BMC Proceedings

MEETING ABSTRACTS

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Meeting Abstracts from the 9th Annual Atlantic Corridor Medical Student Research Conference

Clinical Science Institute, School of Medicine University of Galway 10th November, 2023

Galway, Ireland. 10 November 2023

O1

"Out-Running the Sun" an analysis of skin cancer risk, awareness and protection amongst Irish athletes

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BMC Proceedings 2024, **18(18):**O1

Objective: To explore Irish Athletes' perception of skin cancer, and the personal risk it poses to them.
Method: A cross-sectional survey was distributed online and in-person to a cohort of Irish Athletes. This was a multiple-choice survey which contained questions regarding the Athlete's Skin Cancer, Personal Risk, Knowledge, and Protection. The questions were sourced, with the authors' consent, from 2 similar studies conducted in Australia and Portugal. Athletes were assigned 3 summary scores based on these categories, which were then assigned labels of "low", "medium" and "high", based on a relative scoring range. Online version of survey was created using Google Docs. SPSS Software was used for the Data Analysis of Survey results.
Setting: Online and at Athletics Ireland Events
Participants: Irish Athletes, that are aged 16 or over, who participate in outdoor training or competitions.
Results: 273 athletes completed the survey. Of these, 89% of Athletes had "Medium" to "High Risk" Scores (69.2% and 19.8% respectively). The mean Knowledge Score for the cohort was 7.01, with the mode score being 7, with scores of 6 and 8 (16.5% and 14.3%) being the next most frequent. 84.2% ($n = 230$) of participants, had "Medium" Knowledge scores, with 12.8% ($n = 35$) having "Low" Knowledge scores and 2.9% having "High" Knowledge scores. The mean Protection Score for the cohort was 3.51, with the mode score being 3 (32.2%, $n = 88$). 30.4% ($n = 83$) of the cohort had a score of 4. In regard to scoring range, 77.3% ($n = 211$) of the cohort had "Medium" Protection scores, with 19.8% having "High" Protection Scores, and only 2.9% having "Low" Protection scores. Pearson Chi-Square Test and Linear Regression were used to assess relationships between each category. Knowledge Scores were significantly associated with higher Risk Scores ($r = 0.135$).
Conclusion: This study highlights the importance of promoting skin cancer awareness amongst Irish Athletes and encouraging use of sun protection whilst training and competing. The study may be repeated in order to re-assess levels of awareness and encourage protection use, with the possibility of implementing an intervention such as a national awareness campaign.

O2

Expression of miR-616 and its host gene CHOP in response to ER stress induced drug treatment in breast cancer cells

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BMC Proceedings 2024, **18(18):**O2

Background: Unfolded protein response (UPR) is a coordinated program that helps cells to adapt to high levels of unfolded proteins in the ER to restore homeostasis. UPR induces increased protein folding capacity and degradation of misfolded proteins to restore protein homeostasis. If UPR mechanisms fail to alleviate ER stress, UPR activates apoptosis. CHOP is a gene that is upregulated during UPR, and sustained CHOP activity plays an integral role in UPR-induced apoptosis. MicroRNA-616 (miR-616) is localized in an intron of the CHOP gene. The genomic co-location of miR-616 and CHOP suggest a role of miR-616 in UPR. Recent evidence has shown significant discordant expression between intronic miRNAs and host genes. There is increasing evidence of a connection between UPR and the development of breast cancer. The regulation of miR-616 expression during UPR and its function in breast cancer is not clearly understood.
Methods: The MCF7 breast cancer cells were maintained in Dulbecco's modified eagle's medium at 37 °C. To induce ER stress the cells were treated with Bortezomib, Spiperone and Fenretinide. DMSO was used as a control. 24h after drug treatment total RNA was isolated using Trizol. Reverse transcription was used to synthesize complementary

miRNA-specific DNA. Quantitative real time PCR was performed to examine gene expression. The data was analysed using SPSS 21. Two-tailed unpaired t-test was used to determine statistically significant differences between independent groups. Results with a $p < 0.05$ were considered statistically significant.

Results: For all the drug treatments, the expression of the miR-5p and miR-3p arms of miR-616 and its host gene CHOP concordantly increased. Bortezomib induced the greatest fold change gene expression with 3.39-, 4.48- and 25.03-fold changes for miR-616-3p, miR-616-5p and CHOP respectively. The increase in gene expression was significant for Spiperone and Fenretinide treatment for miR616-5p expression (p values 0.03 and < 0.001 respectively). The increase was also significant for the three drugs (bortezomib, Spiperone and Fenretinide) for CHOP expression (p values = 0.02, 0.04 and 0.01 respectively).

Conclusions: The concordant increase in expression of miR-616 and CHOP suggests their transcriptional co-regulation. The results display a functional relationship exists between the intronic miR-616 and its host gene CHOP. CHOP and miR-616 may act together to regulate breast cancer progression.

O3

Real-world outcomes of durvalumab in non-small cell lung cancer post completion of concurrent chemoradiotherapy

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BMC Proceedings 2024, **18(18):**O3

Introduction: Consolidative immunotherapy with the immune checkpoint inhibitor (ICI), Durvalumab, significantly prolongs progression-free survival in stage III unresected non-small cell lung cancer (NSCLC) as reported by the PACIFIC practice-changing study. ESMO guidelines recommend this consolidative approach with Durvalumab in patients with locally advanced unresectable NSCLC following concurrent chemoradiotherapy without evidence of disease progression and a PD-L1 score of more than 1%.

Methods: We carried out a retrospective analysis of patients with NSCLC who received consolidative Durvalumab in a large academic cancer hospital from January 2021 to January 2023. Clinicopathological data was collected. The duration of treatment and need for drug discontinuation, in addition to treatment-related adverse events, recurrence-free and overall survival of patients was gathered.

Results: Thirteen patients received consolidative Durvalumab. About two-thirds were male (64%, $n = 9$), and 100% were current or prior smokers. The median age of patients at diagnosis was 67 years (range 47 – 79) with 79% ($n = 11$) were node positive. Adenocarcinoma and squamous cell carcinoma shared an equal proportion of histologic subtypes ($n = 7$). Four patients (29%) are still on ongoing treatment. Of the 9 patients who have discontinued Durvalumab, only 2 (20%) completed the full one year. Four patients relapsed during Durvalumab therapy (40%) with median time to relapse after completion of concurrent chemoradiotherapy of 9.5 months (range 2 – 13 months) and a further three patients (30%) were discontinued due to poor tolerance and immune-related adverse events. Median progression-free survival in this ongoing study is 10 months (range 2 to 48 months).

Conclusion: Consolidative Durvalumab is recommended as per PACIFIC clinical trial with significant benefit in median progression-free survival of 16.8 months as compared to placebo. Our real-world analysis in our ongoing study with 13 patients to date has shown a median duration of treatment of 7 months, high rate of treatment-related adverse events and median progression-free survival of 10 months. Careful discussions of the benefits of Durvalumab and risks of toxicity are needed.

O4

Modulating proteoglycan synthesis for promotion of neurite outgrowth

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BMC Proceedings 2024, **18(18):**O4

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Background: Chondroitin sulphate proteoglycans (CSPGs) are inhibitory proteins that exist within the microenvironment of the glial scar which forms after spinal cord injury (SCI). They are seen as one of the barriers to axonal regeneration. Lentiviral vectors were used here to deliver shRNAs against the enzymes of interest (Xylosyltransferase (XT) 1, XT2 and Csgal). By knocking down key enzymes involved in the synthesis of CSPGs, this project investigated what the impact of this was on neurite outgrowth from dorsal root ganglia (DRG) neurons in a rat in vitro model of SCI.

Methods: Conditioned medium (CM) was collected from cells that were transduced with lentiviral vectors expressing shRNA targeting XT1, XT2 and Csgal. CM was added to primary DRG neurons and DRGs were immunocytochemically stained after 3 days in culture. DAPI was used to counterstain cell nuclei. Stereological analysis was carried out on images using FIJI software to assess neurite outgrowth. Images comprised 2 biological repeats involving 12 different groups (knocked down enzymes, non-targeting controls and untransduced controls). Analysis of the fluorescent intensity of WFA and WGA lectin-stained cells transduced with XT2 was also carried out using FIJI. All FIJI data was saved in Microsoft Excel. Minitab was used to perform statistical analysis including one-way analysis of variance (ANOVA) and Tukey's post hoc test. The probability threshold value of $p < 0.05$ was deemed statistically significant.

Results: Although greater neurite outgrowth was seen for the groups in which XT1 and XT2 had been knocked down, these differences were not significant at the 0.05 level. However, regarding the lectin staining analysis, a significant reduction in fluorescent intensity per cell was noted cells transduced with XT2 lentiviral vector in comparison to untransduced and non-transduced cells.

Conclusions: The findings from this study suggest that XT2 may be beneficial in providing a positive microenvironment for axonal regeneration following SCI. Building on previous research, the effect of knocking down XT1/2 as a strategy to enhance neurite growth following SCI should be further investigated to determine its significance as a potential therapeutic strategy.

O5

Study of bile-acid metabolizing genes in inflammatory bowel disease

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BMC Proceedings 2024, **18(18):**O5

Background: Bile acids are molecules produced by the liver to aid in digestion of dietary fats. While most are reabsorbed in the small intestine, approximately 5% escape into the colon and are metabolized by bacteria. Primary bile acids are transformed into secondary bile acids via the bile-acid inducible (bai) operon. More information is needed to understand what these molecules do within the colon.

