ABSTRACTS COLLECTION

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Nurses group poster session

NP001

Peer ambassador support—a new model of psychosocial supportive care in a hematological clinical care setting

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Background: Treatment with intensive chemotherapy for acute leukemia or hematopoietic stem cell transplantation increases the risk of significant symptom burden and psychological distress in patients and their caregivers. The limited resources in health care and the shift toward outpatient care makes it important to find new ways to strengthen the available support systems. Peer support is a way of rethinking supportive care with the use of voluntary resources. Therefore, we investigated the feasiblity of a peer support intervention in patients and caregivers.

Methods: We report two single-arm feasiblity studies including newly diagnosed patients ($n = 36$) with acute leukemia or caregivers ($n = 26$) of patients following hematopoietic stem cell transplantation. The intervention consisted of 12 weeks of support for patients or caregivers provided by ambassadors ($n = 44$) who were either former patients or former caregivers of patients, following hematopoietic stem cell transplantation. During the intervention ambassadors provided one-on-one individual support by face-to-face meetings, telephone or e-mail contact. Ambassadors attended a preparatory course and were offered supervision during the intervention.

Results: Peer ambassador support was feasible and safe in both patients, caregivers and their ambassadors who reported high satisfaction with the individually adjusted support. Patient and caregivers improved in psychosocial outcomes over time. Ambassadors maintained their psychosocial baseline level, with no adverse events, and used the available supervision sessions ($n = 16$) to manage challenges and to exchange experiences with other ambassadors. During the intervention a total number of contacts between patients and ambassadors were 404, and between caregivers and ambassadors 389. On average, each dyad had 12.6 and 15 contacts, respectively during the 12 week intervention period. Text messages and telephone was the most frequently used contact form during the intervention in both studies. In person meetings were less frequent due to the patients' symptom burden, geographical distance, personal preferences and the Covid 19 social restrictions.

Conclusions: The peer ambassador support was feasible and has the potential to be a new model of psychosocial supportive care incorporated in the hematology clinical care setting, creating an active partnership between peers. Support and supervision for the ambassador was pivotal to provide high quality peer support and to maintain the safety and mental health of the ambassador. It is highly recommendable to offer individual and flexible peer support to patients newly diagnosed with acute leukemia or treated with hematopoietic stem cell transplant and their caregivers.

Clinical Trial Registry: NCT04039100 AND NCT03493906

Disclosure: Nothing to declare

NP002

Vulvo-vaginal chronic graft versus host disease: a monocentric longitudinal study

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Background: Chronic Graft-versus-Host Disease (cGvHD) occurs in 30–70% of patients undergoing allogeneic Hematopoietic Stem Cell Transplantation (allo-HSCT) and is caused by an immune-mediated response of the donor-derived T cells against recipient tissues. Vulvo-vaginal chronic GvHD (vv-cGvHD) incidence ranges from 7 to 69%. Main signs and symptoms include dryness, burning, itching, dysuria, lichenoid manifestations, ulcers, up to genital fibrosis and vaginal occlusion that may lead to sexual dysfunctions and quality of life worsening. The use of peripherally collected blood progenitors were associated with higher risk of vv-cGvHD development. Vv-cGvHD is still largely under-recognized due to the paucity of high quality studies, that frequently included selection biases, and to patients-related issues, including social and cultural aspects.

Methods: An observational, prospective, monocentric, non-interventional study has been ongoing since October 2019. Aim of the study was to assess the local incidence of vv-cGvHD in adult women admitted in our transplant unit. Secondary objective was to detect any associations of vv-cGvHD with GvHD manifestations in other organs. The assessment of patients' vaginal conditions was organized in 4 gynecological visits at baseline (T0) before HSCT, at day +100 (T1), +180 (T2) and at 1 year after transplant (T3). The questionnaire of the Swedish Society of Obstetrics and Gynecology (SSOG) for females with vulvo-vaginal problems was administered during the visits to collect patient reported outcomes (PROs). This study was approved by the local ethic committee.

Results: Twenty-four consecutive patients were recruited at the time of this abstract. All but one received one allo-HSCT. Median age was 49 years (range 20–69 years). Diagnoses included acute leukemia ($n = 18$), lymphoma ($n = 5$), and chronic myelomonocytic leukemia ($n = 1$). Eleven patients (46%) received a myeloablative conditioning, 14 (58.4%) were transplanted from unrelated, 8 (33.3%) from haplo and 2 (8.3%) from sibling donors; almost all (91.7%) received peripheral stem cells. Acute GvHD was observed in 8 (33%) patients: 4 skin, 3 gastrointestinal and 1 both.

Chronic GvHD without genital symptoms was found in 7 patients (29.2%), 6 mild skin and/or gut cGvHD and 1 with moderate/severe manifestations.

In the whole cohort of patients, 5 (20.8%) reported genital problems without clinical signs of vv-cGvHD and 6 women (25.0%) developed vv-cGvHD, with a median onset time at day +100. According to NIH criteria 4 patients had grade 1 vv-cGvHD (dryness, dystrophy) and 2 patients had grade 2 vv-cGvHD (lichen planus). Four patients with vv-cGvHD developed systemic c-GvHD:2 patients mild skin, 1 mild skin/ocular/liver, 1 moderate oral/skin.

Conclusions: The incidence of vv-cGvHD in our cohort was in line with literature data. Our study confirms that vv-cGvHD is an important and under-recognized complication of allogeneic SCT with the potential to impair quality of life and sexual function. Therefore, considering that most patients diagnosed with vv-cGvHD had no symptoms, we recommend to include routine gynecology visits in monitoring protocols of female patients submitted to allogeneic transplant.

Disclosure: Nothing to declare

NP003

A digital education pathway for allogeneic transplant patients: implementation to maintenance, keeping the momentum going

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Background: Allogeneic stem cell transplant is a complex topic. Informing patients regarding the procedural risks and complications in a sufficient and compassionate manner is a challenge. At Princess Margaret Cancer Centre in Toronto Canada, standard of care historically involved patients attending a one-on-one transplant consultation, however, time for teaching was limited and the quality and response to education provided was challenging to assess. In 2018, a digital education pathway was implemented, with the overarching goal of supporting patients and caregivers with their educational needs whilst providing measurable, high quality and consistent education.

Methods: The transplant team partnered with the Cancer Education program at our institution, leveraging their skills in health literacy, plain language, learning science and digital education product development to create relevant content to support successful knowledge translation from providers to patients and their caregivers. The project was completed through a 5-step process that the Cancer Education program has developed to support knowledge translation: Research, Development, Validation, Implementation, and Continuance.

Results: The digital pathway was developed iteratively with structured usability testing to improve the user interface and thereby increase the likelihood of understanding and retention of information. Since launch, over 1040 people have accessed the program from more than 23 countries. Quality improvement surveys embedded in the modules have shown high levels of satisfaction, this was measured on a 5-point Likert scale and included 326 respondents with the following questions having 100% satisfaction: Would you suggest this course to others? Was the content easy to understand? Was the module easy to use? Was the time to complete okay for you? The questionnaires have also highlighted areas for improvement and biennial reviews have ensured content is up to date. In 2019, the pathway was migrated onto a general cancer education platform in order to bring all patient education modules into one place. Since the migration, learning analytics have shown that patients who complete the allogeneic stem cell modules are also completing modules on brain fog, fatigue and a survivorship series including topics on life after cancer and fear of recurrence.

Conclusions: Informing patients about allogeneic stem cell transplant is a challenging task. The digital education pathway is an innovative solution for patients and caregivers that is accessible, easily understood and digestible. Additionally, having a ready to use digital education pathway during a global pandemic allowed for a seamless transition to the digital platform when in person learning was not possible. Our experience with the development, maintenance and interesting usage data will be presented.

Disclosure: Nothing to declare

NP004

Anxiety and depression in HSCT patients and their caregivers. preliminary results of the 100 first days after HSCT in a spanish cohort

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Background: The complexity of HSCT care, high symptom burden and the severity of complications can impair not only patients but also informal caregivers' mental health. At the same time, caregiver distress may impact HSCT recipients and compromise health outcomes.

Our aims are to:

1. Describe anxiety and depression levels during the 100 first days after HSCT in recipients and their caregivers.
2. Identify correlations between recipient and caregiver results.

Methods: Observational prospective longitudinal study conducted between October 2019 and February 2021. Participants meeting inclusion criteria were recruited through consecutive sampling. Socio-demographic and clinical data were collected through questionnaires and clinical history registers. Anxiety and depression were evaluated with the HADS instrument at four timepoints. For allo-HSCT: prior to HSCT, day +10, day +21 and day +100. For auto-HSCT: prior to HSCT, day +7, day +14 and day +100. Correlative analysis was conducted in dyads that completed the follow-up.

Results: 73 HSCT dyads were recruited. Patient's data: 64.4% were men with mean age 52.2 years (12.6 SD). 39 HSCT were allogeneic and 34 autologous. Main diagnoses where MM (31.5%), LMA (16.4%) and MDS (13.7%). 49,3% of the HSCT were conducted on an at-home regime. 54.8% required residence transfer to perform HSCT, and were relocated to a non-profit organization flat (57.5%). 3 patients presented a mental illness history: mixed anxiety-depressive disorder in six cases and history of alcohol/drug abuse in five cases.

Caregiver's data: 65.7% were women with mean age 54.4 (SD 13.8), mainly caring for their partner (65.3%). 40% had children under 21 years old and 43.2% were caring for more than one dependent person. Five caregivers referred mental illness history, including depression in two cases.

40% of patients had borderline or confirmed anxiety levels before HSCT. This proportion decreased during HSCT (13.3%) but increased until 30% 100 days after HSCT. On the contrary, depression cases were low before HSCT (10%) but increased until 23.3% during HSCT and remained significant (16.7%) at day +100. For caregivers, Anxiety cases were high before HSCT (43.3%), reduced during HSCT (26.7%) and increased again at the day +100 control (40%). Depression levels were low before HSCT (3.3%), increased during HSCT (20%) and remained significant (16.7%) at day +100.

We observe moderate-high correlations (>0.4) when anxiety and depression values were compared at all time-points except before HSCT, when correlations were low (0.163 for anxiety and 0.250 for depression).

Conclusions: We observe significant pathological levels of anxiety and depression in patients and their caregivers. We must also highlight the increase in depression cases in caregivers during and after HSCT. Patient and caregivers results correlate during time points, which is consistent with previous studies published in other contexts. These results reinforce the importance of psychological support and follow-up not only for patients but also for their caregivers.

Disclosure: Nothing to declare

NP005

Digital solutions for CRS and ICANS grading

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Background: The cellular therapy and transplant programme at the Christie Hospital specializes in the treatment of haematological malignancies, and became one of the first wave providers for CART therapy for NHS England, with the first patient treated in July 2019.

Inpatient toxicity management such as cytokine release syndrome and immune effector cell associated neurotoxicity syndrome (ICANS) requires frequent grading, monitoring and escalation, utilizing the American Society for Transplantation and Cellular therapy (ASTCT) Consensus Grading for Cytokine Release Syndrome and Neurologic Toxicity Associated with Immune Effector Cells (2018). Initially the grading tools were paper forms, however had risks of misplacement of records, inaccurate storage, challenges to data collection and hence improvement in practice. The clinical web portal (CWP) is the trusts electronic health record system. This system integrates with a number of other trust systems to provide a broader view of the patient care, complete nursing assessments, entering clinical notes and forms, and collect clinical outcome data.

A request was made with the digital team to transform the paper ASTCT grading criteria into a digital format on CWP.

Methods: A working group consisting of the lead CAR T clinician, clinical practice facilitator, quality manager, eForms Specialist, business analyst, and digital nurse implementer was formed to review how the ASTCT grading could work on a digital format. The purpose of devising the electronic form was to streamline the patient care pathway including the transfer of patients between various clinical areas like ambulatory care, inpatient ward and critical care by ensuring access to homogenous electronic records. Additionally the NHS Long term plan has a focus on prioritizing digital solutions to health tools and services (NHS 2019). The digital team converted the paper form into digital format in three steps: including development in a test site, review of each stage of process by the clinical leads ensuring the developments met the ASTCT criteria and general roll out of the electronic forms.

Results: The digital test site was used to train staff across the clinical areas, identifying issues and amendments prior to implementation. Guidance notes and training was implemented across the inpatient wards, ambulatory care, critical care, medical team and clinical research facility. In July 2021 the forms were approved for implementation. A true measure of the forms success will be assessed when the data are collected for the annual CAR T audit, and data collection for EBMT MED A.

Conclusions: The transition from paper to electronic record was seamless due to existing use of ASTCT grading criteria. The feedback has been extremely positive with regard to ease of use, practicality and clinical usefulness. The implementation of the digital forms provides a clearer management of data collection aiding with improved audit trail. It provides ease of access to treatment related events and accessible viewing for all relevant teams involved in patient pathway. A dashboard has been developed to monitor the recording of CRS in conjunction with NEWS 2. Future digital development plans include implementation of a digital CAR T follow up form, to improve patient monitoring and outcome data.

