYPIC SEVERITY OF HEMOPHILIA A USING ROTATIONAL THROMBOELASTOMETRY (ROTEM) IN SEVERE HEMOPHILIA PATIENTS – A PILOT STUDY

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Background

Hemophilia A (HA) is an X-linked inherited bleeding disorder caused by reduced factor VIII (FVIII) levels. . Severe Hemophilia A is defined as FVIII levels less than 1%.symptoms may include prolonged bleeding from minor wounds, painful swollen bruises, and unexplained (spontaneous) bleeding into vital organs as well as joints and muscles (internal bleeding).This disorder presents with varying bleeding patterns, particularly in patients with severe hemophilia A (SHA), where approximately 10–15% do not exhibit the expected bleeding tendencies. Understanding the phenotypic severity of SHA is crucial for appropriate clinical management and treatment. This pilot study aims to assess the phenotypic severity of hemophilia A using rotational thromboelastometry (ROTEM) in patients with severe hemophilia A. ROTEM is a point-of-care diagnostic test that assesses the hemostatic properties of blood. It evaluates the viscoelastic properties of blood during clot formation and lysis. Provides comprehensive information on clot formation and stability. ROTEM is instrumental in guiding clinical decision making.

Methods

Patients diagnosed with severe hemophilia A as per Factor assay were enrolled. Clinical phenotypes were assessed through a detailed questionnaire. . The whole blood sample was run on ROTEM. The Phenotypic severity was compared to the ROTEM parameters like including Clotting Time (CT), Alpha angle, amplitude at 5 minutes (A5), amplitude at 10 minutes (A10), and Maximum Clot Firmness (MCF), were measured.

The phenotypic severity observed clinically was then compared with these ROTEM parameters to determine their correlation.

Results

A total of 10 patients participated in this pilot study. Statistical analysis revealed significant differences between clinical phenotypes and several ROTEM parameters, specifically CT, Alpha angle, and MCF. These findings suggest a strong correlation between the ROTEM measurements and the clinical manifestations of hemophilia A in these patients.

Conclusion

ROTEM proves to be a valuable tool in objectively distinguishing the clinical phenotype of patients with severe hemophilia A. The use of multiple ROTEM parameters, such as CT, Alpha angle, and MCF, demonstrated high sensitivity and specificity in identifying the phenotypic severity of hemophilia A. This objective assessment can guide the initiation and optimization of prophylactic treatment strategies, improving patient outcomes. Implementing ROTEM in routine clinical practice could enhance the management of hemophilia A by providing a clearer understanding of individual patient phenotypes and tailoring treatment approaches accordingly.

EXPLORING THE THERAPEUTIC POTENTIAL OF SPECIFIC AYURVEDA FORMULATIONS AGAINST AD PATHOLOGIES

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Background

Alzheimer's disease (AD) is the most prevalent form of dementia, causing irreversible neuronal damage and death. Current treatments for AD offer only modest benefits, and the WHO predicts that AD will become a global epidemic by 2050. The multifactorial nature of AD progression presents significant challenges for drug discovery. Given the complexity of AD, polypharmacological agents are more promising than single-target therapies. Most Ayurvedic formulations operate on the principle of polypharmacology. A specific type of Ayurvedic preparation, known as 'Medhya Rasayanas' (MR), is well-known for improving memory, intelligence, youthfulness, luster, complexion, immunity, health, and longevity. Due to their nootropic effects, we hypothesize that MR could be potentially used for the treatment of AD. We expect that the plant components in MR will act on multiple pathologies contributing to AD, potentially offering a more comprehensive therapeutic approach.

Aim

Exploring the potential use of Medhya rasayana formulations against AD like pathology

Methodology

The selected MR formulations were first subjected to enzyme inhibition studies targeting various drug-related proteins associated with AD. Additionally, their cytotoxicity was assessed in neuroblastoma cell lines, including SH-SY5Y and Neura2A. The neuroprotective properties of these formulations at non-cytotoxic concentrations were further evaluated against various toxic insults, such as amyloid-beta and

lipopolysaccharides (LPS), using the MTT assay.