Materials and Methods: This is a retrospective data analysis using bioinformatics to analyse numerous whole metagenomic sequences that searched for bacteria and genes involved in the transformation of primary bile acids into secondary bile acids. The population consisted of 215 IBD patients previously recruited whose faecal samples and metagenome sequences were obtained. The data was processed through a metagenomic pipeline with HUMAnN 3.0 and MetaPhlAn 3.

Results: Cluster analysis resulted in three groups. Clostridium scindens was present in Cluster 1 < 0.09%, Cluster 2 < 0.04%, Cluster 3 < 0.045%. Clostridium hylemonae was present in Cluster 1 < 0.025%, Cluster 2 < 0.025%, Cluster 3 < 0.2%. Firmicutes CAG:103 was greater than 3% across Clusters 1 and 2 and almost absent in Cluster 3. Patients in Cluster 3 had marked dysbiosis, bile acid metabolism, and clinical activity.

Conclusion: This study suggests Firmicutes CAG 103 could be a driving factor for bile acid dysmetabolism in Cluster 3 patients. Further research is currently being done to validate these findings using metagenome-assembled genome.

O6
An ultrastructural investigation of granulosa cells: exploring relationships between cellular composition and Assisted Reproduction Technique (ART) outcomes
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BMC Proceedings 2024, **18(18):**O6

Background: Granulosa cells are found surrounding oocytes in the follicle of the ovary. A broad number of techniques have been utilized to provide insight into the potential qualitative markers of oocyte health, fertilization and implantation ability, and development through to live birth. This research looked at the correlation of the granulosa cell ultrastructure and phenotype with post-fertilization outcomes in Assisted Reproductive Technology (ART) patients.

Methods: After informed consent was received, patient granulosa cells were removed during egg/oocyte retrieval prior to further ART procedures. All samples were anonymized by the Repro Med team and given a code number prior to being received by the University team. Samples were fixed and processed for electron microscopy to examine the cellular ultrastructure (Mitochondria, Endoplasmic reticulum, and Lipid inclusions (steroidogenesis)). Stereology/image analysis was used to quantify structural differences between patients. Descriptive statistics were run to determine the relative comparative values between cell and organelle size. This work contributes to a feasibility study and due to the small sample size analyzed, no definitive statical analysis was carried out.

Results: The 6 patient samples were processed for analysis—4 TEM and 6 SEM. For TEM, images were collected at a range of magnifications, with approximately 20 images per patient taken at 20000 × magnification (roughly 5 granulosa cells per patient). Cells appeared active (mitochondria) and were producing lipids. In some instances, groups of cells were observed (columnar pseudo-stratification that would be present in vivo). Polarization of organelles was evident. The volume of the cells, nuclei, lipids, mitochondria, ER, and secretory organelles was estimated using stereological methods. Results were in line with those previously recorded by Dockery et all in 1996.

Conclusions: This research was undertaken as a feasibility study with the aim of understanding the ultrastructure of granulosa cells in patients undergoing ART. The results determined that the preparation protocol was successful, and cell ultrastructural integrity was maintained. Further investigation is warranted into the organelle distribution in the larger patient group. This will allow for greater insight into the structural alterations that lead to successful or unsuccessful outcomes for patients undergoing ART.

O7
A descriptive cross-sectional study of 'Alternative Pre-Hospital Pathway Team' activity on patients aged 75 and over
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BMC Proceedings 2024, **18(18):**O7

Background: Alternative pre-hospital pathways (APPs) are a relatively new model of healthcare delivery. The Cork APP Team was founded in November 2019 and responds to low acuity 999/112 calls or Paramedic referrals, responding to life-threatening calls only when absolutely necessary. There is a lack of research on the service's impact on patients aged over 75 and interventions delivered. Aims: We aimed to examine the APP Team's activity with respect to patients aged 75 and above and summarise the profile of these patients and callouts, including interventions delivered.

Methods: A retrospective analysis of 197 charts, consisting of all patients aged 75 and above ($n = 123$) during a 12-week period (4th July 2022—28th September 2022) and all patients during the first 5 weeks of this same period. Data was manually added to a spreadsheet. Statistical analysis in Stata 17.0 included descriptive analysis and evaluation of associations between variables.

Results: For patients aged 75 and above, 20.4% of callouts were for "elderly fall", most calls (74.7%) were classified as non-life threatening, most callouts (58%) were requested by Ambulance Control, and nursing homes represented 6.5% of callouts. The only intervention delivered to 50.5% of patients in this cohort was a history and clinical examination by the Doctor, followed by the prescription of analgesia (22.8%). The majority (69.1%) were diverted away from immediate transfer to the emergency department.

Conclusion: The APP Team provides a valuable service by diverting elderly adults away from busy Emergency Departments, however this study highlights areas for Paramedic upskilling.

O8
GP Trainee exposure to paediatric patients
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BMC Proceedings 2024, **18(18):**O8

Background: The specialist training programme for general practice in Ireland is four years in duration. This audit focused on the 4-month paediatric rotation. The introduction of free health care for children under 6 will increase paediatric contact with GPs. It is important that they have adequate clinical exposure to help prevent overcrowding in upstream health services. The aim of the audit was to evaluate GP trainee's exposure to paediatric patients and their conditions during a summer rotation in a Model 3 Hospital. The information gathered was

used to highlight if the ICGP curricular requirements were met and if they were adequate and comprehensive.

Results: A list of 57 curricular requirements were identified and subdivided into emergency conditions, acute episodic illness, and chronic conditions. Overall, 72% of the curricular requirements were encountered when combining the experience of all the GP trainees. There were 16 conditions that were not seen, 9 emergency and 7 chronic conditions. The admission rate from the PDU was 11% which indicates a low level of necessity for many of the presentations. It is important to acknowledge the role that GPs have in managing the rate of hospital presentation and how we can best support them to prevent overcrowding in the downstream services.

Conclusions: This audit showed that over the 7wk period 72% of the curricular requirements were met. With the increasing rate of paediatric presentations to GP practices, exposure to hospital-based paediatrics remains of utmost importance. Methods to increase exposure or have additional education on underappreciated areas should be explored.

O9

Factors influencing smartwatch use and comfort with health data sharing: a mixed methods study

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BMC Proceedings 2024, **18(18):**O9

Background: Smartwatches have gained widespread popularity for their ability to monitor health metrics, raising questions about data sharing and continued use. This mixed methods study aims to explore the factors influencing smartwatch use and individuals' comfort with sharing health data via different technological means and with various entities, such as healthcare providers, the government, and independent bodies such as private companies.

Methods: The quantitative component involves a survey of 200 participants, focusing on their experiences with smartwatches, factors affecting their continued use, and their willingness to share data. The Expectation-Confirmation Model (ECM) serves as the framework for data analysis, employing structural equation modeling to assess causal relationships among variables.

Additionally, two focus groups, comprising different age groups and stakeholders (smartwatch users, general practitioners, public health specialists, and IT specialists), provide qualitative insights and address any ambiguities in the survey results. The micro-interlocutor analysis approach will be applied to gauge consensus within the groups.

Results: Preliminary findings suggest that habit formation and personal enjoyment are key drivers of smartwatch use. Participants' willingness to share data varies based on the recipient, with greater openness toward healthcare providers than private companies. Privacy concerns, trust, and knowledge about data usage emerge as influential factors.

Conclusions: Ultimately, this research aims to inform the use of wearable devices in healthcare and public health, shedding light on the nuanced perspectives of users and stakeholders regarding data sharing and device utilization. This, in the goal of contributing to a body of research that may allow for the improvement of healthcare delivery.

O10

Eyes on AI: unraveling ChatGPT's potential in summarising qualitative in-depth interviews

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BMC Proceedings 2024, **18(18):**O10

Background: Chat Generative Pre-Trained Transformer (ChatGPT), an artificial intelligence (AI) language model, holds promise in facilitating qualitative healthcare research through natural language processing. Despite this, no previous studies have directly compared the thematic outcomes derived from in-depth interviews using ChatGPT against those generated via traditional human analysis. Addressing this comparison will offer insights into AI's potential benefits and limitations for enhancing traditional human analysis in qualitative healthcare research. Our study aimed to compare themes generated by ChatGPT with those identified through traditional human analysis from in-depth interviews.

Methods: Three transcripts describing diverse patient experiences from a community eye clinic (CEC) evaluation study were obtained. Transcripts were first analysed by an independent researcher using framework analysis. Subsequently, specific aims, instructions, and de-identified transcripts were uploaded to ChatGPT 3.5 and ChatGPT 4.0. Transcripts were uploaded in 4-page batches to accommodate word limit. Theme consistency was quantified by calculating concordance as the ratio of ChatGPT-generated themes to researcher-generated themes. Additionally, the number of irrelevant themes by both ChatGPT was also described.

Results: The average time taken per transcript was 11.5 min for ChatGPT 3.5. 11.9 min for ChatGPT 4.0, and 4 h for the researcher. The researcher identified six primary themes: i) Accessibility of the CEC, ii) Patient awareness, iii) Trust and satisfaction, iv) Patient expectations, v) Willingness to return, and vi) Referral source's explanation of CEC. ChatGPT 3.5 and ChatGPT 4.0 generated 77 and 60 subthemes respectively, aligning with the primary themes recognised by the researcher. Concordance for ChatGPT 3.5 and 4.0 ranged from 66 to 100%. ChatGPT 3.5 produced 17 additional irrelevant subthemes, compared to 11 by ChatGPT 4.0.