Disclosure: Nothing to declare

NP006

Doing more for donors: results of a service improvement initiative

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Background: In the pursuit of offering life-saving haematopoietic stem cell transplant procedures, the priorities of related donors are frequently overlooked (Clare, 2010). On completion of donation, donors generally receive little ongoing contact from

the transplant centre (TC) (Kisch 2017). Donor medical assessment, mobilization and cell collection can be complex and challenging, contributing to donor distress, potentially impacting subsequent donations. Clear guidance and standards support related donor care pre-donation, but no agreed standard exists for post-donation care.

As a leading UK transplant centre with a busy allograft programme, we identified related donor care as a service improvement need and implemented a donor follow-up programme to address this.

Methods: Building on an established national registry donor follow-up programme, we developed our related donor follow-up schedule to address post-donation:

1. health needs including side-effect management
2. delivery of individualized care, support and advice

The administration of a standardized assessment offers regulated care and allows data collection for service audit. All related donors receive a telephone call from their donor CNS at post-donation day (D) +2, +7, +28, +6 months and +1 year. If subsequent donations are provided, the follow-up clock is restarted.

During each call, an assessment is completed, exploring donor wellness including symptom enquiry and general concerns. SOP-guided CNS actions include side-effect management advice, information, support and escalation to medical opinion via GP or transplant centre (TC) donor physician.

To evaluate this initiative, results collected prospectively on consecutive donors were examined. As a service improvement project, informed consent was not required.

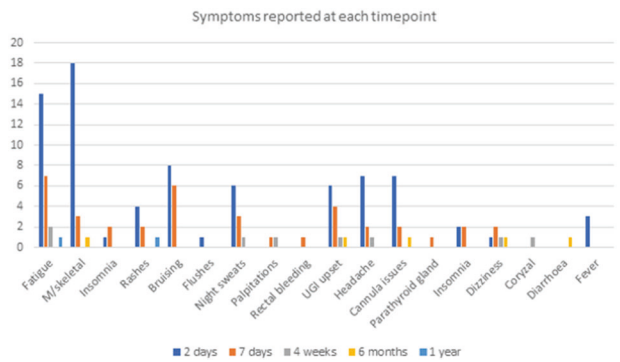
Results: From November 2019 to October 2021, a total 105 follow-up calls were made following 31 evaluable donations.

21 donors gave PB to a matched sibling of which 3 later donated DLI and 7 donors gave PB to a haplo-identical recipient (3 to sibling, 3 to parent, 1 to child). Average donor age was 48 years (range 25–65), majority were male ($n = 17$) and Caucasian ($n = 23$).

132 separate symptomatic episodes were reported across the follow-up schedule. The commonest were fatigue (19%) and musculoskeletal pain (17%). Only 13% of musculoskeletal pain at D + 2 persisted to D + 7. Two patients (6%) experienced symptoms exceeding 7 days (coryza and fatigue respectively, both lasting 28 days). Escalation for medical review was required for 9 donors, 6 to GP (D + 2 = 3, D + 7 = 3) and 3 to TC donor physician (D + 2 = 1, D + 7 = 2).

Over time post-donation, the proportion of donors reporting symptoms reduced from 77% (D + 2), to 54% (D + 7) and 15% (D + 28). Health need reduction was reflected in average consultation time in minutes, falling from 7.8 (D + 2) to 6 (D + 7) and 4.4 (D + 28).

Of 7 patients approached for feedback, 100% reported a positive experience with average service rating 9.5/10. Effectiveness of support, information and knowing who to contact with a problem were highly valued.



Conclusions: Our data demonstrate symptom number reduction over time post-donation and at 4 weeks, 85% of donors are symptom-free. Reassuringly, although most donors in this cohort experience side-effects, these are mostly transient. This donor follow-up programme is appreciated and valued by donors and is time efficient to provide.

Disclosure: Nothing to declare

NP007

Mission: Possible—the establishment and operation of a palliative care project in the bone marrow transplantation unit

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Background: The importance of Palliative Care (PC) in life-threatening diseases and end of life cases has been well recognized, yet there is still a lack of awareness—both of staff and patients—regarding its services in Hematopoietic stem-cell transplantation (HSCT) units. This paper presents an innovating project of Palliative Care (PC) services operating specifically in the Bone Marrow Transplantation (BMT) department in Hadassah Medical center (Jerusalem). It describes the establishment and work of a multidisciplinary PC team, including senior physicians, experienced nurses, social workers and a psychologist. It focuses on the work of the team nurses, as well as their achievements and challenges.

Methods: In its meetings, the team first reviewed the literature regarding PC for HSCT patients, in which the growing need for PC services is pointed out. Studies also show that early PC interventions improved patients' symptoms and quality of life. Furthermore, conversations on goals of care conducted in the BMT units early in time by their PC staff had illustrated:

1. An increase in number of HSCT patients in end of life stage who signed the DNR/DNI order and who were referred to hospice programs, and
2. A proportional reduction of inpatient deaths occurring in the ICUs.

Then, the team mapped the specific needs of the unit's patients and discussed the ways of communication with the patients and within the team. It was decided that relevant information from the patients is to be gathered by the team nurses and will be shared frequently with one another, alongside the monthly team meetings.

Results: The team launched the project in November of 2019. After a first acquaintance, each nurse meets her/his patients for a weekly checkup and broad evaluation of symptoms (according to ESAS scale). Further conversations with the patient deal with central issues, such as goals and preferences of care, sources of support and copping strategies regarding their illness. As part of goals of care, should the nurse find it suitable, the patient's end of life wishes is discussed, either hypothetically or concretely, often with a BMT physician or a social worker.

Conclusions: Our main insights after 2 years of operating are:

1. The PC team work has improved the transmission of information and communication between the patients and the staff, and among the different professionals within the unit,
2. Since the project's beginning, more information regarding patients' goals of care and end of life wishes is systematically gathered (including DNR/DNI order), and therefore

better reported in the medical files,
3. The growing need for PC services demonstrates the lack of manpower and funding which is still not fully met.

Finally, our future goals are improving the PC services to a larger number of BMT hospitalized patients and expand the services to the out-patient unit. In order to achieve our goals, we intend to conduct a retrospective research in the near future, which will improve our understanding of the project and its potential.

Disclosure: Nothing to declare

NP008

Central venous catheter patency as a nursing quality indicator? An audit experience due to a change in the locking solution

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Background: Intermittent flushing of central venous catheters (CVC) with heparin is a standard practice, however, low-quality evidence suggests that heparin may have little or no effect on catheter patency over normal saline (López-Briz E et al., 2018) or other locking solutions. Patency appears mainly based on flushing policy and staff education. In June-2021, a 4% citrate lock solution was introduced at our hospital after winning a public contract award against heparin-saline solution for CVC patency, based on best price-quality ratio.

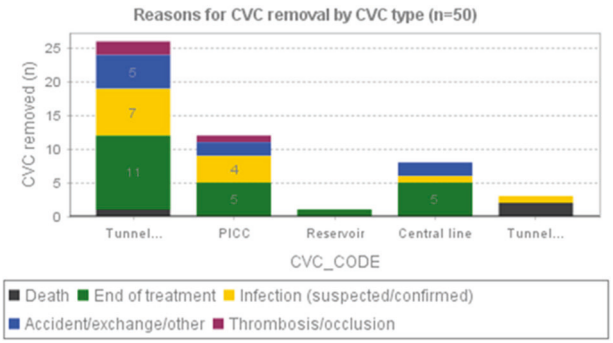
The aim of this work was to audit the CVC-occlusions and its registration in electronic medical records (EMR) among patients undergoing hematopoietic stem cells transplant (HSCT) in a Spanish hospital and to begin exploring the possible impact of changing the catheter lock solution on CVC patency.

Methods: We performed an online survey among haematology ward nurses to assess their perception regarding CVC-occlusions with new 4% citrate compared to heparin-lock solution. Eleven nurses retrospectively collected data from patients who underwent HSCT between 01-Jan-2020 and 31-May-2021. Patients were followed up until death, CVC-removal or end of observation (31-May-21, date of citrate introduction). Both, partial and total catheter occlusions occurrence, were considered endpoints. Data were extracted from EMR software *Selene*, a stage 6-HIMSS EMR Adoption Model. Templates for catheters, discharge reports and nursing notes were reviewed. Patient demographic, HSCT and CVC characteristics were collected. Catheter duration, cumulative incidence of CVC-occlusions and incidence rate were calculated. Quality of records was also assessed.

Results: Nineteen nurses (82.6%) answered the survey: 15.6% felt that PICCs had more occlusions and 10.5% that tunnelled-CVCs (Hickman) had more occlusions with citrate than with heparin.

Fifty-one patients were audited: 58.8% male; mean age 52.8 (SD: 12.9), 58.8% had received allogeneic HSCT. Patients accumulated 75 CVCs: 50 were removed, three due to thrombosis/unresolved occlusion (Fig. 1). Twenty-two CVCs (29.3%) had ≥1 occlusion; incidence rate was 2.09 occlusions per 1.000-CVC/days (Table 1). Out of the 42 obstructive episodes, 69% were treated with urokinase.

CVC-insertion was recorded in the catheter template in 68% of cases and CVC-removal in 16%. All data regarding occlusions were extracted manually from nursing notes.



Central Venous Catheter (CVC)	Tunneled (Hickman)	PICC	Reservoir	Central line	Quinton	Total
CVC included (%)	41 (54.7%)	16 (21.3%)	7 (9.3%)	8 (10.7%)	3 (4%)	75 (100%)
Occlusion cumulative incidence	7 (17.1%)	9 (56.2%)	2 (28.8%)	2 (25%)	2 (67.6%)	22 (29.3%)
Occlusions per CVC	19 (45.2%)	15(35.7%)	2 (4.8%)	3 (7.14%)	3 (7.14%)	42 (100%)
Duration (days)	173	82.5	246	18	174	131
Median (RIQ)	(102.5–260.5)	(37.7–140.7)	(195–489)	(10.2–26.5)	(3–366)	(31–237)
Days until 1st occlusion	80	31	19.5	10	138.5	32
Median (RIQ)	(10–166)	(9–34)	(18–21)	(3–17)	(84–193)	(10.7–89.2)
Occlusion-incidence rate (1000 CVC-days)	0.96	8.07	1.17	16.53	7.14	2.09

Conclusions: Our incidence CVC occlusion results are not easily comparable with the literature as definition of occlusion and methods for data collection differ among studies, but they can be used locally for auditing our practice. As catheter care is mainly nurses´ responsibility, CVC patency could be proposed as a nursing quality indicator and should be objectively measured, especially if relevant changes occur locally and evidence regarding lock solutions is still controversial. Improvements in the electronic forms and training of staff have been proposed to sustainably audit practice.

Disclosure: Nothing to declare

NP010

Learning from error: involving expert nurses in an integrated audit process

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Background: Clinical audit is one Clinical Governance tool, which improves quality and clinical outcomes, through structured peer review, whereby clinicians examine their own activities and outcomes, according to JACIE standards, adjusting them where necessary. The idea of promoting a clinical audit within the Cellular Therapies Program of Reggio Emilia was developed by the Programs nursing and Clinical Risk Management Teams, as a result of non-conformities reported on two critical nursing processes in patients receiving Hematopoietic Stem Cell Transplant (HSCT) and cellular therapies. This project included audits conducted by two external nurse experts, together with an internal Risk Manager, to evaluate adherence to JACIE standards, as well as internal SOPs. The aim was to highlight automatic behaviors that can lead to error by

stimulating the individual and the group in a continuous process of analysis of their work.

Methods: The Nurse Manager in collaboration with the Clinical Risk Team (CRT), developed a 3-day training program, focusing on the topics to be audited: administration of preparative regimens and blood products.

Day 1: initial briefing with the CRT, presentation of objectives, methodology and instruments for audit by expert nurses. Expert nurses provided theoretical training for nursing staff based on best practices regarding audited topics.

Day 2: audit activities: expert nurses worked side-by-side with nurses on shift, who attended the Day 1 training.

Day 3: audit and feedback of findings to the nursing team Nurse Manager and CRT.

For the audit process, a checklist was created and an assessment questionnaire was submitted before and after the audit to identify critical areas for focus, to evaluate training effectiveness on knowledge, and acceptability of the event.

Results: Twelve nurses participated, with an adherence of ~80% to SOPs. The following strengths were found during the audit: dedicated spaces and structure, well-defined paths, excellent auxiliary nurse support for basic assistance, inter-professional collaboration, structured moments of communication, effective computerized intake program and good risk management culture. Also, the following weaknesses were found: compromised work climate, activity interferences, lack of privacy, accurate care planning, care traceability, limited accessibility to internal procedures. Regarding the questionnaires, in the pre-phase only 58% of responses were correct, while in the post audit phase, after feedback of findings, the conformity had increased to 90%.