Results

We selected five MR formulations for this study. Enzyme inhibition studies against various target proteins in AD revealed that these formulations can inhibit specific AD target proteins with varying degrees of potency. Neuroprotective assays against amyloid-beta and lipopolysaccharides (LPS) demonstrated that these formulations exhibit neuroprotective properties at non-cytotoxic concentrations.

Conclusion

The five MR formulations studied show promise in inhibiting AD target proteins and exhibit neuroprotective properties, indicating potential therapeutic benefits in Alzheimer's disease.

MECHANISTIC INSIGHTS INTO THE EFFICACY OF AN AYURVEDIC PREPRATON USED FOR THE TREATMENT OF UTERINE FIBROIDS

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Background

Uterine fibroids are the most common solid benign tumors found in women of reproductive age, significantly affecting their physical and social activities, quality of life, and work productivity. Although the exact aetiology of uterine fibroids remains unclear, recent studies have indicated that hormonal imbalances, particularly involving progesterone, plays a crucial role in their growth. Ayurveda, the ancient Indian traditional system of medicines such as Kanchanara Guggulu, Shigru Guggulu, Guggulu Tiktakam Kashayam, Guggulu Panchapala Choorna, and Suddh Guggulu, offers promising solutions for the management of uterine fibroids. The primary active ingredient in these formulations is reported to be Guggulu. Although these formulations have been studied for their effects on uterine fibroids, their exact mechanisms of action remain unclear. In the present study, we conducted in silico analyses to elucidate the molecular mechanisms of the major constituents in these Ayurvedic preparations.

Objective

To elucidate the mechanisms by which Guggulu is effective in the treatment of uterine fibroids.

Methodology

To investigate the mechanisms underlying Guggulu's efficacy in treating uterine fibroids, we undertook a comprehensive analysis of all active molecules in Guggulu, with a particular focus on steroid molecules due to their relevance to progesterone-related conditions. As a first step, we collected all steroid molecules present in the Gugglu through data mining. These molecules were then classified as either agonists or

antagonists by comparing their structures with those of known progesterone receptor agonists and antagonists. Molecular docking studies were then performed with these steroid molecules against both the open and closed conformations of the progesterone receptor crystal structures. The closed conformation is formed when agonist and antagonist bind to the progesterone receptor, while the open conformation occurs when selective progesterone receptor modulators (SPRMs) binds. Analyzing these structural shifts helps in understanding the chemical properties of an unknown ligand. Further to gain deeper insights into the atomic-level interactions, we conducted molecular dynamics simulations. Additionally, off-target interaction studies were also performed to assess the specificity and potential side effects of these SPRMs.

Result

Our comprehensive search revealed 21 steroidal molecules from Guggulu. Docking of these molecules with open and close structures i.e., PDB ID: 2OVH (SPRM, open conformation) and PDB ID: 1A28 (agonist ligand, closed conformation), 2W8Y (antagonist ligand, closed conformation) revealed that only Guggulsterol III, IV, and V docked successfully with 2OVH, indicating their potential as SPRMs. Molecular dynamic simulations conducted over 100 ns revealed that the average RMSD for these three compounds was approximately 2 Å, suggesting stable binding with the progesterone receptor. Off-target interaction studies showed that Guggulsterol III and IV exhibited minor binding affinity towards glucocorticoid and vitamin D receptors, while Guggulsterol V showed no off-target interactions.

Conclusion

Our findings suggest that Guggulsterol III, IV, and V from Guggulu have potential as selective progesterone receptor modulators, with stable binding and minimal off-target interactions, particularly for Guggulsterol V.

UNVEILING DISCREPANCIES: A COMPREHENSIVE EVALUATION OF PRAKRITI ANALYSIS TOOLS

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Background

Ayurbiology, which integrates Ayurveda with modern science, has been gathering significant attention among researchers. In Ayurvedic medicine, accurately identifying an individual's Prakriti, or constitutional type, before initiating any treatment is crucial. This identification helps the entire therapeutic approach and ensures that the treatment is tailored to the individual's specific needs.

However, there are concerns regarding the accuracy and precision of Prakriti analysis. These concerns necessitate rigorous validation processes to enhance confidence in the outcomes of such analyses.