Conclusions: Our preliminary results demonstrate that ChatGPT significantly reduced analysis time while demonstrating moderate to good concordance compared with current practice. This highlighted the potential adoption of ChatGPT to facilitate rapid preliminary analysis. However, re-categorisation of subthemes and in-depth analysis will still need to be conducted by a researcher. Our study offers insights into strategically integrating emerging AI-enabled research tools like ChatGPT to complement and enhance traditional research practices in qualitative healthcare studies.

O11

Gender identity and sexual orientation self-acceptance: sexual behaviours and function

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BMC Proceedings 2024, **18(18):**O11

Background: There is evidence of a relationship between self-acceptance and mental health outcomes amongst lesbian, gay, bisexual, trans, queer and other sexual and gender minority (LGBTQ +) individuals. In addition, there are links between female body image and relationship satisfaction among all sexual orientations. These studies have demonstrated that people with lower self-acceptance of their sexuality tend to experience more adverse health outcomes than those with higher self-acceptance and that members of the LGBTQ + community seem to have lower self-acceptance than their heterosexual counterparts. However, to our knowledge, no published evidence exists on associations between self-acceptance of one's own gender identity and/or sexual orientation and sexual and romantic behaviours. This

research aims to explore the impact of self-acceptance of gender identity and/or sexual orientation on romantic and sexual behaviours in SGM adults in Ireland. Specifically, this research investigates whether gender identity and sexual orientation self-acceptance, or lack thereof, are correlated with general sexual function, reasons for watching porn, and porn addiction

Methods: This study employs secondary analysis of Irish data collected as part of the International Sex Survey (ISS). The ISS is a quantitative survey carried out in 45 countries, measuring various sexual behaviours, pornography use, psychological characteristics, and comorbid disorders. The ISS sample in Ireland contains valid responses from 1620 participants aged 18-87 years, with a mean age of 33.25 (SD $=$ 14.04), 61.5% born as female. Of the sample, 5.1% belonged to gender minority and 39.4% to sexual minority groups. Chi-square tests and analysis of variance were conducted in SPSS to test the hypothesis.

Results: No statistically significant difference was found when comparing general sexual function between SGM participants with self-acceptance to SGM participants without self-acceptance. No statistically significant difference was found when comparing reasons for watching porn between SGM participants with self-acceptance to SGM participants without self-acceptance. Participants reporting self-acceptance of their sexual orientation had a mean problematic porn use (BPS scale) 0.5891 (95% CI [0.12330, 105509] points lower than non-self-accepting participants with t $=$ .483, df $=$ 569 and p $<$ 0.05. No statistical significance was found for gender minorities, self-acceptance, and problematic porn use.

Conclusions: Based on the results, this research provide novel insights of how accepting one's sexual orientation and gender identity might relate to healthier sexual outcomes. Thus, this research is greatly relevant to the field of medicine and those working with LGBTQ $+$ people.

O12

Impacts of gait freeze on quality of life in Parkinson's disease, from the perspectives of patients and their carers

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BMC Proceedings 2024, **18(18):**O12

P1

First attendance appointments of women at the Early Pregnancy Assessment Unit at Cork University Maternity Hospital: a retrospective review

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BMC Proceedings 2024, **18(18):**P1

Introduction: The Early Pregnancy Assessment Unit (EPAU) is a clinic dedicated to investigating, diagnosing, and treating women with complications of early pregnancy. The aim was to examine a cohort of women attending the EPAU over a one-month period to determine their indication for review and clinical outcome.

Methods: Eligible women were identified from the database at CUMH. All attendances from the 1st to 31st of July 2022 were reviewed and women attending their first appointment were included. Relevant data was transcribed from the electronic healthcare records to a secure excel dataset. Descriptive statistics were employed for analysis.

Results: A total of 249 women were eligible for inclusion. Referrals were from General Practitioners (56%, $n=140$), CUMH (29%, $n=71$), and external clinics (15%, $n=38$). The most common indication for referral was bleeding $\pm$ pain (46%, $n=115$). Clinical outcomes were viable intrauterine pregnancy (55%, $n=138$); missed or incomplete miscarriage (13%, $n=31$); complete miscarriage (7%, $n=17$); pregnancy of unknown viability (13%, $n=33$); and pregnancy of unknown

location (12%, $n=30$). Miscarriage was managed using medical (65%, $n=20$) or surgical (35%, $n=11$) approaches depending on women's preferences and clinical suitability.

Conclusion: The review provides insight into attendances to the EPAU at CUMH over a one-month period. Highlighting the need for a dedicated early pregnancy clinic within the 19 maternity hospitals. It also shows the need for highly trained clinical staff with precision ultrasound equipment to promptly and appropriately diagnose early pregnancy complications.

P2

Assessment of operative note accuracy following the surgical management of displaced femoral neck fractures

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BMC Proceedings 2024, **18(18):**P2

Introduction

The Irish Hip Fracture Database (IHFD) acquires its data from a combination of handwritten notes, theatre stickers and HIPE data. If subsequent surgery is required, knowledge on the surgical approach and implants used during the previous hip arthroplasty are vital. Inaccuracies in this data can compromise pre-operative planning, and lead to unacceptable and avoidable surgical errors.

Methods

A retrospective review was carried out at GUH during 2021 to identify patients presenting with displaced intracapsular neck of femur fractures requiring arthroplasty.10 consecutive operative notes were reviewed for 4 different orthopaedic consultants. Several key parameters were collated and compared to the implant stickers that were attached to the notes.

Results

40 patients were identified. 40/40 (100%) had an implant sticker and 37/40 (92.5%) documented the name of the operating consultant. Surgical approach and side were documented in 37/40 (92.5%) and 40/40 (100%) operatives notes, respectively. The indication for surgery was only reported in 13/40 (32.5%). The type of implant stem and head were only described in 17/40 (42.5%). When comparing the completeness of operative notes between consultants and NCHDs no difference existed in the rate of documentation for the indication for surgery (3/6 vs 10/34; $p=0.32$), stem brand (4/6 vs 15/34; $p=0.31$) or stem type (4/6 vs 13/34; $p=0.31$) between both cohorts.

Conclusion

There are significant discrepancies between the operative notes and implant stickers following hip arthroplasties for displaced intracapsular neck of femur fractures. This audit revealed inaccuracies in operative notes which could lead to situations where subsequent surgical planning is compromised.

P3

Review of referrals of patients with gynaecological malignancy to an acute hospital specialist palliative care team

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BMC Proceedings 2024, **18(18):**P3

Introduction

This retrospective study aims to analyse referrals of patients with gynaecological cancer to the inpatient palliative medicine consult service over a three-year period, from January 2020 to January 2023, at an acute hospital. The primary objective is to gain insight into patient profiles, the driving factors for referrals, and patient outcomes, with the aim of identifying opportunities to enhance the integration of palliative care services with oncology.

Methods

Data collection will be executed through a chart review, focusing on patient demographics, diagnosis, referral reasons, review wait-time, predominant symptoms, and outcomes. Palliative Care Outcome Collaboration (PCOC) data will be utilized where available. This study is driven by two core objectives: firstly, the average time to improved symptom control and time to attaining clinical stability; secondly, comparing indications for referral (e.g., for symptom control versus end-of-life care) and their correlation with patient outcomes. Data analysis will involve statistical methods using SPSS software.

Results and Conclusions

This research serves the purpose of evaluating current practices in palliative care for patients with gynaecological cancer and identifying areas where improvements can be made. Enhancing the integration of palliative care and oncology services, may serve to improve patient outcomes and quality of life. Furthermore, this research contributes to a better understanding of the utilization of palliative care services in the context of gynaecological malignancies, addressing a crucial aspect of patient care and support. Ethical precautions will be taken to protect patient confidentiality, and the study poses minimal risk to participants as it involves retrospective data analysis without direct patient engagement.

P4

Mental health, well-being, and family support across sexual orientations and gender identities among adolescents in Ireland

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BMC Proceedings 2024, **18(18):**P4

Background

Family support may give affirmation to Lesbian, Gay, Bisexual, Trans, Intersex, and other sexual and gender minority (LGBTI+) adolescents, even if they are rejected in other environments. However, studies in Ireland on this association are rare and only concentrated on lesbian, gay, and bisexual adolescents, while the experiences of other sexual and gender minority groups are neglected.

Methods

Data from the 2022 Irish Health Behaviour in School-aged Children (HBSC) study ($N=3830$; mean age: 15.10 ± 1.20 years; range: 13–18 years) was used. We compared participants' life satisfaction, mental well-being, and family support by their sexual orientation and gender identity, using one-way analysis of variance models.

Results

Sexual and gender minority youth reported lower life satisfaction, mental well-being, and family support than their heterosexual and cisgender peers. Gay/lesbian, bisexual, and pan-/omnisexual youth reported particularly low life satisfaction and mental well-being, along with much less family support. Asexual/aromantic youth reported higher family support than other sexual minorities (Mean score of the family support scale=4.95, 95% CI: 4.40; 5.51), such that there was no significant difference between them and heterosexual youth (M=5.06, 95% CI: 4.99; 5.13). This may be associated with them reporting better mental well-being than gay/lesbian, bisexual, and pan-/omnisexual youth. Cisgender boys reported higher life satisfaction, mental well-being, and family support than all other gender identity groups. However, cisgender girls did not have significantly better outcomes than either transgender girls or boys, and only had better outcomes than other gender minority youth (such as non-binary or genderqueer). Transgender boys reported the lowest life satisfaction, mental well-being, and family support. However, transgender girls reported even higher family support (M=4.84, 95% CI: 4.09; 5.59) than cisgender girls (M=4.79, 95% CI: 4.70; 4.88). This may be explained by the previous finding in the literature that some transgender girls have reported developing a new "kinship as woman" through supportive relationships with their mothers.