Conclusions: The introduction of the clinical audit, side-by-side with nursing staff, allowed the nurses to review clinical practice in the absence of "judgment", since they felt unconstrained and showed great willingness to share. This project allowed the integration of "observation" and "training", with an important opportunity for professional growth.

The application of clinical audit integrated with nurses expert in HSCT and cellular therapies, proved to be an effective way to learn from mistakes, and a valuable tool for comparison between colleagues and professional growth. Nurses enjoyed this approach, they felt motivated, involved and appreciated the absence of judgment. All participants suggested the 3-day program was too short, preferring more time working side-by-side. Future considerations include the opportunity to provide structured and systematic clinical audits in this manner.

Disclosure: Nothing to declare

NP011

Psychosexual function and relationships post HSCT—can we do better?

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Background: Collaborative project between two transplant centres; Royal Marsden Hospital and Oxford University Hospital in conjunction with the Anthony Nolan Late Effects working group in order to provide guidance documents to streamline and improve transplant care across the UK. Initial literature review highlighted numerous challenges faced by survivors of HSCT with regards to sexuality and relationships, and yet a paucity of evidence to explore the barriers in addressing these needs and best practice with regards to management.Psychosexual dysfunction has been defined as one of the most common long term issues post HSCT. As well as the physical impact of treatment on the hypothalamic-pituitary-gonad axis, psychosocial factors can also impact on sexual functioning including anxiety, depression, concerns about disease reoccurrence and infertility (Yi & Syrjala, 2009).

Primary aim was to explore perspectives on psychosexual function and relationships in survivors of HSCT aged 18 years upwards, with secondary objective to identify any perceived areas of unmet need with regards to management.

Methods: Retrospective evaluation of patient perspectives using a patient survey disseminated amongst eligible patients at each of the two participating Trusts. Due to a lack of a validated survey to examine psychosexual function and relationships in patients post-HSCT, questions were derived from consultation with clinical experts including both clinical and psychosexual psychologists. A feasibility study was also conducted with members of the youth forum at the Royal Marsden and patient members of the Anthony Nolan late effects working group to review survey content in terms of accessibility and suitability of language.

Purposeful sampling of patients (aged 18 years upwards and at least 1 year post-HSCT) attending the late effects transplant clinic at each of the two designated Trusts was used in order to reflect the demographic profile of those attending these clinics, aiming to identify data rich cases. Participants were given a patient information sheet prior to consenting in involvement in the service evaluation. Data collected were anonymised and analyzed with descriptive statistics used to analyze the results.

Results: $N = 20$ with 50% participants male and 50% female and 70% in a relationship and 30% single. Age range varied from 18 to 65 years with mean age of 41 years. 2/3 participants reported reduced labido and sexual arousal as a result of their treatment which impacted on their existing relationship or confidence to form a relationship. All participants expressed wanting the opportunity to explore this, but only 2/3 felt they had been given the opportunity to so. 75% participants expressed willingness to discuss this with any clinician, thus it is possible to deduce that in most instances the important factor is not who to have the discussion with, but being given the opportunity to do so.

Conclusions: Transferability of findings limited due to small sample size and potential for selection bias due to purposive sampling. However, a unique insight into the patient experience is provided, and the fact that only 2/3 felt they had been given the opportunity to explore their needs highlights the need for service improvement.

Disclosure: None

NP012

From 2 patients recieving advanced hospital care at home (AHS) in 2018, to over 40 patients in 2020 - experiences from Oslo university hospital

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Background: In 2018, two adult patients got the offer to receive advanced hospital at home care (AHS) during the neutropenic period after allogenic/autologous stem cell transplantation. Studies have suggested that it was safe to offer home care to this patient group (1–6).

Methods: Before the pilot patients were included, one working group and one reference group performed risk assessments, made standard operating procedures (SOP's) and arranged written agreements with other relevant partner (ex. the Emergency Communication Center and the ambulance service).

Several criteria were discussed. Some were formed by experiences from other hospitals (1–6) and some were included

after risk assessments (ex. the patient could only live 1 h drive from the hospital).

An advanced hospital care at home team were formed (AHS-team), consisting of four experienced transplant nurses (AHS-nurses) and two hematologists.

Also, semi-structured interviews with patients and caregivers have been performed as an important part of the evaluation process.

Results: During the first year, several of the criteria were re-discussed, learning from experience and from interviews with patients and caregivers. For example; to start with, we excluded patients receiving allogenic stem cell transplantation for myelo-dysplastic syndrome. This group of patients are often older and have usually not experienced severe neutropenia after che-motherapy (7–8). The concern was that the patient and caregiver would not have the insight and understanding to contact the AHS-nurse at the right time. The AHS-team learned that when the patient and caregiver are informed in a good way, this is no longer considered a risk, and it is now one of the most frequent groups receiving AHS.

As the Department have responsibility for all patients in Norway receiving allogenic stem cell transplantation from a match unrelated donor, several were excluded due to geographical challenges. From 2020, the Department got access to 4 new two-bed room apartments, 20 min drive from the hospital, that we can offer patients from all over the country. This has been revolutionary for the AHS-program.

The AHS-nurse is the only one seeing the patient during weekdays. This increase the responsibility for the AHS-nurse compared to working on the ward (9–10), to be the connector between the patient and the caregiver, and the other health care professionals.

Communication and cooperation between the patient, the caregiver –and AHS-team/department is essential. The patient and the caregiver can reconsider, and the patient can go back to the hospital at any time.

Conclusions: Hospital at home care is increasingly relevant. Experiences and early results from the semi-structured interviews also suggest that the patients and the caregivers are very satisfied with AHS. There are also more ongoing studies in the Department on the subject, which will make a great foundation for further development of the AHS-program.

Disclosure: Nothing to declare

NP013

Quality of life pattern in patients with multiple myeloma infused with CAR-T therapy

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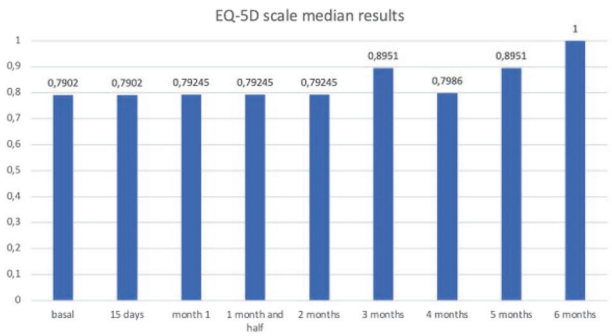
Background: CAR-T therapy is a treatment based in T-cells genetic modification from the patient. This treatment has been used previously to treat patients with acute lymphoblastic leukemia (targeting CD19), but recently, it has been also used for the treatment of refractory multiple myeloma (targeting mainly BCMA). As its predecessor, it is an experimental therapy which is infused to patients who do not have any other therapeutic options. The main objective of this study is to evaluate through time the quality of life (QoL) pattern in patients with multiple myeloma infused with CAR-T therapy (ARI-0002h or ciltacabtagene autoleucel [cilta-cel]).

Methods: We have analyzed 10 patients infused with CAR-T therapy ARI-0002h ($n = 9$) or Cilta-cel ($n = 1$) in Hospital Clínic in Barcelona between June 2020 and October 2021. Previously to CAR-T therapy infusion, each patient has answered an interview which included the following scales: Barthel scale, two visual analogue scales (VAS) -one evaluating pain and the other evaluating the auto-perception of health condition- and the EQ-5D scale. A periodically follow up is being performed, repeating the scales every 15 days during the first 2 months, every month up to the sixth month, and every 2 months up to 1 year post-infusion. The long term follow up is still ongoing, so many data will be collected up to 2 years post-infusion or until disease relapse.

Results: Follow up period in participants corresponds to a median of 6 months (range 4–12). A total of 93 scales have been performed. The scales do not show any evidence of value alteration within the first 15 days post-infusion. The scale EQ-5D, one month after the infusion, shows an increase or maintenance of QoL on 60% of participants. Arriving to the fourth month, 100% of participants show an increase or maintenance of QoL. Regarding Barthel scale, 90% of patients have shown an improvement or maintenance of its values 4 months after infusion. VAS scale referring to pain shows, in 70% of participants, a decrease in pain sensation after 4 months of therapy infusion. The auto-perception of health-condition values increase after 4 months of therapy infusion in 80% of participants. Moreover, in those cases with a sudden decrease of QoL, the cause has been due to external agents not related with the disease or the treatment, like a skeletal event and a severe case of COVID 19.



Conclusions: The QoL in participants have shown an improvement or maintenance after CAR-T therapy infusion. Nonetheless, the alteration of some values from the VAS related to pain is not strictly linked to a decreasing QoL. The main indicator improvement is pain, so subsequently, mobility and daily activities indexes have also improved. The fact that there is no immediate decreasing of QoL values, evidences the few side effects secondary to therapy infusion.

Disclosure: Carlos Fernández-de Larrea has received grants from Janssen, BMS and Amgen; is Honoraria in Janssen, BMS, Amgen, GSK, Sanofi; and is an advisory board member in Janssen, BMS, Amgen, Pfizer.

NP014

Nutritional status and quality of life in adults undergoing allogeneic hematopoietic stem cell transplantation

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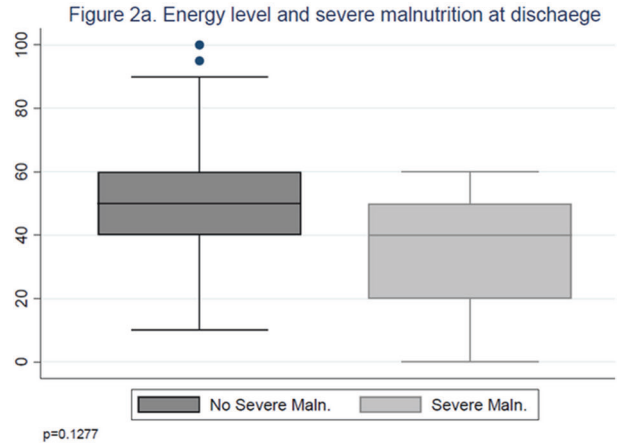
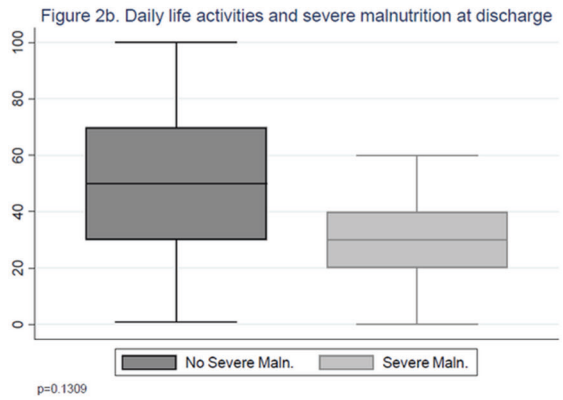
Background: Although the effects of malnutrition on morbidity and mortality in adult patients undergoing allogeneic hemato-poietic stem cell transplantation are very clear, no study investigated their relationship to quality of life (QoL). The purpose

of this study was to assess the relationship between malnutrition and QoL.

Methods: A prospective observational study was conducted enrolling 36 adult patients undergoing allogeneic hematopoietic stem cell transplantation. Adapted criteria of the Global Leadership Initiative on malnutrition have been used for the diagnosis of malnutrition in clinical settings. To assess QoL, a Cancer Linear Analogue Scale was used.

Results: The energy level at discharge was 51.32 (95% CI 42.93–59.71) in patients without severe malnutrition vs 34.00 (95% CI 4.09–63.90) in patients with severe malnutrition. The ability to carry out daily life activities at discharge was 48.83 (95% CI 39.44–58.23) vs 30.00 (95% CI 2.23–57.76), and the overall QoL at discharge was 48.00 (95% CI 38.40–57.59) vs 34.00 (95% CI 4.09–63.90) in patients without severe malnutrition vs with severe malnutrition, respectively.