Objective

The objective of this study is to analyse the prevailing characteristics of widely used Prakriti analysis tools and systematically assess their combined behavioral properties in determining an individual's Prakriti. By doing so, we aim to identify the strengths and weaknesses of these tools and explore ways to improve their reliability.

Methodology

The study evaluated widely used Prakriti analysis tools. These included questionnaires from the Institute for Genomics and Integrative Biology (Q-IGIB), Banaras Hindu University (Q-BHU), Ayusoft, and a physician's tool (Q-Phy). A sample size of 260 participants, aged 20 to 69, completed the questionnaires in a controlled environment, taking about 25 minutes each. Prakriti determination in all tools was based on dosha contribution percentage.

Statistical analyses, including ANOVA, Bonferroni post hoc test, and Pearson correlation coefficient, were conducted using SPSS Version 25 to compare results across tools.

Results

The study validated the physician questionnaire (Q-Phy) for content and reliability, achieving a high Content Validity Index (CVI) score of 0.98 and a Cronbach's alpha coefficient score of 0.9. Our analysis of Prakriti assessments using different tools revealed significant inconsistencies. Comparative analysis using ANOVA and Bonferroni post hoc tests revealed statistical insignificance among the tools. Additionally, correlation analysis showed no linear relationship or association among the results. These inconsistencies prompted us to reexamine the tools and thoroughly investigate their properties. We found that the number of questions and the scoring patterns (i.e., the weightage of marks assigned to different questions) varied among the Prakriti analysis tools. Despite being designed to produce unique Prakriti profiles, these tools often yielded dissimilar results for the same individual. This notable degree of discrepancy highlights the need for a more reliable and consistent approach to Ayurveda Prakriti evaluation.

Conclusion

Despite Ayurveda's longstanding effectiveness, its global recognition faces challenges due to perceived lack of scientific evidence. The study highlights the inconsistency in prakriti analysis, emphasizing the need for a standardized assessment tool. A standard operating protocol could enhance uniformity in prakriti assessment. Meanwhile, a consensus-based approach, combining insights from various tools and experts, may offer interim solutions. Moreover, advancements in machine learning and artificial intelligence hold promise for integrating technology into the prakriti assessment process, potentially improving accuracy and tailored healthcare interventions.

UNRAVELLING COMPLEMENT PROTEIN DYNAMICS IN RHEUMATOID ARTHRITIS: A COMBINED MASS SPECTROMETRY AND BIOINFORMATICS APPROACH

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Back ground

Rheumatoid arthritis (RA) is the most prevalent systemic inflammatory autoimmune disease, primarily affecting the joint synovium due to a dysregulated immune system. The global prevalence of RA approximates 18 million. Despite extensive research, the underlying molecular mechanisms of rheumatoid arthritis pathophysiology remain incompletely understood This study seeks to identify differentially expressed plasma proteins in RA patients involved in complement and coagulation cascade and thereby understand their role in the pathophysiology of the disease.

Objectives

- The identification of differentially expressed proteins (DEPs) in RA with respect to healthy controls via mass spectrometric analysis.
- Functional annotation of differentially expressed proteins in RA will be done by appropriate bioinformatic tools and to elucidate their roles in inflammatory signaling pathways.

Methodology

The study was a comparative cross-sectional study. The samples were obtained from a tertiary care hospital after obtaining approval from Institutional ethics committee. Blood samples from RA patients were obtained, following the ACR

guidelines & under the supervision of a Rheumatologist. EDTA blood samples were collected from diagnosed RA patients. Plasma separated, and highly abundant proteins were depleted using immunoaffinity techniques to enrich low-abundance proteins. After immune depletion, the proteins were concentrated, quantitated and normalised to 1mg/ml. The samples underwent mass spectrometric analysis to identify low-abundance plasma proteins. Identified proteins were further analysed using bioinformatics tools such as DAVID & STRING. These tools helped in mapping protein interactions and identifying highly enriched protein clusters involved in the complement and coagulation cascades.