Conclusions

Our results suggest that family-based interventions that include supports for parents of LGBTI+ youth should be implemented in Ireland.

The families of sexual and gender minority youth should receive targeted information and support.

P5

Understanding the use of making every contact count brief intervention in a HSE stop smoking service

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BMC Proceedings 2024, **18(18):**P5

Background

The MECC (Making Every Contact Count) programme in Ireland encourages healthcare professionals to integrate opportunistic brief behaviour change interventions in routine healthcare interactions. MECC training supports health professionals to conduct brief behaviour change interventions in relation to well-being/mental health, physical activity, healthy eating, alcohol/drug consumption, and weight management. This study aimed to analyse data from MECC brief intervention records in a Stop Smoking service in Dublin to find out what types of brief interventions were most commonly reported (besides smoking interventions) and how long health care professionals spent delivering these interventions.

Methods

Data from 103 client MECC records was analysed to investigate what MECC interventions were most commonly delivered in the Stop Smoking Service and how they spent on MECC intervention delivery. Descriptive statistics were generated using SPSS.

Results

A total of 103 MECC brief intervention records were analyzed, revealing 124 interventions in total. This indicates that certain service users were offered a MECC intervention for more than one health behaviour. Notably, from February to June 2023, 20% of individuals utilizing Stop Smoking Services had the chance to receive a MECC intervention. The most commonly discussed topics were well-being/mental health which were discussed with 58.1% of clients and physical activity which was discussed with 48.4% of clients. Conversely, alcohol/drug consumption and weight management were less frequently discussed, with 18.5% and 19.4%, respectively. The most common topic combinations of topics discussed were healthy eating and physical activity (21%), physical activity and mental health (19.4%), and healthy eating and mental health (16.9%). In relation to how much time health care professionals spent delivering MECC, 'brief advice lasting 1–2 min was the most commonly reported category (38.7%), followed by brief interventions lasting 3–5 min (29.8%), while very brief advice had the lowest occurrence (5.6%). In terms of client assistance, signposting to a website (25%) and to a leaflet (18.5%) were the most common supports offered.

Conclusions

The findings underscored the common focus of healthcare professionals on well-being and physical activity in Stop Smoking interventions, with less emphasis on alcohol/drug use and weight management. Further research is needed to explore the reasons behind these variations in prioritization.

P6

Scoping review of educational interventions aimed at improving communication with older adults with age-related hearing loss

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BMC Proceedings 2024, **18(18):**P6

Background: Age related hearing loss (ARHL) is the most common sensory deficit in older adults. ARHL has a significant impact on the quality of life of older adults; research has identified that ARHL is associated with poorer cognitive function, anxiety, depression, and poor psychosocial functioning in older adults. Mainstay treatments include rehabilitation, hearing devices and speech recognition. However, less is known regarding existing educational interventions which have been developed for those with hearing within normal limits to improve their communication with hearing impaired older adults.

Aim: This study aims to summarise existing educational interventions aimed at improving communication between older adults with ARHL and people without hearing loss.

Research design and methods: This scoping review adhered to the framework outlined by Arksey & O'Malley (2005). In conjunction with this, the authors followed the steps of the PRISMA-ScR Checklist. The databases PubMed, Web of Science, EMBASE, EBSCO Host, Proquest and OVID were searched. In addition to this, a search was conducted on Google scholar, Google and the HSE and NHS websites for any unpublished or ongoing research. Studies were included if they described interventions which educated people who had hearing within normal limits (HWNL) on how to communicate with older adults presenting with ARHL.

Results: In total, 16 studies were identified. 11 of these studies described interventions for those with HWNL not known to older adults with ARHL. 5 main intervention components were identified: (1) Education and communication skills training; (2) Appropriateness of the intervention and participant satisfaction; (3) Need for further training and the impact of training on clinical practice; (4) Changing attitudes towards hearing loss in an effort to strengthen relationships and reap emotional benefit; and finally, (5) The impact of telehealth on intervention delivery.

Conclusion: A major gap identified in the literature underscores the necessity for individuals who have HWNL to improve their communication with older adults who have ARHL. The results of this scoping review will inform the development of new educational programmes targeting communication with older adults with presbycusis in diverse settings including clinical environments.

P7

Associations between DXA variables and cardiovascular risk factors in an early inflammatory arthritis cohort

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BMC Proceedings 2024, **18(18):**P7

Background

Patients with inflammatory arthritis have higher incidence of cardiovascular disease (CVD). Early establishment of cardiovascular risk could be clinically beneficial to these patients. Dual energy X-ray absorptiometry (DXA) scans are commonly used in patients with arthritis to assess fracture risk, being accessible, inexpensive, and minimally invasive with low-dose radiation. Our study aims to investigate any associations between DXA scan results and CVD risk factors in an early inflammatory arthritis cohort.

Methods

We conducted a retrospective study on a cohort of 304 patients with newly diagnosed inflammatory arthritis. CVD risk factors examined included smoking status, BMI, hypertension, established ischaemic heart disease (IHD), diabetes and cholesterol, HDL, and LDL levels. Health Assessment Questionnaire Disability Index (HAQ-DI) and Clinical Disease Activity Index (CDAI) scores were also examined. DXA data included BMD and T-Scores from neck of femur (NoF), total femur (TF) and lumbar spine (LS). The lower BMD/T-Score of right and left side was recorded for NoF and TF. LS data was recorded from two to four vertebrae from the range of L1-L4. Statistical significance was calculated using a 95% CI.

Results

183 (60.2%) participants were female and 121 (39.8%) were male. Age ranged from 18–88 years, with a mean (SD) of 54.3 (14.4). Patients with hypertension had significantly lower BMD and T-Scores at NoF ($p = 0.010$). There were weak negative correlations between HAQ-DI and BMD/T-Scores at both NoF and TF, meaning those with worse functional ability had lower BMD/T-Scores at these sites. Participants with a BMI of < 25 had lower BMD and T-Scores at NoF, TF and LS compared to those with a BMI of > 25. Patients with diabetes had significantly higher BMD and T-Scores at TF ($p = 0.009$, t = 2.648) and LS ($p = 0.049$, t = 1.975). There was a weak positive correlation between LDL levels and NoF BMD ($p = 0.022$, $r = 0.188$), and LDL and NoF T-score ($p = 0.025$, $r = 0.185$). No significant relationships were found between DXA variables and smoking, IHD, Cholesterol, HDL or CDAI.

Conclusions

This study highlights several relationships between DXA variables and CVD risk factors. Further investigation is recommended to establish the clinical application of these relationships and whether DXA could assist in identifying those with increased CVD risk.

P8

Social and emotional skills of children with autism spectrum disorder undergoing creative art therapy

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BMC Proceedings 2024, **18(18):**P8

Introduction

Creative art therapy (CAT) has been utilised as a treatment regimen for certain neurological disorders, however, the impact of CAT on autism spectrum disorder (ASD) requires more attention. The potential use of CAT is particularly important as there are minimal pharmacological treatments for ASD. This category of therapy would have the potential to be helpful in treating ASD, as CAT typically enhances self-esteem, cognitive development, mood, and social functioning, but there is a lack of studies that investigate this development in children with ASD, nor have there been any studies of this type conducted in Ireland.

Methods

A cross-sectional mixed-methods survey was performed, and surveys were sent to parents of children with ASD undergoing CAT at The Rainbow Club, Cork. A sample size of 40 families were emailed using contacts at The Rainbow Club Cork. Quantitative data were analysed using descriptive statistics and t-tests for significance ($p < 0.05$).

Results

Of the 40 families that were eligible for inclusion, 10 responded to the survey. Data analysis is expected to show that these parents did see an improvement in the emotional and social skills of their children, especially in the aspects of emotional regulation and the making of friends. However, these results are unlikely to be statistically significant due to the small sample size.

Conclusions

Although the cases reported show evidence of benefit for CAT in the further development of emotional and social skills in children with ASD, its implementation as a standard method of treatment requires further research with larger sample sizes.

P9

Analysis of Sialic acids and Siglec ligands on stromal cells in CRC

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BMC Proceedings 2024, **18(18):**P9

Background

Mesenchymal Consensus Molecular Subtype 4 (CMS4) colon cancer is associated with poor prognosis and therapy resistance. Mesenchymal Stromal Cells (MSCs) found in CMS4 promote tumor progression, however the exact mechanisms are not fully understood. We hypothesize that stromal cells promote immunosuppression through expression of sialic acid and Siglec ligands.

Aim

The aim of my project was to investigate the expression of immune-modulatory sialic acids and Siglec ligands in stromal cells (hTERT hMSCs) conditioned with tumor cell secretome (TCS) compared to unconditioned hTERT hMSCs and CMS 4 cancer cell lines (SW480).