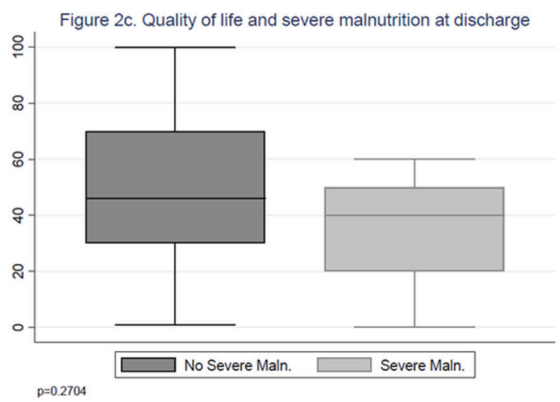


Table 1. Quality of life and severe malnutrition at discharge

	OBS	MEAN	STD.ERR.	STD.DEV.	95% CI		P-V.
ENERGY							
without	31	51.32	4.10	22.87	42.93	59.71	0.1277
severe malnutrition	5	34.00	10.77	24.08	4.09	63.90	
ABILITY TO CARRY OUT DAILY LIFE ACTIVITIES							
without	31	48.83	4.60	25.61	39.44	58.23	0.1309
severe malnutrition	5	30.00	10.00	22.36	2.23	57.76	
OVERALL QUALITY OF LIFE							
without	31	48.00	4.69	26.16	38.40	57.59	0.2704
severe malnutrition	5	34.00	10.77	24.08	4.09	63.90	

Conclusions: Patients with major problems of malnutrition upon discharge present a worse QoL, even if our data were not statistically significant. Therefore, interventions to improve nutritional status might be beneficial to improve perceived QoL, as well as acting synergistically on clinical outcomes (OS, NRM, rooting, infections, etc.), which restores part of the lost energies and allows a better performance of daily activities. The maintenance of an adequate nutritional status that acts on the QoL may lead to significant benefits. However, to confirm this hypothesis further prospective studies involving more patients are needed.

Disclosure: Nothing to declare

NP015

Photobiomodulation: a promising innovative approach for preventing oral mucositis in patients undergoing hematopoietic stem cell transplantation

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Background: Oral mucositis (OM) is among the most frequent and disabling side effects of high-dose chemotherapy administered as a conditioning regimen prior to hematopoietic stem cell transplantation (HCT). To date, very few options have showed efficacy to prevent and/or treat OM, despite a wide range of experimental treatments. Low-level laser therapy, now referred to as photobiomodulation (PBM), has demonstrated significant benefits in several randomized clinical trials which support the use of PBM to promote wound healing and reduce pain and inflammation. Therefore, in this prospective study, we investigated the clinical interest and efficacy/acceptance of a very quick and easy-to-use device, called CareMin650 (650 nm), for preventing OM and/or reducing its severity in the HCT setting.

Methods: Twenty-four consecutive patients underwent autologous HCT for hematological malignancies between November 2020 and October 2021. PBM was used daily from the first day of the conditioning until the day of neutrophil recovery. Any healthcare professional could administer the treatment after appropriate training. Oral pads (treatment surface of 50 cm^2) delivered red light with a wavelength of 650 nm, and irradiance of 28 mW/cm^2. Doses for prophylactic and curative treatments were 3 J/cm^2 and 6 J/cm^2, respectively. Standard OM prophylaxis, including oral hygiene using a soft toothbrush and bicarbonate mouthwashes for OM, was implemented according to our center practice. In the case of lesions, usual local care, analgesics, and corticosteroids were administered for the patient's well-being. Examination of oral mucosa was performed at each

CareMin650 session to assess local tolerance and detect any new lesion of OM. For each case of OM, time of occurrence, grade according to NCI CTCAE v3 and OAG scales for mucositis, analgesic dose, and time to resolution were reported.

Results: Median age of the 24 patients was 58 (range, 45–74) years, 13 (54%) were male. Twenty-one patients (88%) received a conditioning regimen with high dose melphalan for multiple myeloma and 3 patients (22%) received BEAM conditioning for aggressive lymphoma. In total, 160 sessions of CareMin650 were performed during the study, with an average application time of 7 (range, 4–12) days. The treatment was well tolerated and no adverse events related to the device were recorded. Only two patients stopped the treatment due to painful mucositis. Using the NCI CTCAE scale, most OM were grade 1 or 2: the proportion of patients who developed grade 0 or 1 mucositis (without ulcers) was 75.0% (18 of 24). Five patients (20.8%) had small ulcers (grade 2) and only one patient developed a grade 4 mucositis. Furthermore, evaluation using OAG criteria revealed a median score of 10 (range, 8–12), confirming the low incidence of severe conditioning-induced OM, in deep contrast to the data observed by us and others, without this treatment.

Conclusions: Our study, using the new CareMin650 device, indicates very good safety and tolerance, as well as promising efficacy, for prevention of OM in patients undergoing ASCT. This powerful approach has become the standard for daily practice at our center.

Disclosure: Nothing to declare

NP016

Putting prehabilitation into practice: evaluation of pre-transplant referrals to a specialist dietetic and physiotherapy telehealth prehabilitation service in a tertiary transplant centre

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Background: Prehabilitation aims to optimize pre-treatment health and promote behavior change through needs-based prescribing of exercise, nutrition and psychological interventions. Prehabilitation is integral to surgical cancer pathways but is not routinely considered pre-stem cell transplant (SCT) despite growing evidence. We describe SCT dietetic and physiotherapy prehabilitation and its impact on patient reported outcomes resulting from this intervention.

Methods: People with haematological diagnoses being considered for SCT could be referred for specialist dietetic and physiotherapy prehabilitation. Patients were assessed using validated screening tools (Patient Generated Subjective Global Assessment Short form, Godin Leisure Time questionnaire, Karnosfsky scale, EQ5D5L). Screening results guided intervention level (universal, targeted of specialist) as in image 1. As a service established during the COVID-19 pandemic, consultations were mainly conducted via telephone and video and all were 1:1.

Intervention Guide Between June 2020 and July 2021, 48 prehabilitation referrals were received; 10 for dietetic intervention alone, 16 for physiotherapy and 22 for both. The leading diagnosis was myeloma (54%), followed by AML (18%) and MDS (12.5%). Hodgkin lymphoma, CML, ALL and AA comprised the remaining referrals at 8%, 6%, 4% and 2% respectively. Average referral age was 57 years (range 39–75) and 54% female.

27/48 proceeded to SCT (14 autologous, 23 allogeneic). Of the remaining referred patients: 4 RIP/Palliative, 4 continued chemotherapy, 6 awaiting SCT. A further 7 declined input/DNA/referral declined.

Average number of sessions for dietetic prehabilitation was 2 (range 1–7) and 3 (range 1–6) for physiotherapy.

Results: For those patients who prehabilitation aim was weight gain, 22% achieved a clinically significant 5–10% gain pre-SCT and 56% achieved either weight stability or <5% weight gain. Physiotherapy treatment demonstrated improvement in 30 second sit to stand (predictor of falls) and 1-minute sit to stand test (cardiorespiratory stress test for pulmonary rehab). Prehabilitation improved patient reported quality of life and functional status when physiotherapy and dietetic intervention were combined.

Average outcome measures first prehabilitation session (T0) and last (T1) for patients receiving both dietetics and physiotherapy prehabilitation, $n = 22$.

Conclusions: A large proportion of patients that engaged with prehabilitation demonstrated malnutrition, deconditioning and reduced performance status. Improvements in performance status, quality of life and simple measures of weight/fitness were demonstrated following this prehabilitation intervention. Despite the intervention delivery via telephone and video, 100% of patients rated the service as excellent or very good.

Access to specialist allied health professionals pre-SCT does demonstrate an effective individualized intervention and patient benefit.

Disclosure: Nothing to declare

NP017

Nursing appointment in autologous haematopoietic stem cell transplantation

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Background: In 2018, the Nursing Team of the Transplant Unit started the project of the Nursing Appointment, for all patient proposed to autologous haematopoietic stem cell transplantation (aHSCT). This is carried out in 3 stages: *presential pre-transplant nursing appointment,* on the day of the collection of peripheral blood progenitor cells (PBPC), where it is done initial assessment, nursing diagnoses, distress assessment and instructing about the transplant process; *pre-transplant telephone nursing appointment,* carried out 24–48 h before admission, to reinforce the teachings carried out in the first appointment, distress assessment, detect symptoms and validate information about admission; finally, *post-transplant nursing appointment,* held 48–72 h after discharge, to assess the patient, check symptoms, assess distress, educate, guide and refer to other specialties, if necessary.

Methods: Retrospective study and statistical analysis of nursing appointments carried out to all patients proposed for aHSCT from January 1 to October 31, 2021.

Results: During this period, 56 presential pre-transplant nursing appointments were carried out, with an average distress rating of 4.3, related to emotional and physical problems, including fatigue, pain, memory/concentration, tingling in hands/feet and sleep. Eleven referrals were made to nurses, nutritionists, psychologists, social workers, physicians and spiritual guides.

There were made 47 pre-transplant telephone nursing appointments, moment used to validate information and clarify doubts. They reported an average distress of 3.5, mostly due to emotional problems, without the need for referral.

In the 43 post-transplant nursing appointments carried out, patient assessment checklist was followed, where the most frequent symptoms reported were asthenia, anorexia and vomiting. Teachings were given about nutrition, medication

management, physical exercise and rest, liquid ingestion and guidance for health services. There were 8 referrals to the doctor and 3 to the nurse, with a new telephone appointment being scheduled. The average distress was 2.7, mostly boosted by fatigue and worry problems.

Conclusions: Analyzing the records made in the appointments, the level of distress decreases along the patients journey through the transplant process. The initial assessment, diagnosis and referral in the first appointment was essential for problem solving. In the post-transplant appointment, 26% of the patients needed referral to the doctor or a new appointment, proving its importance in the early identification and resolution of problems that could affect the person health status.

Therefore it is proven that the nursing appointment promotes the interpersonal relationship between nurse and patient, minimizes anxiety and concerns that are present throughout the process, and improves the quality of the care provided.

Disclosure: Nothing to declare

NP018

Quality of life: your care, our care? Implementation and the first results of measuring quality of life in patients after an allogenic stem cell transplantation

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Background: The complications and long term effects of an allogenic stem cell transplantation can negatively influence the patient's quality of life (QoL). To get more insight in the symptoms of the patient, in the outpatient clinic Hematology of the UMC Utrecht hospital Quality of life questionnaires are being used. Thereby, interventions for (withstanding) complaints can be carried out, targeting the improvement of the QoL.

Methods: Patients eligible for allogenic SCT are asked to fill in questionnaires about symptoms and QoL. The first questionnaires are filled in pre SCT, the following questionnaires around 3, 8, 12, 16, 20, 24, 30 and 36 months after SCT and after that annual until 10 years after SCT. The questionnaire consists of a general QoL list (FACT-G), a SCT specific QoL list (FACT BMT), a QoL thermometer (0–100%) and a fatigue questionnaire (FAS). Filling in the questionnaire takes an average of 10–15 min.

Pre SCT patients receive verbal and paper education by the nurse about the care and guidance post SCT. Post SCT patients receive an invite by e-mail about 2 weeks before their appointment with the nurse to fill in the questionnaires digitally. The patient signs an informed consent and hereby authorizes the saving and sharing of the needed personal information and the use of the data for scientific research.

For filling in the questionnaires PROFILES registry is being used, developed by IKNL and Tilburg University. PROFILES offers a secured digital space for filling in the questionnaires, generating feedback to the patient and caretaker and generating an (SPSS) database.

Results: From the 1st of October 2018 to the 1st of October 2021 a total of 312 questionnaires have been filled in by patients.

These questionnaires are being used for two purposes:

- For individual use in patient care as guideline in conversations. The nurse focusses on 4 domains namely physical-, social-, emotional- and functional wellbeing. The direct feedback of the questionnaires gives the patient insight in his/ her QoL and complaints and can help in maintaining self-management.
- For the patient population by making analyses regarding QoL for the Patient Outcome Review in the UMCU.

Which can lead to an improvement of care and treatment.

A first analyses shows that from 1 year after the treatment, the burden and expectation of side- effects seem to increase. Following these findings the nurses have adapted their education.

In addition the majority (83%) of patients appears to be satisfied with the QoL. These outcomes are stable in the first 3 years following allo SCT.

Conclusions: The standardized questioning of symptoms and QoL of patients via PROFILES has improved the structure of standard care we offer. The system is well implemented in the allo SCT care pathway. The report of the consults is accessible for all caretakers and therefore offers additional information regarding the patient.

The PROFILES system is suitable for national and international use. This can contribute to research of symptoms and QoL (PROMS) in bigger patient groups.

Disclosure: Nothing to declare

NP020

LABMT nurses group 2021 continuing education program

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Background: Continuous training is a crucial part of any HSCT program as established by the JACIE-FACT standards, with a minimum of 10 h of annual training for nursing staff. Given the good experience of 2020 training program with the support of the EBMT.

Nursing group, we decided to continue with the project of providing accessible training with existing resources.

Such training programs are often missing in participating countries and resources are not allocated for nurses to access them.

To provide continuous quality training to Latin American nurses who work in haematopoietic stem cell transplantation units (HSCT), though a free online training webinar, in Spanish/ Portuguese.

Methods: A program of 6 topics of interest in HSCT was carried out. It was conduct with lectures of 90 min each, online, from June to November 2021. For this, medical and nursing referents from Latin American countries and Spain were summoned. Each meeting had a presentation by a medical speaker and a nurse, having the complete vision of the same topic.