Result

The mass spectrometric analysis revealed several differentially expressed low-abundance plasma proteins in RA patients. Many complement proteins were seen differentially expressed and these proteins are implicated in inflammatory responses and joint inflammation characteristic of RA. Bioinformatics analysis indicated that these differentially expressed proteins form highly enriched clusters involved in the complement and coagulation cascades. These cascades are crucial pathways that associated with inflammatory responses, central to RA pathophysiology. The identification of these protein clusters provides insight into the molecular mechanisms causing RA and highlights potential biomarkers for the disease.

Conclusion

This study adopted an integrated approach combining mass spectrometry and bioinformatics, exploring the molecular pathophysiology of RA. This research could pave the way for improved diagnostic and prognostic tools, as well as potential therapeutic targets for Rheumatoid arthritis, ultimately contributing to better patient outcomes.

MULTI-TARGETING ACTIVITY OF COIXOL

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Background

Alzheimer's disease (AD) is a progressive neurodegenerative disorder marked by cognitive decline, memory loss, amyloid-beta plaque accumulation, neurofibrillary tangles, oxidative stress, and neuroinflammation. AD is multifactorial and several protein molecules are involved in the disease progression, inhibiting these proteins could be a promising therapeutic approach. One such protein target is monoamine oxidase (MAO), an enzyme responsible for the metabolism of neurotransmitters like dopamine, serotonin and norepinephrine. Elevated MAO activity is linked to increased oxidative stress and the formation of neurotoxic by-products, which exacerbate neuronal damage in AD. Inhibiting MAO especially, MAO-B inhibitors have shown promise in alleviating symptoms and potentially slowing the progression of neurodegenerative diseases like AD. In our study, a natural molecule, Coixol, derived from the medicinal plant Coix lacryma-jobi, exhibited potential MAO-B inhibitory activity. The Coixol shares high structural similarity to Isatin, a known MAO-B inhibitor. This study aims to investigate the inhibitory effects of coixol on MAO-B through extensive molecular docking studies, molecular dynamics (MD) simulations, and in vitro assays. Additionally, we evaluated coixol's inhibition of acetylcholinesterase activity, another crucial drug target in AD

Objective

- To investigate the potential inhibitory effect of Coixol on different AD drug targets through in silico and in vitro studies.

Methodology

Molecular docking studies were conducted to compare the binding affinity and interactions of Coixol with MAO-B against the reference ligand, Isatin. The binding energy of coixol was calculated. MD simulations were also performed to assess the stability of the coixol-MAO-B complex. Cytotoxicity profile of Coixol on different cell lines were assessed by MTT method. Finally, in vitro enzyme inhibition assays were performed to assess the inhibitory effect of Coixol on AD drug targets.

Result

Molecular docking studies have identified Coixol as a potential inhibitor of MAO-B, revealing a binding energy of 34.39 kcal/mol, which is comparable to the binding energy observed for Isatin, a known MAO-B inhibitor. Structural similarity between Coixol and Isatin resulted in the similar binding mode and molecular interactions within the active site of MAO-B. The MD simulations showed that the RMSD of the Coixol-MAO-B complex remained consistently around 1 Å throughout the simulation period indicating a stable binding in the active site of MAO-B. The cytotoxicity profile of coixol indicated the nontoxic nature up to 400µM. Further, in vitro enzyme inhibition studies against AChE and MAO-B assays suggested that coixol exhibit superior inhibitory effect on MAO-B activity than AChE activity.

Conclusion

These collective findings indicate that Coixol could be a promising candidate to test its efficacy in the animal models of Alzheimer's disease.

EVALUATION OF PLATELET COUNT ENHANCEMENT PROPERTY OF *CARICA PAPAYA* L. CULTIVAR RED LADY LEAF EXTRACT IN BUSULFAN INDUCED THROMBOCYTOPENIC RAT MODEL

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Background

Thrombocytopenia is a disease condition in which platelet count drops below 150 ×103 cells/μL of blood. It is more often a disease manifestation of several underlying diseases like Dengue, and Malaria. Carica papaya L. leaf decoctions/juice have been used as a traditional medicine in Asian countries to improve platelet count during dengue fever and other thrombocytopenic conditions. Several pre-clinical studies have reported the platelet count-boosting property of C. papaya leaf extracts. But very little research has been conducted in identifying the active principle in papaya leaves responsible for its anti-thrombocytopenic property.

