Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

O08

Evaluation of a prehabilitation telephone service for patients with a cancer diagnosis: A pilot study

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Keywords: prehabilitation; digital; cancer-care

Purpose: Integrated prehabillitation services within cancer care pathways is considered optimum care but historically have not been offered within the Gloucestershire Hospitals Foundation Trust. During the SARS-cov-2 pandemic, service reconfiguration resulted in the opportunity to develop a prehabillitation service. In line with Government guidance to limit face-to-face contact and as part of our digital transformation journey a telephone prehabilitation service was developed.

Objective: To investigate how a telephone prehabillitation service influences health and physical activity management of patients awaiting treatment following cancer diagnosis.

Methods: Inclusion criteria: Patients with confirmed or likely diagnosis of lung, colorectal or bladder cancer but who had yet to start treatment.
Exclusion criteria: Patients with a level of comorbidity that precluded safe, unsupervised increases in activity levels.

Patients were telephoned and offered prehabillitation. If accepted, an initial screening process collected baseline demographics including current activity levels, general health and Body Mass Index (BMI). Outcome measures including the Rockwood Frailty Index and Patient Activation Measure (PAM) were used. Macmillan recommendations were used to appropriately allocate patients to either a universal, targeted or specialist intervention groups. Personalised exercise programmes, advice and education was provided and monitored via telephone appointments, at an individually tailored frequency, until their cancer treatment commenced. Repeat PAM scores were obtained at 6-10 weeks after treatment completion and an online questionnaire used to collect qualitative feedback.

Results: Forty-five patients participated in the service during the 6-month pilot. PAM data shows a mean average increase of 5.34 points, with 18 patients (67%) presenting an improvement in their PAM from pre to post intervention. An improvement in 4 points is the minimal clinically important difference. Four patients showed no change on the PAM, and 5 displayed a reduction. Qualitative feedback for the pilot was generally very positive. Words such as "motivating" and "supportive" were used to describe their experience. When asked to what extent prehabilitation helped them cope with their treatment, 89% of patients responded with "a lot", with the remainder stating "a little" or "somewhat. 94% of patients stated they felt more confident to adopt physical activity and 65% stated they were undertaking new healthy lifestyle habits since accessing the service.

Conclusion(s): Following prehabilitation, PAM scores and patient feedback demonstrate a trend of improvement in patients' autonomy in managing their health and physical activity. Each point increase in PAM correlates to a 2% lower hospitalization rate, indicating a reduced reliance on healthcare, inferring financial savings. Considering patients had undergone treatment between the pre and post-intervention PAM scores, the average increase is even more encouraging.

Impact: As a result of these findings, prehabilitation will be implemented into local cancer pathways. Funding has been secured for a full-time Physiotherapist, Dietician and Psychologist. Further work is required to establish whether a phone or virtual service is as effective and acceptable to patients compared to face-to-face contact.

Funding acknowledgements: There was no direct funding, however it was due to staffing reconfiguration that this opportunity arose.

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O09

Evaluation of patient reported outcomes following pain management programmes delivered via video conferencing during the Covid-19 pandemic

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Keywords: Video conferencing, Innovation, Pain management

Purpose: To evaluate patient reported outcomes for patients attending online multi-disciplinary pain management programmes, delivered via video conferencing introduced in response to the Covid-19 pandemic.

Methods: An online pain management programme of 16 h duration staffed by psychologists and physiotherapists, delivered in 2-hour sessions was developed as a rapid innovation. We used quality improvement methodology conducting a literature search, and using shared learning from online meetings with service users and clinicians to inform service design. Microsoft teams was adopted as the delivery platform. A testing phase was completed to ensure that processes adhered to GDPR regulations. Standard operating procedures were completed for scenarios such as safeguarding, falls and injury. Pre-meet sessions were offered for patients to practice with the video conferencing technology and 'How

to' and 'Conduct' guides written for patients and clinicians. Accompanying digital materials were created and sent to participants via email. Programme content was adapted to be delivered online and content evolved iteratively using a Plan, Do, Study, Act cycle (PDSA) in response to patient feedback and research evidence. Exercise sessions were adapted to be completed in a confined space within minimal equipment due to reductions in physical activity reported by people with persistent pain during lockdown. Pre and post-programme outcome data using validated questionnaires was collected digitally via Microsoft Forms between June 2020 – March 2021.