These presentations could be seen live, and then accessed from a free digital platform. Certificates of attendance were issued after each event.

At the end of these presentations, as of December 2021, a certificate issued by LABMT for the whole course will be accessible, after passing the online multiple-choice exam.

The dissemination was perform by the LABMT group's media and through social networks, publicizing the work of the LABMT nursing group.

Results: As of November 2021, we held 5 virtual meetings, with a total attendance of 184 live attendees and 296 visits of the recorded material, a total of 480 people, with an average of 98 participants per meeting. If we compare it with the participants of 2020, where 10 webinars were organized together with the EBMT, where there were 780 participants, with an average of 78 participants per meeting. We see an average 20% increase in participants during 2021. Note: the data are expected to be completed by the end of the 6 webinars in December 2021.

Conclusions: Given the satisfactory results, we are working on the implementation of the third edition of the online continuious training program in Spanish/Portuguese with free access by 2022 for nurses who provide care to HSCT patients, incorporating new areas of interest such as care of pediatric patients. We hope our experience encourages other similar scientific Groups in the region.

The experience of continuity of virtual training in Latin America has positive aspects: strengthening the community of nurses in the region, with a common language, adapting international standards to our realities. Detect emerging needs in each region, suggestions and continued growth. Continue developing this project to reach most Latin American nurses in HSCT. Through initiatives like this target audiences may be reached at a low cost providing highest educational value.

Disclosure: Nothing to declare

NP021

CAR-T site qualification in covid era

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Background: The Oncology Institute of Southern Switzerland (IOSI) is located in Canton Ticino, providing services in a 3000 km^2 area with ~350,000 Italian speaking inhabitants. IOSI is based on the model of integrated cancer centers and involves the Cellular Therapies Program (CTP), which includes Autologous Transplantation Unit, Allogeneic Transplantation Unit (follow-up only), CAR-T Unit, Processing Facility, Collection Facility. The onco-hematology ward has 11 inpatient beds and 19.6 Whole Time Equivalent Nurses. According to current laws and regulations, in Switzerland it is possible to perform CAR-T therapy in a non-allogeneic center, as long as it is JACIE-accredited and Swissmedic-licensed. Here we describe our CAR-T site qualification process.

Methods: A project team has been set up, including Senior Physicians, Nurse Manager, Quality Manager, Head Nurse, Laboratory Technicians and Directors of Finance and Control, Projects Support and the Hospital Director. Project sustainability was assessed and the CAR-T producing pharmaceutical company was contacted for site qualification. JACIE's accreditation and Swissmedic's authorization were performed in parallel. Also, a CAR-T Team was defined (including nurses, physicians, quality team members, pharmacists,neurologists, technical responsable, ICU staff, and laboratory staff), who attended virtual training sessions held by the company.

Results: The pandemic situation considerably slowed down all activities related to site qualification: our institute's strategic priorities needed to be redefined, nurses and physicians were temporarily allocated to COVID centers to replace sick colleagues, some audits were conducted through desktop inspections and the accreditation authorities' response times were thereby longer.

It was crutial to have 3 Quality Team members who were dedicated to project development holding bi-weekly meetings to update on project progress. Over a 2 year period, our results included the review of the CTP organizational structure (including professionals and departments involved), the implementation of CAR-T team members' job descriptions; in addition, an important logistical adjustment of the facilities involved has been made, including acquisition of backup machines and allocation of additional resources. A significant review and development of SOPs was performed, and almost all ward nursing staff have attended training courses held by the manufacturing company. Another difficulty that CTP faced was tracing regulatory and legal information required for the authorization process.

Conclusions: As scientific literature on this topic is scarce, we developed our procedures with little help from prior experiences. Achievement of Site Qualification and Authorization was by no means straightforward, since many necessary adjustments were not foreseen in the project plan. Furthermore, considering the complexity of CAR-T therapy, the pharmaceutical company planned a refresh training session before enrolling the first patient. Despite the many difficulties and challenges the center had to face during this 2-year long journey, the CTP is now accredited, according to JACIE 6th standards and Swissmedic authorization, as well as qualified by the pharmaceutical company. Now IOSI can finally offer this therapeutic alternative to patients from Southern Switzerland. Greater awareness of CTP center experience may help other centers when deciding to undertake a qualification process to perform CAR-T therapy, providing them with strategies to address difficulties and subsequent professional satisfaction.

Disclosure: None

NP022

Lifelong follow-up in adult allogeneic hematopoietic cell transplant survivors: a pilot single center initiative improving data registration

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Background: Advances in allogeneic hematopoietic cell transplantation (HCT) lead to an increasing number of transplant survivors. Lifelong follow up for prevention, early detection and timely treatment of late complications is needed. Besides its clinical importance, this also provides data which improves our understanding of transplant outcomes. To comply with the JACIE standards (verison 7.0), our center transfers this data to the EBMT Register "ProMISe" based on information gathered through the electronic medical record (EMR) of the patient in our clinic or affiliated centers. If the patient is followed up by the general practitioner (GP) or referring hematologist outside of our network, the physician is contacted by e-mail to complete missing data by our data management team, but this does not always yield the desired information. To bridge this gap, we decided to attempt to contact the patients directly to obtain this information.

Methods: In April 2021, we identified 499 adult survivors who had received an allogeneic HCT between 1976 and 2014 of which 56 were "lost to follow up". "Lost to follow-up patients" are defined

as patients without any contact with our EMR or where referring physicians failed to relay the requested survivorship information for at least 12 months. A letter was sent directly to all 56 patients, asking them to make an appointment in our center/partner institution or with their hematologist/GP to provide us with the required information through a short paper survey. The survey also accompanied a pre-stamped envelope to increase the chances of response.

Results: The median age of these 56 "lost to follow-up patients" was 54 years (IQR 46.8–66.3). The median time after HCT was 18 years (IQR 13.8–26.3). Most subjects were male ($n = 32$, 57%) and their median lost to follow-up time was 6 years (IQR 2–13.5). After sending the survey, the EBMT register was updated for 30 former "lost to follow-up" patients (53.6%). We received a completed questionnaire by the GP for 10 patients (17.9%). Twenty patients were seen by our center or partner institution: 10 patients (17.9%) made a new appointment in a hematology department and 10 patients (17.9%) were seen at another department. The survey invitation was returned due to incorrect contact details in 8 patients (14.3%). No response was obtained from the remaining 26 patients (46.4%).

Conclusions: This patient-centered intervention allowed us to obtain information over more than half of our "lost to follow-up" HCT recipients with low-resource involvement, showing the feasibility of direct patient involvement. Future initiatives will need to be developed to further improve data-collection in long term survivors. Remaining hurdles are dealing with incorrect contact details and finding optimal ways to reach out to patients who failed to respond. Techniques using motivational interview or direct contact with referring physicians could be envisaged.

Disclosure: Nothing to declare

NP023

The importance of nurses training in new therapy using the example of car-t cell therapy

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Background: Nursing practice in hematology requires continuous adaptation of expertize. Comprehensive care for patients receiving Chimeric antigen receptor (CAR) T-cell therapy requires nurses knowledgeable in the management of hematologic malignancies, BMT, and immunotherapy principles. The most common toxicities observed after CAR T-cell therapy are cytokine release syndrome and immune effector cell-associated neurotoxicity syndrome. This work aims to show how nurses are prepared and trained prior to implementing CAR-T-Cell therapy at a university hospital in Switzerland and which assessment tools are used. This is intended to serve as a support to other centers for similar challenges.

Methods: Based on the model by Küver et al. the learning process is broken down into its various steps; Assess, Advice, Agree, Assist and Arrange. This includes the transfer of knowledge about CAR-T cells, the assessment tool ICE score, and any potential necessary interventions.

Results: Assess: Existing knowledge of CAR-T cell therapy, cytocine release syndrome (CRS) and CAR-T related encephalopathy syndrome (CRES) is checked. Advice: A written work instruction is drawn up by the inter-professional team, training is carried out in the form of theoretical course and a pocket card is planned to provide key information about ICE score, CRS and CRES management. Agree: Common objectives are being developed. Assist: The nurses receive support, the pocket card is created, and there are regular refresher sessions are held on the subject. Arrange: Care arrangements are defined in the inter-professional team.

Conclusions: Understanding the complexity of care for these patients from the bedside to the outpatient setting is vital for their survival and quality of care. The training of nurses in the implementation of new therapies, such as CAR-T cell therapy, plays an important role in quality assurance.

Disclosure: No conflict of interest

NP024

Comparative of alterations in Virginia Henderson patterns in patients undergoing cart therapy. Pilot study

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Background: The role of the nurse case manager is key in the management of patients who are going to receive CART therapy and those who have already received it.

Not only because it streamlines the correct circuit of the patient, but also because complications that may arise are detected early in the nursing consultation, which contributes to the interventions with the pertinent professionals for their treatment being carried out as soon as possible.

A correct nursing assessment is essential for the detection of the patient's needs and the development of personalized care plans.

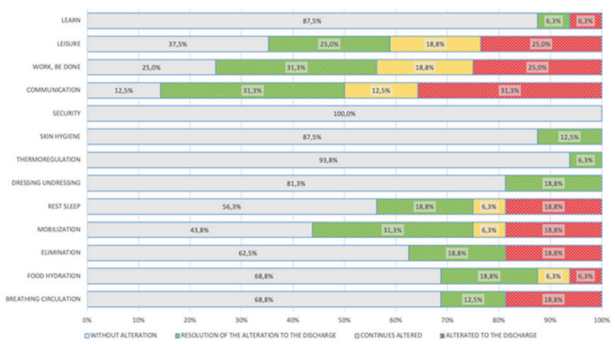
In order to analyze the impact of the therapy on the patient's needs, we have compared their baseline status with the situation at discharge after CART therapy and, depending on the results, influence the improvement of our interventions.

Methods: We have carried out a pilot study including 16 patients diagnosed with NHL who received CART therapy between March and September 2021 in our hospital.

This preliminary study is based on the comparison of the nursing assessment at the time of reception with that made at the first visit after discharge, following the patterns of Virgina Henderson.

A descriptive analysis of the data is carried out with the statistical package SPSS v. 25.

Results: After the analysis, it is observed that patients benefit from this therapy especially in those patterns related to eating, elimination, mobilization and rest/sleep, while those related to social interactions are negatively altered. It is referred the graphic below.



Conclusions: The study highlights the importance of a biopsychosocial vision of the patient provided by the figure of

the nurse, which encourages us to continue with the study, extending the assessment moments to day +100, +365 and +2 and +3 years post- CART.

It will affect the development of care plans that include joint strategies with other professionals and patient associations; so that patterns related to leisure and social relationships are reinforced.

Nurse interventions will focus on improving the rest of the patterns in those patients who have not managed to improve after therapy.

Disclosure: Nothing to declare

NP025

Comparison of types of peripheral catheters used in allogeneic donors during stem cells extraction at the Banc de Sang i Teixits of Bellvitge during 2019–2020

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Background: To successfully achieve the extraction of hematopoietic progenitor cells (HPC) by peripheral blood, is very important the assessment of the access route for the realization of the apheresis process. At this point, the assessment of the veins carried out by the nursing staff of the apheresis center will determine if the donor is suitable for the placement of a peripheral venous catheter (CVP) or, otherwise, the placement of a central venous catheter (CVC) will be essential, being this last one a more invasive choice and with a higher risk of complications for the donor.

For this reason, we wanted to review the different peripheral catheters used in our center for HPC apheresis processes done in allogeneic donors, differentiating the catheters used to extract the peripheral blood to the machine and those used to return the processed blood.

Methods: Retrospective study. Data were collected from allogeneic HPC donors from the BST Bellvitge center between 2019 and 2020. The number of donations, gender, age, type of peripheral accesses, and average speed of the process were collected.

Results: During 2019 and 2020, a total of 216 HPC apheresis processes were performed, of which 68 processes were allogeneic donors, representing 31.48% of the total. Of these, 57.35% were men and 42.64% women. The peripheral catheters used for the extraction were: 54 were performed with 17G caliber arteriovenous fistula needle (79.41% of the total), 11 with 20G caliber peripheral catheter (16.17% of the total), and 4 with CVC as the peripheral venous access was not possible.

For the return of the processed blood, 2 arteriovenous fistula needles of 17G caliber were used (2.94% of the total), 62 peripheral 20G catheters (91.17% of the total) and 4 were by central venous catheter were used. Process rates were assessed according to venous accesses, without taking into account the 4 processes performed centrally. The average inflow ratewith arteriovenous fistula needle was 64.81 mL/minute. The 20G peripheral catheter entry rate was 53.92 mL/minutes.