Objectives

- Isolation and characterization of alkaloids from C.papaya L. leaf.
- To study the effect of the alkaloid extract in improving platelet count, in a busulfan-induced thrombocytopenic rat model.

Methodology

The study utilized Carica papaya L. cultivar red lady leaf- alkaloid extract. The chemical composition of the extract was identified using UPLC-Q-Tof-MS/MS analysis. Platelet count boosting property was assessed in a busulfan-induced thrombocytopenic rat model. The study was conducted in 18 male Wistar rats classified under 3 groups viz normal control, disease control, and treatment group. The platelet counts were

analyzed in an automated hematology analyser. Hepato- toxicity and renal toxicity were evaluated by serum ALT, AST, and creatinine levels.

Results

Administration of busulfan, induced severe thrombocytopenia. The mean platelet count of the disease control group dropped to 22.67 ± 3.073 × 109 /L. The treatment group that received the alkaloid fraction showed better biological activity with an improved platelet count of 153.8 ± 15.49 × 109 /L (p-value < 0.05). The normal control group maintained a platelet count of 806.3 ± 25.74 × 109 /L. Hepatotoxicity and renal toxicity were not observed in any group.

Conclusion

The study validates that alkaloids in Carica papaya leaves have the potential to improve platelet count during thrombocytopeni

INVESTIGATING THE INHIBITORY EFFECTS OF SELECTED SECONDARY METABOLITES OF *ELETTARIA CARDAMOMUM* ON LYSOZYME AGGREGATION

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Background

Lysozyme aggregation is implicated in diseases like systemic amyloidosis, familial amyloidosis, and age-related macular degeneration. Understanding and mitigating this aggregation is critical for developing therapeutic strategies. Present study investigates the inhibitory potential of secondary metabolites (from *Elettaria cardamomum*—namely bornyl acetate, α-caryophyllene, and β-caryophyllene) on lysozyme aggregation. The effects of these metabolites on lysozyme aggregation were evaluated using the Thioflavin T (ThT) fluorescence assay and scanning electron microscopy (SEM). Results of ThT assay demonstrated that β-caryophyllene, α-caryophyllene and bornyl acetate significantly inhibited lysozyme aggregation. Further SEM analysis was done to understand the morphology of fibrils. Preclinical cytotoxicity analysis was also performed on human embryonic kidney-293 (HEK-293) cells. Additionally, we performed molecular docking to understand the binding mechanism of lysozyme and the selected compounds. Preliminary results suggests that cardamom's secondary metabolites like α-caryophyllene and bornyl acetate, hold promising therapeutic activity for treating/preventing lysozyme aggregation and associated diseases. Further research is warranted to explore their mechanisms of action and therapeutic applicability.

Objectives

- To investigate the inhibitory effects of secondary metabolites derived from cardamom on the aggregation of human lysozyme.

Methodology

To explore the inhibition of human lysozyme aggregation, a comprehensive methodology was employed. Initially, a Thioflavin T (ThT) assay monitored the effects of varying concentrations of Bornyl acetate, α-caryophyllene, and β-caryophyllene on lysozyme aggregation, measuring ThT fluorescence intensity over time. Subsequently, Scanning Electron Microscopy (SEM) visualized changes in fibril morphology caused by the metabolites. Following this, cytotoxicity assays were conducted to assess the safety of the metabolites on HEK cells. Finally, molecular docking simulations were performed to elucidate the potential binding mechanisms between lysozyme and the three metabolites.

Result

Results showed that α-caryophyllene, β-caryophyllene and bornyl acetate significantly inhibited lysozyme aggregation, as indicated by the ThT fluorescence assay which was confirmed by SEM analysis. Molecular docking analysis has unveiled promising binding sites for the selected molecules on the lysozyme.

Conclusion

Secondary metabolites found in cardamom, notably α-caryophyllene, β-caryophyllene, and bornyl acetate, hold significant potential as therapeutic agents for diseases linked with lysozyme aggregation. However, comprehensive investigations are warranted to elucidate their mechanisms of action and broaden their therapeutic scope.