Methods

hTERT hMSCs and SW480 cells were cultured over a period of 10 days. Conditioned media (SW480-TCS) was collected. The hTERT MSCs were split into two groups; un-conditioned and SW480-TCS conditioned. Cells were re-seeded with either fresh media or 60% TCS every 3 days and harvested for flow cytometry on day 10 to examine 2,3 & 2,6 sialic acid, as well as Siglec 7 & 9 ligand expression. Data was statistically analyzed using one way ANOVA ($n = 3$).

Results

2,3 sialic acids were significantly upregulated ($p = 0.0107$, $n = 3$) on hTERT hMSCs in comparison to SW480 cells. Conversely, regarding 2,6 sialic acid expression, a distinct upregulation has been observed within SW480 cells, contrasting with the levels observed in unconditioned and TCS conditioned hTERT hMSCs. While Siglec Ligand 7 appears to be upregulated in hTERT hMSCs especially those treated with TCS, there is an absence of a statistically significant difference ($p = 0.2857$, $n = 3$) between any of the groups. On the contrary, analysis of Siglec Ligand 9 showed a statistically significant upregulation ($p = 0.0034$, $n = 3$) on hTERT hMSCs compared to SW480 cells.

Conclusions

Based on this data, we observed a significant upregulation of 2,3 sialic acid and Siglec ligand 9 in stromal cells compared to CMS4 cancer cells. Since sialic acid has the potential to regulate immunosuppression through immune cell Siglec receptors, future experiments will assess the role of Siglec 9 in immune cell suppression. This data could uncover new potential therapeutic approaches targeted at stromal cell sialylation.

P10

The impact of suicide bereavement on healthcare and community professionals

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Introduction

Around 60,000 people are affected by suicide bereavement in Ireland each year. However, there is limited research examining the impacts of bereavement(s) among professionals bereaved by suicide. This study aimed to address these gaps by examining impacts on wellbeing and help-seeking behaviour of healthcare and community professionals bereaved by suicide within their role.

Methods

This was a quantitative, secondary data analysis study of the Irish Suicide Bereavement Survey 2022. Of the 2413 respondents, 252 (10%) participants identified as healthcare professionals ($n = 135$, 54%), community professionals ($n = 51$, 20%), and first responders ($n = 66$, 26%). Data was analysed using SPSS Statistics 27. Professionals were also characterised by the types and number of bereavement(s) experienced. Chi-square tests were used to make comparisons between occupational groups for wellbeing, adverse impacts, supports accessed and barriers experienced.

Results

Overall, professionals reported better wellbeing compared to the sample bereaved in a personal capacity. More than half of the professionals did not access any formal supports ($n = 130$, 52%). There was a significant difference between the occupational groups for access to formal supports (X^2 (1, $N = 252$) = 12.19, $p < 0.05$) with fewer first responders accessing them ($n = 21$, 32%) compared to community professionals ($n = 23$, 45%) and healthcare professionals ($n = 78$, 58%). First responders had the highest exposure to suicide in the workplace, with 70% ($n = 46$) experiencing six or more bereavements.

Conclusion: These results signify the need for better access to postvention supports among professionals, particularly first responders who have a significant exposure to suicide in the workplace.

P11

A Stereological study of mitochondria in the human myometrium in pregnancy of obese and non-obese women in comparison to the non-pregnant state

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Background

Obesity and advanced maternal age at labour are becoming increasingly more common and are clinically relevant as they are associated with a higher risk of complications during labour and the need for Caesarean section. Here in Galway, we have been employing advanced imaging and stereological methods to explore quantifiable anatomical features that may help explain the altered contractility. A decline in mitochondrial function has been associated with normal aging and correlated with the development of a wide range of age-related diseases. Obesity causes various changes in the body including disturbance to inflammatory processes which may lead to an increase in the production of reactive oxygen species and cause oxidative stress. Oxidative stress can in turn lead to mitochondrial dysfunction.

Methods

Biopsies were collected from 10 women at elective caesarean delivery (5 normal and 5 obese BMI > 30) and 5 non pregnant Hysterectomy specimens. Both studies had full ethics approval. These were imaged with a transmission electron microscope and analysed using stereological methods. The parameters studied: Volume fraction of mitochondria: cell, Volume Weighted Mean volume, axial diameters, and Shape. The number of mitochondria per cell estimated by dividing total cell mitochondrial volume by mean mitochondrial volume. Statistical analysis was performed using Minitab.

Results

A one-way analysis of variance revealed no significant differences in any of the parameters studied however there was a 5-fold increase in myocyte volume in the Normal Pregnant myometrium and 8-fold in Obese compared to the non-pregnant state. There was also an estimated 8-fold increase in mitochondrial number in the myocytes the Normal Pregnant myometrium and 7-fold in Obese.

Conclusions

The use of the stereological toolkit combined with transmission electron-microscopy has provided reliable ultrastructural information for human myometrial cells in the non-pregnant state at term and demonstrate the dynamic cellular changes that occur during pregnancy. This approach should provide a key insight into the pathophysiology of this important organ.

P12

Obesity is a medical illness. Are we diagnosing it? A tipperary University hospital audit

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Introduction

Obesity is a chronic illness. In order to combat the present epidemic of Obesity, it must be adequately diagnosed. While weight is a fundamental aspect of inpatient care and ongoing disease management of outpatients, the calculation of BMI may go amiss in the acute hospital setting. Regular and accurate recording of BMI in hospital medical notes is essential in making a conscious diagnosis of Obesity. As a multitude of chronic diseases presenting to hospital specialties within medicine are longitudinally managed by primary care; gaps in

documentation must be abridged. This audit examined the frequency at which BMI is recorded in medical notes ensuring a diagnosis of Obesity and its documentation on discharge summaries at Tipperary University Hospital.

Methods

120 discharge summaries were collected across all departments of Medicine for one month from 1st January to 31st January 2023. Retrospective patient chart review was conducted for variables including age, weight, height, obesity, BMI, primary diagnosis, and specific documents stating BMI. Data was collated and analysed on excel spreadsheets.

Results

Obesity was diagnosed and recorded only once out of 120 discharge summaries. 81 of 120 patients had unrecorded BMI. Recorded BMI was found on 39 subjects, of which: 14 were obese, 12 overweight, 9 normal weight and 4 underweight. This subset of recorded BMI revealed that 66% of inpatients classified as obese and overweight. Only 23% of these subjects had a normal BMI. If these findings translated to all 120 subjects, the majority of inpatients would classify overweight and obese. BMI was recorded on 0 of 120 patient drug charts. An unintended adjunct to this study was that 4 patients had a low BMI which is an adverse prognosticator and requires different management to Obesity.

Conclusions

BMI is severely underreported in inpatient medical notes and in < 1% of discharge summaries to Family practitioners. Unrecorded BMI indicates missed opportunities to diagnose Obesity, and underweight persons. Infrequent BMI recording by medical professionals in this audit indicates a need for greater observance of accurate BMI calculation & documentation by healthcare professionals. Prospective electronic methods may offer substantial improvement in the frequency and accurate recording of BMI in the acute hospital settings and assist in closing the 'loop of care' in diagnosing obesity.

P13

Investigation of mussel-inspired biomimetic adhesive formulation for load-bearing applications

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BMC Proceedings 2024, **18(18):**P13

Background

This study addresses the pressing need for an improved method of bone fixation, particularly in cases of compound fractures where traditional fixation devices like screws or pins may prove inadequate. To mitigate the associated risks and limitations, the investigation focuses on the development of a biomimetic adhesive inspired by the adhesive properties of marine mussels. The goal is to formulate an adhesive that can offer superior performance while minimising cytotoxic reactions and ensuring biocompatibility. The study involves a comprehensive literature review and the design of chemical reactions to produce a mussel-inspired adhesive with potential load-bearing capabilities.

Bone fixation procedures often encounter challenges in stabilizing compound fractures, which can necessitate alternative approaches beyond conventional hardware. Current solutions, such as polymethyl-methacrylate bone cement, may exhibit cytotoxicity, leading to osteolysis and other adverse reactions. This study seeks to explore the feasibility of a biomimetic adhesive as a promising alternative for bone fixation, inspired by the adhesive properties of marine mussels.

Methods

The research encompasses a literature review aimed at identifying an optimal formulation for a biomimetic adhesive based on mussel-inspired principles. Marine mussels exhibit robust adhesion in saline environments, making their adhesive strategies appealing for physiological applications. Notably, the presence of the DOPA molecule in marine mussel adhesion mechanisms offers potential benefits, as DOPA is naturally occurring in the human body and biodegradable.

Results

The study proposes the utilization of the ring opening polymerization method, as previously employed by Lu et al., with potassium as a catalyst to synthesize DOPA-containing powder suitable for adhesive applications. The resulting powders are subjected to rigorous testing, including evaluations of strength, cytotoxicity, and biodegradability.

Conclusions

Initial findings indicate that mussel-inspired adhesives exhibit greater strength and biodegradability compared to linear polymer adhesives, with preliminary evidence suggesting minimal cytotoxicity. However, further research and comprehensive testing are essential to advance this emerging field of study. This investigation represents a significant step toward the development of a biomimetic adhesive capable of addressing the challenges associated with load-bearing applications in bone fixation.

P14

An attentive, sequence-aware model for classifying arrhythmias

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BMC Proceedings 2024, **18(18):**P14

Introduction

According to data from the American Heart Association, approximately one out of every three deaths are related to cardiovascular diseases. Many cardiovascular diseases can be detected in a non-invasive manner using an electrocardiogram and these types of signals are very conducive to methods of automated diagnosis.