Conclusions: An increase in the rate of peripheral blood extraction can be observed when arteriovenous fistula needles were used. This change represents a clear diminution of the time needed to perform the whole process, which provides a greater effectiveness and efficiency in the apheresis processes by achieving stability in the process flows. However, the fact that the needle remains inserted in the vein, causes a discomfort to the donor who needs to keep the arm immobilized during the entire process of apheresis to avoid the risk of extravasation due to accidental puncture. On the other hand, a highly qualified nursing staff is an essential requirement to perform these complex procedures.

Our interest as nurses specialized in HPC apheresis is to keep moving forward researching different peripheral catheters that ensure success in obtaining HPCs and increase the comfort and safety of the donor i, allowing the possibility of future studies.

Disclosure: Nothing to declare

NP026

Joining forces between a public hospital and a third sector foundation to cover the necessity of caregivers in an at-home hematopoietic stem cell transplants program

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Background: Home care for hematopoietic stem cell transplantation (HSCTs), is an alternative to traditional inpatient or outpatient recovery programs. This type of program is safe and feasible but may place a greater demand on full-time caregivers. Usually, caregiver is in most cases a close relative, but in the past years, social changes have affected the feasibility of this kind of caregiver.

The necessity of caregiver is even greater when hospitals need to perform high complex procedures in the outpatient setting. In Hospital Clínic of Barcelona HSCT at-home program, ~25% of patients who are candidates cannot be performed due to lack of a total or partial caregiver. To overcome this issue, an alliance was created between our Home Care Unit (HCU), and "Formació i Treball" Foundation (FiT). FiT is a private foundation created by Caritas to employ people at risk of social exclusion.

The main objective is to report a single experience of collaboration between Hospital Clínic of Barcelona and an external foundation to solve this social necessity and report the impact of our experience.

Methods: The selection of caregivers was conducted by FiT. The HCU organized a training program to FiT-caregivers (3 sessions of 1 h) about diet, home and personal hygiene, reverse isolation, alert sign and symptoms and when and how to contact with HCU team. They were supported by HCU by phone and/or planned nurse's visits. Two scenarios were designed: Full-time caregivers and combined caregiver and relatives/family. An adapted and local survey for perceived quality, security and privacy was designed by HCU and full-filled for all patients. FiT performed another local survey for all caregivers asking about training, organization, welcome of patients/families and support by HCU.

Results: In the last 2 years, from October 2019 to October 2021, 81 HSCTs were managed at-home. Thirteen (16%) patients required FiT-caregivers, nine (69%) full-time and four (31%) FiT-caregivers and relatives. At the 96% of the questions answered in the HCU survey, patients gave the highest score (in a scale of "0" never to "3" ever). At FiT survey, 95% of caregivers gave the highest score (in a scale of 1–5) and perceived very positive the experience for their professional curriculum vitae. On the other hand, eleven (76%) of the caregivers included in this collaboration agreement found a related work with the program.

Conclusions: In the absence of social resources, a collaboration agreement between a public hospital and a private social foundation has allowed us to provide equal care to more patients in our home care HSCT program, as well as facilitating the integration into the work environment of people at risk of social exclusion. Not

Disclosure: Nothing to declare

NP027

Clinical characteristics and nursing care implemented in haematopoietic stem-cell transplantation recipients with covid-19: an observational study

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Background: The coronavirus disease 2019 (COVID-19) outbreak has spread rapidly worldwide and declared a pandemic by the World Health Organization (WHO). Recent research shows that immunocompromised patients as hematopoietic stem-cell transplantation (HSCT) recipients are considered more susceptible to infection and, therefore, require specialized care.

Methods: A retrospective, cross-sectional, observational study was conducted. The study aim was to identify the clinical characteristics of COVID-19 in HSCT recipients and the nursing care implemented. It was carried out at Institut Català d'Oncologia d'Hospitalet, a monographic onco-haematological hospital. The main dependent variable was the planned standardized care plan, the applied nursing interventions and the outcome variables of the evaluation of the registered interventions. Socio-demographic and clinical data were also collected.

Results: Of the total number of onco-haematological patients with COVID-19 admitted, 11 (6%) had received a hematopoietic stem cell transplant. The mean age was 65 years (SD ± 10). Of these, seven patients (63%) were male. A total of 9 (82%) patients underwent an autologous transplant, while 2 (18%) to an allogeneic transplant. The mean time from transplantation to COVID-19 disease was 8 years (SD ± 4). In total, 2 patients died, 18% of the sample. Regarding the haematological diagnosis, multiple myeloma was the most frequent type. In total, 73% of patients were on active treatment, and 27% of them had received it within 14 days of being diagnosed with COVID-19. The most frequent symptoms on admission were fever (73%), dry cough (36%) and dyspnea (36%). The mean hospital stay was 9 days (SD ± 6). Of the 11 patients, six of them developed pneumonia and five severe respiratory failure. 91% of patients received treatment with an antiretroviral agent, 45% received oxygen therapy, and one required endotracheal intubation. The standardized care plan "lung infection in immunosuppressed patients" was applied in 100% of the patients included. The main risks identified by nurses were: the risk of septic shock and the risk of progression to acute respiratory failure. The following interventions were planned: mental state assessment, control of vital signs, pain registration, degree of dyspnea, respiratory rate, oxygen saturation and oxygen device used.

Conclusions: The characteristics of stem cell transplantation recipients admitted for COVID-19, and their needs, are similar to other oncological patients. It differs from previous studies that suggest that patients who have received a stem cell transplantation have a higher risk of infection and poor outcomes. It could be because patients diagnosed with haematological disorders already adopt preventive isolation strategies. New lines of research should be opened to know the characteristics and needs of stem cell transplant patients with COVID-19 to guarantee nursing care based on scientific evidence and to minimize the variability of clinical practice.

Disclosure: The author has declared no relevant conflicts of interest related to this study.

NP028

HSV resistance in hematopoietic stem cell transplant patients

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Background: A hematologically-oncologically treated patient who undergoes various types of specific treatments has a weakening of adaptive immunity and thus increases the risk of infections. This monitoring focus on viral infections, specifically herpes infections, which are encountered by up to 80% of the healthy population. Viruses may be in the latent phase and 90% are reactivated mainly in the orofacial area.

Currently, HSV-treated antivirals focus on the production of DNA virus. First-line drugs include aciclovir (ACV), penciclovir, valaciclovir, famciclovir. The prevalence of HSV strains with reduced response is higher in immunosuppressed patients than in the healthy population in the range of 3.5–14%. Resistance to ACV develops in the absence of viral thymidinekinase (TK), which is able to phosphorylate ACV and cannot be incorporated into the virus DNA as a guanosine analogue and continues to reproduce. The use of Foscarnet, which does not need TK, acts directly on the viral polymerase and thus overcomes the mutation.

Methods: Retrospective analysis of patients treated at Hematology-Oncology Department in Pilsen from 2019 to 2021. We monitored lesions in the orofacial area caused by HSV in allogeneically transplanted patients as part of nursing care. When resistance was suspected, we supplemented the viral DNA sequence to detect the mutation. If confirmed, the patient was treated with Foscarnet i.v. and more recently Foscarnet in the orofacial gel form.

Results: After administration of Foscarnet i.v. and Foscarnet gel, the lesions gradually began to heal—see. 4 case reports with photographs documenting the improvement of lesions.

A 6% prevalence of HSV strains was found in patients after hematopoietic stem cell transplantation.

Conclusions: Increased monitoring and well-performed nursing care of the oral cavity in high-risk patients is an important factor for early detection of infection. HSV infection is very easy to confuse with GVHD or lingering manifestations of mucositis, so it is necessary to perform early laboratory tests, including confirmation of viral mutations and then the correct setting of treatment.

Disclosure: Nothing to declare

NP029

Nursing interventions of the management of toxicities associated with Car-T cell therapy—a case series

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Background: Chimeric Antigen Receptor (CAR) T cell therapy is a new immunotherapy approach that has been used in the recent years (1). CAR-T cells destroy the tumor cells directly and by increasing cytokine release (2). The use of CAR-T cell therapy become widespread especially for children and young adult

patients, in the treatment of relapsed/refractory CD19 positive B-Cell ALL and B-Cell Non-Hodking Lymphoma (3). The success of the treatment is effected by the treatment plan, management of the Cytokine Release Syndrome (CRS), immune effector cell-related Encephalopathy Syndrome (CRES) and other short-term complications. Also appropriate nursing interventions, the patient's psychological support and long-term follow-up are essential necessities. For this reason, nursing education and interventions are required for successful implementation of CAR-T cell therapy (4). Our aim is to evaluate 7 (seven) patients who received CAR T cell therapy in our clinic and manage of the CRS and CRES toxcicites and to guide clinical practices by sharing the nursing interventions we have implemented in the management of post-treatment CAR T cell toxicities.

Methods: The medical records of the cases were followed up by researchers in our clinic between 2020 and 2021. The patients' personal characteristics, clinical features, vital signs, laboratory results, cytokine release syndrome (CRS), immune effector cell-related encephalopathy syndrome (CRES), and CARTOX-10 neurological evaluation findings and treatment methods were evaluated and recorded.

Results: A total of 36 (44.4%) signs of toxicities were observed among patients after CAR T cell infusion. Toxcicity signs were hyperthermia, nausea, tachycardia, hypotension, hypoxemia, vomiting, headache, myalgia, arthralgia, motor weakness, dysgraphia and immunosuppression. In accordance with our purpose; CRS toxicities in 3 (42.8%) patients, CRES toxicities in 2 (28.6%) patients, Cartox-10 score sign in 1 (14.3%) patient were founded.

Conclusions: Before starting CAR T cell therapy, supportive care and treatment protocols, sepsis and hypersensitivity protocols should be established in advance. Additionally, nurses should be well-versed when and how to apply treatment protocols.

Disclosure: Nothing to declare

NP030

The development of a health care assistant (HCAS) and house keeper (HKS) study day

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Background: All HCAs are enrolled onto the Christie Care Certificate, a competency based training programme incorporating knowledge and skills which ensures the individual provides safe, compassionate and high quality care. The training meets all of the national standards, but adds to them to ensure Christie patients receive the best high quality care. The HKs main responsibility is to maintain a clean and safe environment by following specific criteria and guidelines outlined in JACIE environmental standards. However, the HKs do not receive formal training in Infection prevention and control that underpin quality measures of JACIE accreditation and standards.

The Christie Health Care Assistants (HCAs) and House Keepers (HKs) Study Day was developed in recognition of these significant gaps in education and training within the field of haematopoietic transplant patient care. Across Palatine Treatment Centre (PTC) which includes Haematology Day Unit (HTDU) and Ambulatory Care (AC) there are 23 HCAs and 7 HKs. This figure represents a significant amount of staff whose training requirements needed to be addressed in this specialist area.

The development of the study day was in line with, "The Shape of Caring" (2015) a review by the NMC and Health Education England, ensuring that HCAs receive high quality training. The study day takes into consideration JACIE accreditation which outlines standards for the training needs of nurses within a quality management programme. JACIE standards evaluate the environmental cleanliness and maintenance of transplant units ensuring the safety and quality of care delivered. Reflecting on all of the above elements the Study Day was designed to underpin a background to Haematology/Transplantation and the significant effects of treatment such as Infection Control (Care of the environment) Nutrition (identifying at risk patients), Care of indwelling catheters and the awareness of handling patient waste post treatment and Psychological support for patients and staff.

Methods: The Study day was classroom based with some speakers using TEAMS delivering 13 separate sessions. Evaluations forms were completed on the day.

Results: The session was attended by 4 HCAs and 3 HKs (20%) from PTC and it is our intention that the day will be repeated several times in 2022 to capture all staff.

Conclusions: The study day received positive feedback and highlighted the need for further development of the day, such as having a session covering difficult/challenging situations. The study day provided a lot of content and information, therefore shorter sessions have been incorporated into an ongoing training pathway such as AKI/Sepsis sessions and Safe Handling of SACT waste E Learning module and Food Hygiene. A session covering how to look after yourself and techniques on self-help strategies was well received and will be included in future sessions. Evaluations highlighted the need for sessions specific to HKs such as ordering and maintenance of specific specialist items and equipment. The study day was very well received within the Trust as other areas are interested in incorporating elements of the day into a training programme.

Disclosure: None Declared

NP031

Severity of oral mucositis in patients hematopoietic stem cell transplantation: a retrospective study

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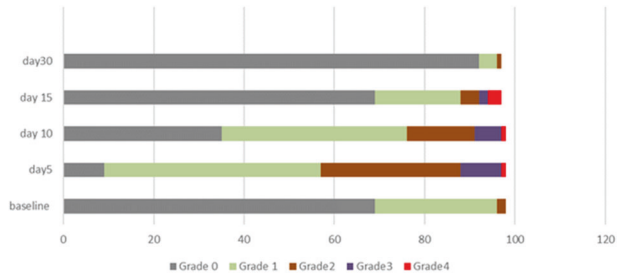
Background: Patients undergoing hematopoietic stem cell transplant (HSCT) are at risk of oral mucositis (OM). Nursing care in line with evidence-based guidelines reduces the risk of oral mucositis and improves the patient's quality of life. This study aims to retrospectively evaluate the incidence and stage of oral mucositis in patients hematopoietic stem cell transplantation. The results indicated that nursing care performed in line with evidence-based guidelines can prevent or reduce the severity of oral mucositis. In this sense, the follow-up and management of the nurse is the focus in preventing oral mucositis.