Results: Complete data was collected from 60 participants. Pre to post programme scores are as follows, mean, (standard deviation) and effect size: Average pain (NRS) 6.8 (1.5), 6.7 (1.5), 0.06 Chronic Pain Acceptance Questionnaire 19.0 (8.3), 22.3 (5.5) 0.5, Patient health Questionnaire – 9 (Depression) 14.1 (6.2), 10.7 (5.8), 0.6, Generalised Anxiety Disorder (GAD-7) 9.8 (4.9), 7.4 (4.6), 0.5, Pain Interference Scale (Brief Pain Inventory) 6.8 (1.5), 5.8 (1.9), 0.6, Tampa Scale of Kinesiophobia 37.9 (7.9), 34.3 (5.3), 0.5, Chalder Fatigue Scale 21.1 (7.3), 17.8 (8.5), 0.5

Conclusion(s): The Covid-19 pandemic initiated a rapid innovation phase in the NHS, facilitating accelerated implementation of video conferencing and digital data collection methods. PDSA methodology allowed for iterative development, including implementing guidance from the emerging literature (Gilbert et al., 2021). Evaluation indicates that this adapted programme was effective, although. effect sizes were smaller in comparison to face to face delivery in the same service (Heelas et al., 2020). Future research is required to inform patient selection for online programmes and evaluate qualitative data and patient feedback.

Impact: Development of an online pain management programmes during the Covid-19 pandemic has created an opportunity for specialist pain services to provide online interventions as part of their offer. This may allow for greater inclusivity by reducing the burden of travel and cost of attending services in person and allow access to treatment where it is unsafe to attend in person due to a global pandemic. Issues of equity of access, alternatives for people without access to the internet and patient choice by offering face to face treatment where safe, must be considered.

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O10

Examining the use of wearables for remote monitoring of balance,gait and sleep in sports-related concussion: A single-subject study in rugby-union

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Keywords: Digital-Health, Concussion, Wearables

Purpose: Challenges remain in sports-related concussion (SRC) assessment to inform return to play (RTP) protocols. Reliance on self-reported symptoms within the Sports Concussion Assessment Tool (SCAT5) means there are no scalable and objective assessment methods to better inform RTP. Disruptive digital technologies (e.g., wearables) may provide promising avenues to remotely detect subtle balance, gait and sleep deficits and supplement traditional methods in the SCAT5. The primary purpose of this project is to explore the use of wearable technology to augment traditional methods of assessment and RTP.

Methods: A single-subject design consisted of assessment at baseline, immediate post-SRC and once returned to play (RTP) (1 month post-SRC and 2 months post-SRC).
Traditional assessment: Two-minute walk test and Sports Concussion Assessment Tool (SCAT5) 24-hour remote gait, balance and sleep analysis. Conducted using the low-cost AX6 inertial measurement unit (Axivity, Newcastle-upon-Tyne, UK. Dimensions: 2.3 × 3.3 × 0.8 cm, weight: 11 g), set via the devices proprietary software (OmGUI). The subject wore the device continuously for 24 hours during laboratory tasks and for remote assessment. Raw data captured was analysed for gait characteristics and for generic nocturnal activity indicating sleep quality.

Results: The university athlete (age 20 years, height 174 cm, weight 80.20 kg) recovered and returned to play (RTP) 20 days after suffering a SRC. Traditional measures returned to baseline after around 12 days. However, laboratory-based digital assessment showed gait impairments (increased step time, stance time and reduced step length) remained even after being cleared for RTP (1 month post-SRC). Similarly, 24-hour remote gait assessment found changes in step time, stance time, step length and step velocity between immediately post-concussion and once RTP (1 month post-SRC). Moreover, remote sleep analysis showed differences in sleep quality/ disturbance (increased movement) between immediately post-SRC and once RTP (1-month post-SRC).

Conclusion(s): The prevalence of concussion in contact sports growing, but methods to objectively and remotely