The aim of this study is to develop a diagnostic method for arrhythmias that is both able to detect relevant features and interpret the sequence in which they arise. Well-performing models could then be applied clinically, in order to save the time and allow doctors to focus on more relevant tasks.

Method

We use a public dataset consisting of beats taken from ECG Lead II labelled by two cardiologists, including samples of normal, supraventricular ectopic beats, ventricular ectopic beats, fusion beats, and other abnormal beats. We make use of localized random affine shadow sampling to oversample minority classes, and combine convolutions, attention, and bidirectional long-short term memory units to create a model capable of recognizing different arrhythmias.

Results

The model is able to classify different beats with 98.52% accuracy on the test set, after training for 15 epochs on the training set. With respect to detecting purely anomalous beats, the model achieves 98.75% accuracy, with a sensitivity of 99.62% and a specificity of 94.57%.

Conclusion

Modern techniques from artificial intelligence can be effectively combined to create a model able to accurately classify different arrhythmias. The model could be tested in clinical settings in order to better evaluate its potential for clinical use.

P15

Bone regeneration associated with spinal fusion implants

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BMC Proceedings 2024, **18(18):**P15

Background

Chronic lower back pain is a major contributing factor to poor health. As the field of orthopedics advances, spinal implant surgeries are now a standard treatment option. Interbody cage implants are placed at the intervertebral disc, to support bone regeneration. Poly-ether-ether-ketone (PEEK) was specifically selected as the biomaterial for implants, it is biocompatible, lightweight, radiolucent, flexible, and has a Young's Modulus similar to cortical bone. These advantages make it ideal for implants, promoting equal stress distribution, increasing osseointegration, and reducing adverse subsidence rates. However,

PEEK is limited by its weaker surface and mechanical properties. To address this issue, a series of manufacturing designs and coating processes have been considered to modify PEEK's properties.

Methods

In this experimental study, a series of physiochemical treatments were performed for 2 novel designs of 3D-printed PEEK implants to enhance the mechanical properties. Following 3D printing, samples were coated with graphene oxide by combining plasma treatment and alkali heat treatment. Static and dynamic compression tests were performed via the Chatillon force machine and Zwick Uniaxial machine; respectively. Implants were further analyzed to check the wettability and measure the hydrophilic properties. Microstructure of the surface of implants were observed via scanning electron microscopy (SEM).

Results

Results demonstrated that implants treated with the combination of alkali heat treatment for 48 h and 5 min of oxygen plasma treatment exhibited the optimal mechanical properties of PEEK. This was evident in the static mechanical test, obtaining the highest stiffness value of 3.9 GPa and the highest yield stress of 46.1 Mpa. Furthermore, the wettability results revealed a significant difference in contact angle. Treated implants showed the lowest contact angle and higher wettability. Additionally, observations made with SEM indicated the uniformed thickness of the coating on the implant's surface. This confirms the increased porous networks on the implant's surface following the alkali heat treatment, which could be a good explanation for the enhanced attachment of the coating.

Conclusions

Overall, this project successfully presents a new simple method to enhance the mechanical properties of PEEK implants through simple and cost-effective physical and chemical treatments.

P16
Opinions and management of food allergy in children (< 16 years) with atopic dermatitis/eczema, among healthcare workers in Cork and Kerry

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BMC Proceedings 2024, **18(18):**P16

Introduction

Atopic dermatitis (AD), also more commonly known as eczema is a chronic, inflammatory skin condition which affects 20–30% of children worldwide. In Ireland 20% of infants (< 2 years) with moderate/severe AD have a food allergy. Globally conducted studies show that familiarity with AD diagnostic criteria and disease management is inadequate and needs revisiting, to allow for better disease diagnosis, management and improve patient wellbeing.

Methods

This is a multi-centre, observational, cross-sectional, data collection study conducted via an online questionnaire, to assess the knowledge of relevant healthcare professionals working in hospitals and clinics in Cork and Kerry, of paediatric atopic dermatitis diagnosis and first line management, with respect to food allergy ($n = 44$).

Results

A majority (77.27%) believe food allergy is a trigger of AD, with 36.11% of this proportion stating it's prevalent in < 10% of children, 47.22% stated its in 10–24% of children, 8.33% stated its in 25–50% of children and 8.33% stated it's present in > 50% of children with AD.

Food allergy was selected as the most important trigger (32.50%) of paediatric AD, and it was also selected as the least important trigger (41.18%) of paediatric AD.

Regarding investigation for food allergy/aeroallergen hypersensitivity for paediatric AD management, 34.88% never investigate this. A majority (37.21%) investigate 25% of the time, 18.60% of participants

investigate 50% of the time, 4.65% investigate 75% of the time and 4.65% investigate this 100% of the time.

20.93% of participants would give the patient's parents a list of food(s) to avoid as AD triggers with the most common/important being milk followed by eggs and nuts.

Conclusions

Familiarity with the relationship between food allergy and paediatric AD along with subsequent management, among healthcare practitioners would improve patient treatment and wellbeing.

P17
Exploring the acceptability, feasibility, and appropriateness of narrative interventions to support healthcare practitioner wellbeing in hospital settings

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BMC Proceedings 2024, **18(18):**P17

Background

This study aims to address the international crisis in healthcare of practitioners in hospital settings leaving the profession due to burnout. Some exploratory narrative intervention studies have been conducted in the US, Denmark, and the UK, and have shown positive outcomes for practitioner wellbeing. Following a scoping review conducted in the University of Limerick, this study explores the acceptability, feasibility, and appropriateness of narrative intervention implementation into Irish hospitals.

Methods

Irish health care practitioners were recruited through a gatekeeper and individual interviews were conducted via Zoom. 6 narrative interventions previously outlined in the scoping review were discussed and assessed in terms of acceptability, feasibility, and appropriateness. The audio recordings were transcribed, and the dataset was analysed using content analysis. Open coding inductive and deductive was conducted using the Consolidated Framework for Implementation Research for Antecedent Assessments.

Results

Both participants mentioned that their hospitals were struggling with staff retention on an ongoing basis. Both participants also admitted to ongoing stigma surrounding seeking professional support for emotional and mental health needs. They expressed interest in the narrative interventions, in particular, the activities that included a group setting with their colleagues. The most appealing interventions were reading poetry and prose, and the 3-min mental makeover. The barriers to the uptake of the interventions were identified as time constraints and interest in participation from colleagues.

Conclusion

The participants felt that narrative interventions were an appealing way to navigate the ongoing stress and burnout in their workplace.

P18
Recurrent metastatic melanoma with subsequent development of acute myelomonocytic leukaemia: case report and literature review

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BMC Proceedings 2024, **18(18):**P18

The patient first presented in 2011 with melanoma of the left nasolabial fold and underwent wide local excision. Following this, additional melanoma was identified and resected in 2013. CT surveillance and PET imaging in 2017 indicated a 19 mm lung nodule with hilar nodal involvement, and metastatic melanoma in station 11L on EBUS.

The patient enrolled in CheckMate 401, a trial primarily investigating the immunotoxicity of ipilimumab/nivolumab followed by maintenance nivolumab. Treatment began in June 2016; however, he was readmitted four days later with grade 3 hepatitis. It was felt unsafe to rechallenge with ipilimumab and the patient was resumed on monotherapy nivolumab. Three months after commencement, CT assessment revealed near resolution of the left lung mass with significant nodal improvement.

Final CT imaging revealed no active disease and nivolumab was discontinued per trial protocol in June 2019 after 50 cycles. Three weeks following discontinuation, jejunal thickening was identified on CT with adjacent mesenteric nodal enlargement. He underwent jejunal resection, confirming mesenteric nodal involvement, after which he continued onto surveillance with no recurrent disease to date.

Now aged 53, he remained well until February 2023, with an ECOG of 0 and no residual immunotoxicities. He recently noticed a small mass inferior to his mandible. During investigations of this, an incidental high white cell count in March led to a bone marrow aspirate, consistent with t (11:19), (q23: p13.1) translocated and KMT2A rearranged acute myelomonocytic leukaemia. To our knowledge, there have been no previous case reports of patients developing acute myelomonocytic leukaemia following immunotherapy.

The patient gave their informed consent for their information to be published in an open access journal.

P19

Total copy number alteration burden in adrenocortical carcinoma is a prognostic indicator for survival outcome

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BMC Proceedings 2024, **18(18):**P19

Background
Adrenocortical carcinoma (ACC) is a rare form of cancer of the adrenal glands. The prognosis of ACC is poor with a high mortality rate due to the silent nature of non-functioning ACC resulting in a late diagnosis when the patient has locally advanced or metastatic disease. Recent studies have demonstrated that total copy number alteration (CNA) burden is predictive of survival outcome across a range of cancers, however, an association between CNA burden and ACC survival has yet to be identified.
Methods
The cBioPortal for Cancer Genomics was used to access the data of 92 ACC patients. All analysis was conducted using R (version 4.3.1) and R Studio with R packages survival, survminer, and gglplot2, and GNOSIS, an R shiny app. Patient-specific total CNA scores were calculated using individual gene CAN profiles with values indicating homozygous deletion (-2), hemizygous deletion (-1), diploidy (0), single copy gain (+1), and high-level amplification (+2). Patients CAN scores were then segmented into 4 ranked quartiles and into high and low groups using the surv_cutpoint function from the survminer package in R. Kaplan–Meier plots, Kruskal–Wallis tests and Multivariable Cox Proportional Hazards Models were also used.
Results
The 4 ranked quartiles almost differed significantly ($p = 0.057$). the difference between the survivability of patients in quartiles 1 and 4 however differed significantly ($p = 0.023$). The survival probability of patients with a low total CAN score differed significantly from those with a high total CAN score, with a p-value of 0.00062. The median survival was 43.9 and 30.3 months for the low and high total CAN score groups, respectively indicating that individuals with elevated CAN burdens have a reduced survival outlook.
Conclusions
CAN score extremes (low and high) are associated with patient survival outcome in ACC. A broader study with a larger dataset may see a clearer distinction between these groups and survival probability. There is potential to identify such high-risk patients using a biopsy-derived CAN burden threshold with the ultimate goal of optimising their individual treatment plans.