Methods: The study was conducted retrospectively in the adult HSCT clinic of a university hospital between 2014 and 2019. The grades of oral mucositis were evaluated daily according to the WHO Oral Toxicity Scale. Oral mucositis nursing care is structured according to the ISOO AND MASSC guidelines. Oral mucositis developed in 96.1% ($n = 98$) of 102 patients. The changes related to oral mucositis from the onset of the disease to day 5, day 10, day 15, and day 30 were included in the analyses.

Results: In this study, 96.1% of the patients HSCT had OM, while only 10.7% had Grade 3 OM. Symptoms of OM included the most common findings were rash (94.9%), impaired taste (93.9%), loss of appetite (91.8%), difficulty swallowing (67.3%) and pain (35.7%), as well as eating difficulties, sore throat, dry mouth, and dry lips. The mean development time was 8.28 ± 0.32 days and recovery time was 14.25 ± 0.78 days. Oral mucositis is a condition highly prevalent in HSCT patients and negatively affects the treatment and quality of life. In this study, while 96.1% of the patients had

OM, only 10.7% had Grade 3 and 2.7% had Grade 4 OM (Fig. 1). Symptoms of OM are similar to the literature.

This study, 73.46% of the patients who underwent autologous transplant had OM degree as stage 1, while it was found that the percentages decreased as the OM stages progressed. Patients who progressed to OM Stage 4 ($n = 5$), allogeneic transplantation was performed in four and autologous transplantation was performed in only one patient. It was found that smokers had longer recovery time from OM. In addition, it was found that patients diagnosed with ALL and AML had longer OM recovery times compared to patients who were diagnosed with NHL and MM and treated. In this sense, the results are similar to the literature.



Conclusions: Although the incidence of OM in patients undergoing HSCT in our study seems to be concordant with the reported findings in the literature, the proportions of Grade 3 and 4 OM were lower in our study. Such differences could be attributed to the characteristics of patients and treatment as well as the oral care protocols used in the study.

Disclosure: **Conflict of interest** The authors declare that they have no conflict of interest.

Funding None

NP032

Implementation of a protocol for the care of skin and mucous membranes in patients undergoing hematopoietic stem cell transplantation

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Background: Maintaining specific care of the skin and mucous membranes before, during and after undergoing a Haematopoietic Progenitor Transplant (HPT) is essential to minimize the side effects of chemotherapy treatments, benefiting the patient's wellbeing and improving their quality of life.

Methods: For the development of this project, a multidisciplinary group of doctors, nurses, and TCAEs was formed with an educational program on skin and mucosal care in onco-haematological patients. Eight patients were selected, six men and two women, undergoing autologous and allogeneic transplantation of hematopoietic progenitors, without skin lesions on admission. They were given a series of dermo-cosmetic products tested for efficacy and tolerance exclusively for the care of cancer patients in order to prevent and reduce the impact of the side effects of chemotherapy treatment, including facial, body, scalp, nails, and mucous membranes care.

Results: In the 8 patients, dermo-cosmetic care was used as a therapeutic complement to protect skin integrity, prevent dehydration and rash, and reduce itching and redness. In short, to protect the skin fragility derived from the treatment and reduce the impact of its toxicity. The 8 patients experienced wellbeing by living a pleasant experience the moment dedicated to skin care, helping them to adapt to their process and to face skin alterations with compatible products.

Information sheets have been developed for patients undergoing HSCT on skin and mucosal care before, during and after treatment.

A multidisciplinary team has undergone training sessions equipping them with the appropriate skills to support patients undergoing HSCT.

Conclusions: In view of the benefits obtained and while awaiting a more in-depth evaluation, it can be affirmed that implementing unified protocols for the care of patients undergoing HSCT improves the health care and quality of life of these patients. It is worth highlighting the hygienic-medical-aesthetic measures aimed at improving the well-being of the patients.

Disclosure: Nothing to declare

NP033

Case study: Procedure following leakage of thawed cells during infusion

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Background: The Christie Hospital in Manchester is the largest single site cancer centre in Europe, treating over 60,000 patients every year[i].

We describe an incident of a cord infusion on a patient diagnosed with BALL who underwent a Myeloablative cord transplant in December 2020.

Methods: This cord cell infusion was completed in accordance to the trust Standard Operating Procedure (SOP). When infusing cords in adults it is standard that most patients receive two cord units. This infusion consisted of a UK (1 bag) unit and a USA (2 bags) unit. The UK bag was thawed and infused according to protocol without issue. Whilst thawing the first bag of the USA unit however, it was noted that a small amount of cell leakage had occurred from one of the ports into the outer bag so the trouble shooting guide in the SOP was followed to complete infusion. The stem cell lab was contacted for support, the medical team informed and the emergency box accessed. The defective port was clamped to prevent more wastage and the cells were drawn out using a sample site coupler and leur lock syringe. The cells were then bolused to the patient via a three way tap as tolerated. The defective bag was sent to the labs to obtain cultures.

Whilst thawing the final bag, the second of the USA batch, the same issue with port integrity was noted but in this case no cells were lost into the outer bag. The same procedure to salvage and infuse cells was followed.

At completion of the infusion a DATIX was completed and a deviation recorded.

Results: Following successful infusion of all three bags, the problems identified were:

Infection risk. The damage to the integrity of the bags posed an infection risk to patient at infusion. To address this the patient was commenced on prophylactic antibiotics however they did not show signs of infection within 7 days of transplant and the cultures obtained during infusion showed no growth after incubation.

Emergency box. As it was needed twice in the same transplant, the emergency box required additional items to be gathered when the second bag integrity was compromised.

Cell wastage. Salvaging the cells from the bag with the coupler and syringe was difficult, with complete salvage impossible. To

avoid extra wastage and ensure it was sterile when obtaining cultures, the bags were sent to the labs.

Engraftment. Cord transplants have a slower engraftment compared to peripheral blood stem cell or bone marrow transplants[i], with an average neutrophil engraftment occurring at 20–30 days[ii]. Due to the original small sample size and losing cells in the process, there was concern regarding effect to engraftment. In this case, neutrophil engraftment occurred by day 17.

Conclusions: A successful CORD transplant occurred with patient reassured throughout.

[i] https://www.christie.nhs.uk/about-us/about-the-christie/a-profile-of-the-christie

[i] Galgano,L., Hutt,D. (2018) HSCT: How Does It Work? *In* Kenyon, M., Babic, A (eds), The European Blood and Marrow Transplantation Textbook for Nurses. SpringerOpen.

[ii] Mehta, R.S., Dave, H., Bollard, C.M., Shpall, E.J. (2017) Engineering cord blood to improve engraftment after transplant. *Stem Cell Investigation*. 4(41)

Clinical Trial Registry:

Disclosure: Nothing to Declare

NP034

Management of melphalan in the conditioning regimen, visual tool for nurses

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Background: Melphalan is a cytostatic agent that belongs to the general group of alkylating agents. It has several indications, including the conditioning regimen for hematopoietic stem cell transplantation in multiple myeloma.

Once diluted in an infusion solution, melphalan exhibits reduced stability and the degradation rate increases rapidly with increasing temperature. The total time elapsed from preparation of the solution for injection to the end of the infusion should not exceed 90 min.

Its administration must be carried out by expert nurses who know its management and the importance of controlling symptoms and side effects.

In addition to having a standard operating procedure (SOP), it was decided to create an infographic on the management of Melphalan.

The main objective is to increase the safety in the administration of Melphalan to patients undergoing autologous hematopoietic stem cell transplantation and to improve the quality of nursing care in these patients.

Methods: The Canva graphic design platform is used as the tool, after a bibliographic review and revision of SOP for the Administration of Conditioning used in the Hematology Service of the Complejo Asistencial Universitario de Salamanca.

Results: Realization of infographic on the management of intravenous melphalan and nursing care of the patient undergoing autologous transplantation in the conditioning regimen, including pre and post-hydration management. This infographic will be shown to nursing students and new nurses in the service.

Conclusions: The use of a clear and simple visual tool increases patient safety and confidence in the use of new medicines for new nurses.

Disclosure: Nothing to declare

NP036

Parenteral nutrition in patients with lymphomas after autologous transplantation, comparison of team/beam regimens

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Background: Autologous transplantation is the standard treatment for patients with multiple myeloma (MM) and most lymphomas (Non-Hodgkin's lymphoma and Hodgkin's lymphoma). The protocols *BEAM*-carmustine, etoposide, Ara-C and melphalan or *TEAM*-thiotepa, etoposide, Ara-C and melphalan are used as a preparatory regimen.

We know from long-term experience that gastrointestinal (GIT) complications often occur in connection with this treatment, typically colitis in the post-transplant period, so we decided to compare their severity between the two protocols and the related need to use parenteral nutrition (PN).

Methods: Retrospective analysis of patients treated at the Hematology- Oncology Department of the University Hospital Pilsen in the period 2019–2021.

Results: In our cohort we evaluated a total of 68 patients, of which 40 were men and 28 women (58%, vs 42%). The TEAM protocol was used for 41 patients (60%), and BEAM for 27 patients (40%). In both groups, there was no difference between the sexes or in the average age (56 and 53 years, respectively). The diagnoses included: diffuse large cell lymphoma (DLBCL) in the preparation of TEAM - 21 patients and BEAM - 13 patients ($p = 0.53$), Mantle cell lymphoma (MCL) - 2 patients and 4 patients ($p = 0.23$), follicular lymphoma (FCL) - 6 patients and 2 patients, respectively ($p = 0.70$), Hodgkin's lymphoma (MH) - 4 patients identically ($p = 0.70$) T-lymphomas - 4 patients, respectively 1 patient ($p = 0.64$) and others (e.g., anaplastic lymphoma etc.) 4 patients and 3 patients, respectively ($p = 1.0$).

The median duration of hospitalization were the same, 20 and 19 days, respectively.

The significantly lower need for parenteral nutrition (PN) was used of the BEAM protocol - 2 patients (7.4%). In the TEAM regimen it was 14 patients (52%) ($p = 0.04$). The administration of parenteral nutrition was in the order of days, mostly during the time of post-transplant immunosuppression.

Conclusions: The TEAM or BEAM regimen can be used as the pre-transplant conditioning for patients with lymphomas. The evaluated parameters in our group showed a significantly lower need for parenteral nutrition in BEAM conditioning ($p = 0.04$). In other parameters, both protocols were comparable. The BEAM regimen is better tolerated by patients and they have a lower risk of more severe GIT involvement.

Disclosure: no disclosures

NP037

EBMT middle-income countries pediatric advanced care training project

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Background: Bone marrow transplantation (BMT) is a priority tertiary care procedure as it is the only cure for the most common causes of mortality and morbidity from non-communicable diseases in children e.g., hemoglobinopathies. The majority of the global population lives in Middle-Income Countries (MICs), where providing high-quality and affordable tertiary care is becoming increasingly important and difficult. Lack of qualified professionals and nursing training is critical when implementing quality BMT services.

This educational program endorsed by the Paediatric Diseases Working Party (PDWP) of the European Blood and Marrow Transplantation Group (EBMT) and supported by DKMS-Germany and Cure2Children-Italy (C2C), is meant to provide a pilot experience in the development of Advanced Practice Providers (APP) curriculum specifically for MICs paediatric BMT nurse.

The primary objective of this project is to assess the feasibility and effectiveness of a 2-year master-course acquiring those core competencies defined by FACT/JACIE in MICs with a high prevalence of hemoglobinopathies. The secondary objective is to assess its impact on nurses' attrition rate

Methods: Trainee's group is composed by 10 nurses based in Bangalore (India) and Islamabad (Pakistan), selected based on CV and some paediatric hematology-oncology-BMT background.

The trainers' group is composed by 6 nurses and 2 physicians. Each trainee has assigned one trainer, and a local one in each BMT unit.

Trainers and trainees interact: weekly, at patient rounds and educational multidisciplinary BMT teams' online meetings through an online medical record system; on alternate weeks at core competency presentations. Bilateral feedback is obtained every 3 months.

An anonymous survey on trainee's satisfaction and suggestions was administered using Google forms with 9 main questions after these first 3 months.

Results: In this 3-month review, there has been a total of 19 case presentation sessions, each trainee presented a 5 min patient follow-up (8 patients per session, total: 152 patients follow-up); 9 core competency presentations, prepared by trainees supported by a trainer; trainers assisted in 62 h of training.