EXPLORING THE GENETIC SUSCEPTIBILITY OF THE *FSHR* GENE IN SOUTH INDIAN WOMAN WITH POLYCYSTIC OVARY SYNDROME

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Background

Genome-wide studies have identified *FSHR* variants as one of the genetic variants associated with PCOS. However, data regarding the role of *FSHR* polymorphisms are conflicting. The selection criteria of the patients play a pivotal role in inconclusive genetic studies on PCOS. Apart from this, a literature search shows a lack of studies on *FSHR* promoter genetic variations study in PCOS.

Objectives

In the present study, we focused more on the selection criteria of PCOS patients for a better understanding of the involvement of the *FSHR* polymorphisms in the manifestation of PCOS.

Methodology

Our case-control study included 1018 women (438 with PCOS and 580 controls). We meticulously selected 121 PCOS patients based on direct lineage and symptom severity since menarche, meeting all three Rotterdam criteria. To minimize genetic bias, we chose 121 age-matched controls without a family history of PCOS up to the second degree. We analyzed the *FSHR* gene's proximal promoter region in 25 PCOS cases and an equal number of controls using PCR-Sanger sequencing. Additionally, we examined a significant 5'UTR variant (rs1394205) and two exon 10 SNPs [Ala307Thr A>G (rs6165) and Ser680Asn A>G (rs6166)] in 121 PCOS patients and controls using PCR-RFLP. Bioinformatics tools were employed

for the pathogenic assessment of the Ala307Thr A>G (rs6165) and Ser680Asn A>G (rs6166) variants.

Result

Our findings indicate a significant correlation between the *FSHR* rs1394205 (−29G>A) and rs6165 polymorphisms and susceptibility to PCOS. Additionally, rs6165 displayed a significant genotype frequency variation among individuals with normal BMI. Moreover, *in-silico* tools deemed the variation non-pathogenic.

Conclusion

These results suggest a significant association between the *FSHR* rs1394205, −29G>A, and rs6165 polymorphisms and PCOS susceptibility in South Indian patients.

MUTATION ANALYSIS OF *WNT4*, *RSPO1*, *FOXL2*, *DAX1*, AND *NR5A1* IN 46,XX DISORDERS OF SEXUAL DEVELOPMENT

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Background

Genetic mutations are one of the main causes of 46,XX Disorders of Sexual Developments. Critical players in ovary and mullerian duct development in females are *WNT4* (Wingless type MMTV integration site family member 4), *RSPO1* (R-Spondin1), *FOXL2* (Forkhead Box Protein L2), *DAX-1* (Dosage-Sensitive Sex Reversal-Adrenal Hypoplasia Congenita Critical Region on the X chromosome, Gene 1) and *NR5A1* (Nuclear receptor subfamily 5 group A member 1). Mutations in any one of these genes can lead to abnormal development of ovary and mullerian structures in 46,XX DSD patients. On a global scale and within the context of India, research on 46,XY DSD and sex chromosomal studies has been common, while studies on 46,XX DSD are rarely reported. Investigations into promoter-site mutations of key genes implicated in the organogenesis of reproductive structures were rarely performed. A knowledge gap persists regarding the precise genetic mechanisms underlying this phenomenon, contributing to a disparity between diagnosis and treatment for 46,XX DSD.

Objective

- To analyse the involvement of genetic variations of key genes in 46,XX DSD patients with mullerian agenesis and gonadal dysgenesis.

Methodology

In our study, we selected 100 females with primary amenorrhea. Based on the cytogenetic and sex-determining regions of the Y gene investigation, 25 cases were included for mutation screening. PCR sequencing was performed for all important coding regions and promoter region of important

genes involved in the uterus and ovarian development. Various bioinformatics tools were employed to assess the potential impacts of different variations.

Result

In sequencing analysis, we observed an absence of exonic and promoter mutations in our study subjects. However, various missense, synonymous, intronic, and untranslated region (UTR) variations were detected within each gene. We identified two different missense variations, one is located on 4th exon of *NR5A1*(c.437G>C, p.Gly146Ala ,rs1110061), and other is situated on 6th exon of *RSPO1* (c.484A>C, p.Lys162Gln, rs36043533) gene. In this analysis, we found that the identified variations were not involved in the diseased condition.