P20

General practitioners' perspectives on advance care planning: a qualitative study

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BMC Proceedings 2024, **18(18):**P20

P21

Measuring the temperature of chronic wounds as a potential theranostic

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BMC Proceedings 2024, **18(18):**P21

Background
Chronic wounds have a considerable impact on the quality of life of patients and represent a substantial burden to the healthcare system. Aim of the study was to determine the temperature range of wound beds by employing the use of thermal imaging, with a view to aiding in the early recognition and prompt management of infected wounds.
Methods
Prospective observational study design. This project was part of a larger study examining temperature of chronic wounds. Images recorded on a FLIR one pro camera, analyses of images by FLIR thermal studio. Images included both unique and follow-up images. Other patient data collected included age, gender, diabetes, site of wound, wound duration, infection, aetiology, ulcer stage, wound status, current dressing regime, debridement treatment and results of Doppler studies. Patients were recruited June 2023- August 2023 from diabetic foot clinics in University Hospital Galway and Merlin Park University Hospital, Galway.
Results
128 images were recorded from 64 patients. Mean age was 68.66yrs (SD = 12.95). 12.5% ($n = 16$) of patients were female and 86.7% ($n = 111$) male. Infection status of wounds was infected 21.1% ($n = 27$), not infected 68% ($n = 87$), indeterminate 10.9% ($n = 14$). Temperature (degrees Celsius) results from this group were merged with data from previous patients providing a total of 131 patients: Mean wound temperature 30.9, median 31.9. For non-infected wounds mean 29.8, median 30.9 For infected wounds mean 31.5, median 32.6. For unclear wound status mean 31.8, median 33.1
Conclusions
Temperature varies across wounds based on infection status. Measuring the temperature of the wound bed may aid in the assessment of chronic wounds, to help identify and treat infected wounds in a timely and effective manner.

P22

Button battery ingestion in children is potentially fatal. Assessing and raising community awareness of a decades old problem

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BMC Proceedings 2024, **18(18):**P22

Background
Button batteries are in many household items, they are a lucrative market for manufacturers. However, they are also shiny and attractive to young children. If ingested, they are uniquely corrosive and potentially fatal. Button batteries are "unsafe by design", ingestion is frequently unwitnessed, and diagnosis delayed. In the USA, approximately 6,000

accidental ingestions occur annually, resulting in an average of 2.2 deaths per year over a decade.

Methods
There appears to be a low community awareness that button batteries are dangerous goods. We conducted a 22-question online questionnaire-based study to assess and raise awareness of this exceptional childhood risk. Additionally, we performed a laboratory demonstration to illustrate the injury mechanism using sheep oesophagus.

Results
561 survey responses were analysed, 77% were female and 60% aged 30–50. Despite 87% using button batteries, 65% did not consider their safety, and 68% found existing warnings inadequate. Notably, 8% recognised the potential for fatality, but 83% were unaware of the negative pole's responsibility for the corrosion, and 88% did not know a spoonful of honey could delay this corrosive process.

Conclusions
Significant challenges persist regarding the design, marketing, public awareness, and childhood risks associated with button battery ingestion. Urgent action is required to prevent further tragedies.

P23
The utility and diagnostic accuracy of frozen sections for intraoperative diagnosis of pituitary adenomas

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BMC Proceedings 2024, **18(18):**P23

Introduction
Pituitary adenomas (PA) are common Central Nervous System associated with high morbidity. When PA surgical resection is required, an Endoscopic Endonasal Transsphenoidal Approach (EETA) is performed. To guide the surgery and determine the type of tumor and its margins, Frozen Sections (FS) are used as a mode of intraoperative diagnosis. This study aims to determine the diagnostic accuracy of FS when used on PAs as well as evaluate the correlation between FS use and tumor resection margins.

Methods
This is a retrospective chart review of 42 patients (mean age 49 years, 57% were males) who have undergone a PA resection surgery via an EETA in the past 2 years (Jan 2020–22) in Cork University Hospital (CUH). Patient charts as well as the PACS and CUH iLab database were used to collect the relevant data. Chi squares and ANOVA were used to make associations.

Results
Out of the 41 patients, 68 samples of FSs were obtained which were then used for data analysis. When correlated with the final histopathology results, FSs were more diagnostically accurate in comparison to visual identification of PAs ($X2$ (1, $N=63$) $=144.49$, $p<0.001$). Meanwhile, FS were not found to have an impact on the resection margin and thus the incidence of residual tumours ($X2$ (2, $N=63$) $=1.450$, $p<0.229$).

Conclusions
FSs are diagnostically accurate and are superior to visual identification alone for intraoperative diagnosis of PAs, its correlation with postoperative residual tumor, however, should be further explored with a greater sample size.

P24
Confirmation of human ECFCs in matrigel plugs post 21 days of incubation in vivo

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BMC Proceedings 2024, **18(18):**P24

Background

Diabetic critical limb ischemia (CLI) is a severe peripheral artery disease caused by hyperglycaemia-induced endothelial cell dysfunction. Atherosclerotic plaque-occluded vessels lead to ulceration, gangrene, and amputation of limb, and a 5–20% mortality rate. Endothelial colony-forming cells (ECFCs) are the endothelial progenitor cells that have demonstrated proliferative and in vivo angiogenic capacity in regions of hypoxia, giving them ischemic tissue repair capacity. They express endothelial cell markers including CD31, CD146, and CD34. As in vivo engraftment of human ECFCs in diabetic patients with CLI being the final goal, we investigated the survival rate by ECFCs in Matrigel plugs which were incubated subcutaneously in mice for 21 days. H&E staining revealed some minor vessels in cells containing plugs, but the experiment aimed to differentiate between human and mouse cells within the Matrigel plug.

Methods
After histological sectioning, immunofluorescence using fluorescent red human and green mouse antibodies was used to differentiate between human and mouse CD31-positive cells. Fluoromount with DAPI was used to stain cell nuclei. We optimized the immunofluorescence protocol to achieve an optimal fluorescent signal. After imaging, we used ImageJ to merge the red, green, and blue fluorescence images to produce the final image.

Results
The optimum concentration of antibodies determined was 1:800 primary and 1:500 secondary for human samples, and 1:400 primary and 1:400 secondary for mouse samples. Goat blocking serum resulted in the lowest background noise. Due to autofluorescence, co-staining the samples with both antibodies was not possible. Specific staining of human versus mouse endothelial cells was successful, allowing us to differentiate between the two cell types within the human sample. However, the mouse sample autofluorescence did not allow us to successfully differentiate between the cells and needs further optimization. However, this showed that ECFCs can survive when implanted sub-dermally in mice for 21 days.

Conclusions
Potentially, this indicates that the ECFCs, when implanted within a patient with diabetic CLI, would be able to survive and assimilate into the tissues successfully. Future work will compare the engraftment rate of ECFCs from different donor cohorts in a Matrigel plug 21 days post-transplantation.

P25
Maternal morbidity and postpartum medical complications in women who experienced stillbirth at a tertiary maternity hospital between 2017 and 2021

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BMC Proceedings 2024, **18(18):**P25

Introduction
Stillbirth is a devastating complication of pregnancy. We aimed to explore the maternal morbidities experienced by women who had a stillbirth at a tertiary maternity hospital, to identify morbidities and investigate outcomes.

Methods
This was a retrospective chart review from 2017–2021. A list of eligible cases was obtained from the stillbirth database, prepared for national annual audit and data were collected via electronic records. Basic demographics and admission details and the morbidities at or after birth were recorded.

Results
There were 154 women who had a stillbirth and delivered at the hospital between 2017–2021. Average age was 33.0 (range 17—43) years, 29.2% were primiparous and 35.1% had at least one previous miscarriage. Most deliveries were spontaneous vaginal deliveries (86.4%) occurring at an average gestation of 32.3 weeks (range 20.9 to 41.0).
The most common cause of stillbirth was placental issues (52.0%). 44 (28.6%) women made 1.58 (range 1 to 5) average unscheduled visits to the emergency department an average of 9.4 (range 0.3 to

31.4) weeks before the delivery date. 11 (7.1%) women had postnatal visits after the stillbirth, 2 (1.3%) women were readmitted.
The main postpartum complications were hypertension (8.4%), haemorrhage related to placental abruption (7.1%), minor (500 mL – 999 mL) post-partum haemorrhage (5.8%), blood transfusion (5.8%) and manual removal of placenta (0.65%).
Conclusion
Bereavement care following stillbirth can sometimes inadvertently overshadow the critical consideration of potential medical complications. This study endeavours to elucidate the maternal morbidities within a cohort who have experienced stillbirth.

P26
Psychosocial impact of tremor severity in Parkinson's disease

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BMC Proceedings 2024, **18(18):**P26

Background: Tremor occurs in approximately 70% of patients with Parkinson's Disease (PD) and occurs mostly at rest. Since it is rarely present with action, the tremor rarely results in much motor disability. The abnormalities in PD are typically asymmetric, with either their dominant or non-dominant hand being preferentially affected. However, patients frequently report considerable psychosocial disability associated with the presence of rest tremor, which has received little attention in the research literature. Therefore, we wish to assess the psychological burden of rest tremor and to determine whether patient-reported disability of tremor was more prominent in patients whose tremor was present on their dominant side.
Methods: Observational cohort study of patients with PD, examining patient reports of tremor severity and psychosocial impact, and physician objective measurement of tremor. Study population was derived from patients with PD attending a specialist clinic at Galway University Hospital, Galway. Patients were invited to participate, either as part of their routine clinic appointment, or attendance at a community-based physiotherapy class. The studies were approved by the Galway University Hospital Ethics in Clinical Research Committee. Patients were provided with a patient information sheet and a written informed consent was obtained. Inclusion criteria includes patients with idiopathic PD with a Hoehn & Yahr disease rating scale score of $\leq$ 3. Exclusion criteria includes patients with atypical Parkinsonism, significant cognitive impairment, or comorbid diseases associated with tremor. Assessment measures include the Edinburgh Handedness Questionnaire (to assess cerebral dominance), MDS-UPDRS scale Part II and III (Tremor severity scores), PDQ-39 (disease-specific quality of life questionnaire), and Semi-Structured Narrative Interview. The primary outcome measure is the comparison of patient-reported tremor severity (UPDRS-Part II) with motor examination of tremor (UPDRS Part III). Secondary outcomes include quality of life measures (PDQ-39), qualitative thematic analysis of narrative interviews, and analysis of cerebral dominance impact on awareness of disability.
Results: 36 patients were included in the study. We found considerable evidence of psychosocial disability from tremor in our cohort. The narrative component of our research was more informative than the objective scales used to assess psychosocial disability. The PDQ-39 surveys helped to facilitate the narrative interview component of the research. Secondary end points including the possible role of cerebral dominance in patient's reported awareness of psychosocial disability will be further analyzed.
Conclusions: Our findings suggest that psychosocial disability from tremor in Parkinson's Disease is underestimated and that handedness may have a role in determining the degree of disability.

P27
A systematic review and meta-analysis of the diagnostic accuracy of clinical decision-support tools for detecting serious bacterial illness in febrile children under 3 years of age

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BMC Proceedings 2024, **18(18):**P27

Introduction
Management of febrile infants provides a challenging risk assessment for emergency physicians. Differentiating patients requiring further invasive investigation from those suitable for discharge can be difficult. There are no recommendations for implementation of a single algorithm in Ireland or abroad. The objectives of this study are:

1. To identify clinically validated decision-support tools for detecting serious bacterial illness (SBI) in febrile children under 3 in emergency department settings.
2. To compare their diagnostic accuracy through meta-analysis of their sensitivity and specificity.

Methods
A systematic review was performed by searching PubMed, EBSCO, and Google Scholar to identify studies evaluating performance of decision-support tools for detection of SBI in children under 3. Primary outcomes were defined as detection of meningitis, bacteraemia, and UTI. The quality of studies was assessed using the QUADAS-2 tool. Data was analyzed with Meta-Disc to determine pooled estimates and confidence intervals of sensitivities and specificities.
Results
The "Step-By-Step" criteria performed best with a pooled sensitivity of 98% (95% CI: 0.92–0.99). The Lab-Score had the highest specificity with 89% (95% CI: 0.80–0.94). Significant heterogenicity was identified with I2 values ranging from 60 to 99%. Contributing factors include small number of studies, potential bias, and variation in age criteria.
Conclusions
There is potential for implementation of decision-support tools to reduce unnecessary investigations in febrile infants. This study demonstrated pooled sensitivities up to 98% in detecting SBI, with higher specificity compared to current practice estimates. This review was limited by considerable heterogenicity and potential bias across studies.

P28
Delirium assessment in Sligo University Hospital intensive care unit

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BMC Proceedings 2024, **18(18):**P28

Background
Delirium is frequently under recognised and treated. Internationally, delirium prevalence rates in ICU are as high as 55%. ICU delirium is associated with increased mortality, longer length of ICU stay and more days spent on mechanical ventilation. The Confusion Assessment Method for ICU (CAM-ICU) is the recommended tool to assess for ICU delirium. This research investigates the prevalence of delirium in Sligo University Hospital (SUH) ICU across three years. In addition, to performing a qualitative review of the delirium rates observed.
Methods
The Phase 1 audit cycle retrospectively reviewed ICU delirium prevalence for October 2019-March 2020. Phase 2 reviewed delirium prevalence for March 2021-March 2022. A qualitative study was then conducted exploring reasoning behind low delirium detection rates observed in phase 1 and 2. ICU staff members participated in one-hour focus groups that were transcribed and analysed using NVIVO. Discussion included staff barriers to delirium assessment and potential for

improvement. Further education to emphasise delirium detection was conducted and a delirium protocol bundle for ICU was introduced. An additional drop-down delirium check box was added to ICU computers. The final phase 3 audit was completed for January 2023-May 2023. SPSS software was used to analyse data.

Results

Phase 1 ($n = 152$ patients) delirium prevalence was 17% (26/152 patients). Phase 2 ($n = 162$) delirium prevalence was 13% (22/162). Phase 1 and 2 reported significantly lower rates for ICU delirium compared to international figures. Qualitative data collected from focus groups cited discrepancies with the CAM-ICU evaluation scale, staff performance and hesitancy in delirium assessment due to an unclear pathway post diagnosis as reasons for low detection. Measures were implemented; standardisation of CAM-ICU, re-educate staff on use of CAM-ICU, visual aid reminders for staff to assess for delirium and the introduction of a delirium pathway protocol following diagnosis. Following the changes, Phase 3 ($n = 71$) delirium prevalence more than doubled from the previous year with 32% (23/71).

Conclusions

This study demonstrated a much lower prevalence rate of delirium than anticipated for SUH ICU. However, the prevalence rate of delirium detected more than doubled from the previous year following multidisciplinary education and the implementation of measures to counteract barriers to delirium assessment identified by staff focus groups.

P29

An audit of the adherence to the GOLD management guidelines for COPD in an Irish primary care centre

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Introduction

COPD is the 3rd leading cause of death in Ireland and a major cause of morbidity and economic burden. Many general practices have shortcomings in the management of COPD including lack of diagnosis by spirometry, low smoking cessation advice, and low vaccination rates.

Aims

To audit the adherence to the GOLD guidelines on the following:
1. Appropriate coding of COPD patients; 2. Smoking status and cessation advice; 3. Influenza and pneumococcal vaccinations; 4. Recorded diagnosis by spirometry.

Methods

A retrospective review of the Midleton Medi Centre's SOCRATES chart for all patients with COPD who visited in the last 5 years.

Inclusion criteria:

1. Patients coded as COPD on SOCRATES

AND/OR

2. Patients with a prescription for an ATC: Obstructive Airway Diseases category drug and a COPD diagnosis in their chart.

Exclusion criteria:

1. Chart doesn't meet the criteria for COPD diagnosis.
2. No visit within 5 years.

Results

63% of COPD patients were appropriately coded. 14.4% did not have a smoking status recorded and 36.8% were current smokers—82% of who had recorded smoking cessation advice. 81% had an influenza vaccination in the last year, and 60.4% had a pneumococcal vaccination.

Conclusion

This audit identified that COPD coding needs to be increased. Such coding leads to improved identification of patients at risk of COPD and can lead to reduced smoking and increased vaccination uptake. Only 5.2% were recorded as having the diagnosis confirmed by spirometry.

P30

A retrospective review of outpatient neurological referrals received in a single practice over a 2-year period

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Introduction

Previous research analysing neurological outpatient referrals is outdated, and primarily focused on diagnoses made after referral while research undertaken in Ireland focused solely on inpatient referrals. The aim of this project is to analyse outpatient referral letters received by a single neurology clinic over a 2-year period.

Methods

This retrospective chart-review included 350 outpatient referral letters from July 2019 to January 2020, and 349 from September 2021 to September 2022. Data collected included patient demographic, referral source, urgency, and date of referral, presenting complaint, duration of symptoms, documentation of neurology examination and differential diagnosis. Statistical analysis included frequencies, means, Pearson's chi-square tests and T-tests.

Results

Headache was the most frequent presenting complaint (175/1194, 14.7%), followed by limb paresthesia/numbness (137/1169, 11.5%) and vision problems (67/1169, 5.6%). Migraine was the most prevalent differential diagnosis (41/699, 5.9%), followed by Parkinson's Disease 29/699 (4.1%). 424/699 (60.7%) of referrals were not given a differential diagnosis. The most common referral source was GPs at 582/699 (83.3%). 368/699 (52.6%) of referrals included neurology examination, 40/699 (5.7%) mentioned an 'examination' and 290/699 (41.5%) did not mention a neurology examination. There was a significant difference in the amount of neurology examinations documented in referrals by GPs (288/581, 39.24%), compared to other sources (80/117, 68.38%) ($p < 0.01$).

Conclusions

Headache was the most frequent presenting complaint referred to the neurology outpatient clinic and migraine was the most common differential diagnosis. Over half of referrals received did not include a differential diagnosis and a significant number of GPs did not perform a neurology examination.

Publisher's Note