Conclusion

This study is the first to investigate the role of the *WNT4*, *RSPO1*, *FOXL2*, *DAX1*, and *NR5A1* genes in Indian 46,XX DSD patients with mullerian agenesis and gonadal dysgenesis. In our study, we found an absence of exonic and promoter mutations in 46,XX DSD patients with mullerian agenesis and gonadal dysgenesis. In future, whole genome sequencing analysis of these patients is needed to elucidate the underlying genetic mechanisms behind this disease condition.

NOVEL TACRINE DERIVATIVES AS PROMISING CANDIDATES FOR THE TREATMENT OF ALZHEIMER'S DISEASE

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Background

Alzheimer's disease (AD) is a progressive neurodegenerative disorder that poses a significant challenge to global healthcare, affecting millions of elderly individuals with its characteristic cognitive decline, memory impairment, and behavioral changes. The pathological hallmarks of AD—cholinergic dysfunction, amyloid-beta plaques, and tau protein tangles—play critical roles in the disease's progression. Among these, the role of acetylcholinesterase (AChE) is particularly well-established. AChE regulates cholinergic neurotransmission by hydrolyzing acetylcholine (ACh), a neurotransmitter essential for memory, cognition, and attention. In AD, the progressive loss of cholinergic neurons and the subsequent decrease in ACh levels significantly contribute to cognitive decline. Inhibiting AChE is thus considered a promising strategy for controlling AD progression.

Tacrine, initially developed as an antibacterial agent, was repurposed for AD treatment due to its AChE inhibitory activity. However, its severe hepatotoxicity led to its withdrawal from clinical use. Despite this, tacrine remains of great interest to medicinal chemists, as it offers potential pathways for synthesizing derivatives with improved properties. Researchers are exploring novel tacrine derivatives with enhanced AChE inhibitory activity and reduced toxicity. In our current studies, we have developed new tacrine derivatives and evaluated their efficacy against AChE.

Objective

To conduct preclinical evaluations of novel tacrine derivatives for Alzheimer's disease through in vitro and in silico studies.

Methodology

We synthesized novel tacrine derivatives designed using chemical syntheis. These derivatives were primarily evaluated against the AChE enzyme using the Amplite Assay kit to determine their binding constants i.e., IC50 values. Additionally, toxicity studies were conducted on HepG2 and HEK cells. Subsequently, molecular modelling studies, including docking and MD simulations, were performed to assess the stability of the binding.

Results

A total of 14 tacrine derivatives were synthesized. The inhibition percentages of these molecules were evaluated at 200 nM. We then assessed the cytotoxicity of these compounds in HEK and HepG2 cell lines using four different concentrations. Two compounds showed no toxicity at the highest concentration tested. These compounds were subsequently selected for further IC50 calculations. The IC50 values for these compounds were below 100 nM, which is slightly better than tacrine. Molecular docking and dynamics simulations indicated that these molecules bind to the active site of AChE similarly to tacrine. In silico ADME analysis suggested that these molecules could cross the blood-brain barrier and exhibit CNS activity.

Conclusion

Our studies demonstrated that these two tacrine derivatives could be potential candidates for the treatment of Alzheimer's disease.

SPATIAL PATTERN OF OROFACIAL CLEFT DISTRIBUTION USING GIS APPLICATION

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Background

Cleft lip and palate (CLP) is the most common human cranial and maxillofacial birth defect. These are group of complex disease caused by interactions of environmental and genetic factors. It is challenging to pinpoint the environmental elements that work together to affect the likelihood of congenital malformations. Geographic Information System (GIS) can be used to map the geographical distribution of the prevalence of disease, trends in disease transmission and to spatially model environmental aspects of disease occurrence.

Objective

The objective of the study is to discuss the distribution of orofacial clefts and cluster modelling using GIS application. This study intended to obtain Geographic Information system as technology and its various application to find out distribution, pattern and environmental risk factor for OFC in Kerala, Southern India.

Methodology

By using Questionnaire data were collected from parents and guardians of orofacial cleft (OFC) patients who visited Charles Pinto Centre for cleft lip, palate and cranio facial anomalies, Jubilee Mission Medical College, Thrissur during the study period between August 2021 to April 2024. GIS study was

conducted for identifying the distribution pattern of OFC cases by QGIS 3.24 software.

Results

The study included 1001 patients, where 88 patients had an associated syndrome with Pierre Robin sequence occurring in fifty-four patients. Among 1001 cases high incidence of CLP (57.4%), followed by cleft palate (26.8%) and cleft lip (15.8%) were observed. Out of 1001, 738(73.8%) cases were from neighbouring districts viz. Ernakulam 76 (7.6 %), Thrissur 157 (15.7%), Palakkad 135(13.5%) and Malappuram 370(33.6 %).

Conclusion

The Geographic Information system was helpful for more background investigation and planning of cleft care management. Our study enables future studies of etiological factors and future birth registries.

INVESTIGATING THE ROLE OF AUTOIMMUNITY IN CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Introduction

Chronic Obstructive Pulmonary Disease (COPD) is a progressive and non-reversible lung disease that is projected to become the third leading cause of global mortality by the year 2030. Despite its high prevalence and significant morbidity, a comprehensive understanding of COPD pathophysiology and associated autoimmunity remains elusive to date. Occupational exposure to noxious particles, oxidative stress and chronic inflammation has been long regarded as the foundation of COPD pathophysiology.

Objective

To study the involvement of proteins associated with autoimmunity in Chronic Obstructive Pulmonary Disease

Methods

A systems biology approach combining plasma proteomics analysis with immunological assays was used in the study. Mass spectrometry (LC-MS/MS) was used to identify differentially expressed proteins (DEPs) in COPD patients compared to healthy controls. Bioinformatic analysis of the DEPs associated with autoimmunity was done. Besides, Antinuclear antibody (ANA) screening using ELISA and autoimmunity visualization through immunofluorescence were performed.

Results

Proteomics analysis revealed several proteins associated with autoimmune pathways to be overexpressed in COPD, namely reticulocalbin-1, protocadherin-β, DNA repair protein XRCC2, E3-Ubiquitin protein ligase and Phosphatidylinositol-specific phospholipase Cγ2. Further immunological

investigation through ANA profiling and immunofluorescence showed that approximately 40% of COPD patients exhibited autoantibody positivity with distinct autoimmune fluorescence patterns, whereas, none of the healthy controls demonstrated ANA positivity.

Conclusion

Our findings suggested a significant autoimmune positivity in COPD, highlighting an area that warrants further investigation. Further studies to better understand the role of autoimmune processes in COPD pathophysiology could revolutionize the clinical management of the disease and pave the way for targeted drug discovery, aiding in improving the quality of life in COPD patients.

EFFECTIVENESS AND SAFETY OF LOW DOSE REGORAFENIB IN MCRC PATIENTS.

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Background

Colorectal cancer is the third most prevalent malignancy globally. Regorafenib, an oral multi-kinase inhibitor, has shown promise in chemorefractory colorectal cancer, but its effects in the Indian population are underexplored. The primary objective was to evaluate the Overall survival (OS) and Progression-Free Survival (PFS) associated with regorafenib. Secondary objectives included assessing the safety profile and identifying prognostic factors.

Methodology

This retrospective study was conducted at a tertiary care center in South India over one year. It included 81 patients with metastatic colorectal cancer (mCRC) who had received regorafenib following the failure of previous chemotherapy regimens.

Results

The mean OS was 36.3 months. The median PFS was 9.2 months. Response rates based on RECIST criteria were an overall response rate (ORR) of 13.5% and a disease control rate (DCR) of 24.7%. The majority of patients (54.3%) tolerated an initial daily dose of 80 mg. ADRs were reported in 70.4% of patients, with hand-foot syndrome (HFS) being the most common. Older age (≥60 years) and left-sided primary tumors

were associated with a better prognosis. The study confirms the effectiveness of low-dose regorafenib in mCRC, with favorable OS and PFS outcomes compared to previous trials. The 80 mg daily dose was well-tolerated, highlighting the importance of patient-specific dosing. Notably, older patients and those with left-sided tumors had better outcomes, aligning with prior research.

Conclusion

Low-dose regorafenib demonstrates significant survival benefits and a manageable safety profile in Indian patients with mCRC.

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