Survey was responded by all trainees (10/10). The first question about how satisfied they were with the course, scored 9, by 6 trainees (60%); 8, by 3 trainees (30%) and 7 by one trainee (10%). Response values of satisfaction were scored from 1-Not very satisfied to 9-Very much satisfied.

Relevant questions are presented in the table showing 70% of trainees as satisfied:

	Scored 1–3 (not satisfied)	Scored 4–5 (satisfied)
How relevant and helpful do you think it is for your job?	0 (0%)	10 (100%)
How satisfied were you with the overall course organization?		
Communication with trainers	3 (30%)	7 (70%)
Support for preparation of your presentations	3 (30%)	7 (70%)
Learning material and guidance	3 (30%)	7 (70%)
Trainers' feedback	2 (20%) 1 (10%) N/A	7 (70%)

Conclusions: The communication between trainees and trainers was identified as an area of improvement. An action plan has been implemented to improve trainees' support, the actions is focused to complete core competency presentations with a trainer's presentation.

By the completion of training, APPs should become highly competent in the care of pediatric patients treated by BMT in low-resource settings.

Disclosure: Nothing to declare

NP038

The delivery of effective patient education for paediatric haematopoietic stem cell transplant (HSCT) patients and their caregivers

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Background: Pre-transplant education to patients/caregivers is important for their expectations and self-care management during transplantation treatment. Previously, there was no standardized format or guide for nurses to deliver the pre-transplant education to patients and their caregivers undergoing HSCT. The content of the education when given varies, depending on the individual nurses' knowledge and experience. A survey on pre-transplant education by paediatric HSCT nurses were conducted on Oct 2017. It was found that 43% of the nurses are not confident in conducting the education sessions. Another finding is that ~50% of the paediatric HSCT patients and their caregivers did not attend a pre-transplant education session as there were no nurses allocated to conduct the session for them.

Methods: This project aims to attain 100% conducting of pre-transplant education sessions by paediatric HSCT nurses to patients and their caregivers. A root cause analysis was conducted and found three underlying causes; 1. Varying knowledge and experience of the individual nurse, 2. Nurses cannot be certain what they educate is what the patients/caregivers need to know, 3. No resources for reference. The address the identified root causes, several implementation were introduced. To address the varying level of knowledge and experience, train-the-trainer sessions are conducted since Nov/Dec 2017 among the dedicated group of nurses who will be providing the education. A paediatric HSCT patient/caregiver orientation flipchart is created. This standardized education material used since Jan 2018 provides a useful guide for nurses to structure the education sessions. Alongside the education sessions, a relevant and comprehensive HSCT guidebook introduced in May 2020 within KKH website was developed by the KKH multidisciplinary team caring for the transplant population which includes medical, nursing, pharmacist, dietician and social worker from children cancer foundation. All the contents were developed based on the needs analysis survey from patients and caregivers. The progress of the project was tracked by the quality improvement team led by the HSCT nurses.

Results: The solutions have achieved 100% conducting of pre-transplant education sessions by paediatric HSCT nurses to patients and their caregivers. A post-implementation survey was conducted between May 2020 and Nov 2020 among 20 HSCT caregivers. 90% of caregivers have verbalized positive experiences and felt empowered after the education session. 80% of them were able to answer 10 knowledge questions for caring of their child during HSCT treatment journey. These findings were evidence of good information retention during the HSCT education sessions.

Conclusions: This project have met its intended outcome to standardize the delivery of patient education content and attained 100% attendance for HSCT caregivers in pre-transplant nursing counselling. The knowledge and information gained will enables

the patients and caregiver to engage with the healthcare providers and take control of their healthcare needs. To build on the HSCT patient education effort, a weekly HSCT education clinic comprising of nursing, pharmacist and dietitian counselling have started since 1 Aug 2020. The clinic aims to deliver patient education sessions to address concerns and knowledge gaps on the treatment and care.

Disclosure: Nothing to declare

NP039

The tyranny of distance in paediatric BMT within Australia

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Background: Australia is an island continent, located in the Southern Hemisphere. It is nearly the size of Europe and is 32 times bigger than the UK, with a population of 24 million. 70% of Australia's interior is semi-desert or desert. 7 million people live in rural and remote areas which encompasses many diverse locations and communities. These Australians face unique challenges due to their geographic location.

Sydney, is the largest and most populated city in Australia. Sydney Children's Hospital receives referrals from Australian Capital Territory (ACT), South Australia (SA), Western Australia (WA) Queensland (QLD) and the Northern territory (NT) which covers over 50% of the land mass. Patients and families may travel up to 4000 km from their home to the transplant centre and stay up to 6 months. The intricacies of 'distance' include; family separation, psychological burden of meeting a new treating team, financial burden, accommodation stressors, and yearning for home. Complex travel arrangements are also occasionally required, when returning to the referral centre if they are unwell or die. Many families require extra support due to the logistics of being far away from home.

Methods: Transplant and Cellular Therapy (TCT) referrals to Sydney Children's Hospital from January 2016 to September 2021 were reviewed retrospectively. Patients who travelled interstate for their therapy were examined and the geographical area of referrals was also considered. Case records were reviewed to determine whether interstate patients required extra supportive services during their time in Sydney, including additional input from nursing, psychology and social work team.

Results: 141 patients received TCT (129 allogeneic, 12 CAR T-cells). 45 patients (31 %) travelled interstate for TCT (42 allogeneic, 3 CAR T-cells). Geographically: 31 patients were from SA, 4 from NT, 4 ACT, 5 WA and 1 QLD. Of these, 2 patients died in Sydney and 2 patients required royal flying doctor transportation back to their referral centre. Approximately 50% of families required additional nursing and psychosocial input.

Conclusions: The complexities of 'distance' when a patient is treated away from home for complex treatment cannot be underestimated. These families have a unique set of needs and requirements compared to those who live closer to the transplant centre including; the anxiety of being away from home, getting to know a new treating team and the intricacies of a new hospital, the local area, stressors of accommodation, financial support and family separation. Returning home during COVID 19 included its own complexities as interstate borders were closed to NSW and permits and travel exemptions were required increasing anxieties. These are all compounding factors that make TCT unique in a vast country like Australia.

We are planning on prospectively analyzing the financial, social and psychological needs of interstate patients in detail to further understand and implement systems to ensure their unique needs are met and allow adequate resources to be developed to meet these needs.

Disclosure: nothing to declare

NP041

Nurse practice for use of intravenous needle-less connectors in central venous catheters study

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Background: Central venous catheters are an integral part of patient care in our units due the complexity of transplant process that requires administration of medication, transfusions, as well as cell infusion. Management of central venous catheters may potentially be associated with risk of severe adverse events, such as catheter related bloodstream infections (CRBSI). The use of intravenous needle-less connectors is widely established as a procedure that reduces infection rate, but this requires good nurse practice, being essential disinfection prior to use.

The aim of this study is to evaluate nurse practice for use of intravenous needle-less connectors in central venous catheters.

Methods: A cross-sectional descriptive study was carried out by means of a 6-item ad hoc paper questionnaire based on nurse practice. The questionnaire was delivered to all Registered Nurses. Self-reported variables were collected: compliance with hand hygiene and use of gloves were ordinal variables with three categories: always, sometimes, never (from 1 to 3), method of disinfection with four defined categories: no disinfection, alcoholic-chlorhexidine wipes, gauze with alcohol or chlorhexidine, other (from 1 to 4); disinfection drying waiting before use, was a variable with 2 categories (yes/no); disinfection wiping time frame, and disinfection drying time frame, were collected as continuous variables. Results were analyzed through absolute and relative frequencies and contingency table.

Results: Response rate was 100% ($n = 31$). Hand hygiene was performed before handling needle-less connections by 80.7% of nurses and 19.4% performed it sometimes. Gloves were used by 51.6% while 48.4% used them sometimes.

Both use of gloves and hand hygiene was always performed by 45.2% of nurses before manipulating central venous catheters. The table shows compliance with both practices.

	Always used gloves	Sometimes used gloves
Always performed hand hygiene	45.2%	35.5%
Sometimes performed hand hygiene	6.5%	13%

Alcoholic-chlorhexidine wipes were used by all nurses (100%) as method for disinfection, 48.4% waited for disinfection drying before use, while 51.6% did not.

The mean of disinfection wiping time was 5.6 s (SD:2.93) and the mean of disinfection drying time frame was 3.7 s (SD:6.62).

Conclusions: Self-reported nurse practice was compliant with method of disinfection before use of needle-less connectors in central venous lines. Considering limitation of self-report questionnaires, wiping and waiting time frame for disinfection was below literature recommendations (15 s for wiping and 20 for waiting). An action plan was implemented to improve nurse practice. Management of central venous catheter standard operating procedure (SOP) was reviewed including best practice

recommendations (Infusion Therapy Standards of practice of the Infusion Nurses Society) for use of needle-less connectors, and nurse education was delivered to improve adherence to SOP. A preventive action plan is being developed in the unit to perform future investigations on new devices based on passive disinfection by applying a cap or covering containing a disinfectant agent to create a physical barrier to contamination between uses of needle-less connectors.

Disclosure: none

NP044

Paediatric unrelated umbilical cord blood transplant recipients have a significantly prolonged length of stay compared with matched sibling or matched unrelated donor recipients

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Background: The Royal Manchester Children's Hospital's Bone Marrow Transplant Unit (BMTU) has a large unrelated donor cord blood transplant programme for both non-malignant and malignant indications. Umbilical cord blood (CB) is a rich source of stem cells for Haematopoietic Stem Cell (HSC) transplantation. We and others have shown that CB transplant has specific utility compared to matched family or matched unrelated adult donor HSC transplant. It is immediately available, and mismatch is better tolerated compared to adult donor sources. Higher chimerism is seen in non-malignant disease, this is beneficial where graft enzyme influences clinical outcome in metabolic diseases, and in malignant diseases this enhanced graft-versus-marrow effect in CB recipients translates as reduced relapse rates, especially in T-cell replete setting. CB transplant is associated with higher transplant related morbidity and mortality. This has led to a comparative decline in the use of CB compared to haplo-identical donors, where the transplant is relatively uncomplicated. CB transplant is associated with intestinal failure, which is prolonged and is sometimes associated with non-GVHD enterocolitis, known as "cord colitis". There may be significant engraftment syndrome, and graft versus host disease (GVHD), particularly in the T-cell replete setting. These complications of CB transplant lead to longer admissions requiring extensive nursing care, although chronic GVHD is less likely, even in the mismatched T-cell replete setting.

Methods: A detailed, retrospective review of charts of patients was undertaken over a 10-year period. The length of stay of patients (LOS) was recorded between date of admission and first discharge home. Patients dying within 30 days of transplant were excluded from this analysis. The type of transplants recorded as Matched Family Donor (MFD), Matched Unrelated Donor (MUD), and Matched Unrelated Cord Blood (CB). For MFD and MUD the cell source was either marrow or blood.

Results: 219 transplants were analyzed. Patients were aged from infancy to 18 years. There were 72 MFD, 85 MUD and 62 CB transplants. The range of LOS for MFD, MUD and CB transplants were 121, 151 and 205 days. It was found that in 10 CB transplants LOS were over 100 days compared to 2 MFD and 6 MUD transplants. The LOS for MFD, MUD and CB transplants were 42, 42.5 and 53 days. Using an unpaired *t*-test, there was no significant difference in LOS between MFD and MUD transplant, but the LOS was significantly longer following CB transplant than MUD ($p = 0.002$) and MFD ($p < 0.001$).

Conclusions: CB transplant is important and has reduced relapsed rates in difficult-to-cure malignancy and improved chimerism in non-malignant disease. CB transplant is difficult with specific complications including engraftment and in the gut. We demonstrate the management of such complications associated with an increased hospital LOS with implications for patients, families, nursing and medical staff. The increased LOS should be recognized and reflected in planning and commissioning arrangements for this vital type of transplant.

Disclosure: No authors have disclosures

NP045

Accreditations and inspections: an opportunity to improve. Experience in an italian pediatric center during the lockdown period

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Background: The mission of G. Gaslini Institute is based on scientific research, cure and assistance of paediatric patient and professional training. The HSCT program at G.Gaslini Institute is in agreement with all these principles. During a very difficult period for our history due to COVID pandemia (2019–2020), all staff of the HSCT center at G.Gaslini Institute have been involved in preparing various inspections and accreditations: CNT/CNS - Joint commission – JACIE reaccreditation and accreditation of our Institute to perform phase 1 studies.

Methods: Despite the difficult period in which everyone was worried about what was happening, all the staff of the HSCT unit has been involved in different reaccreditation or inspection processes. The regular online meetings between nurses and doctors were performed and all meetings were recorded. Focus meetings on specific issues were regularly conducted and involved technicians of the processing laboratory, nurses, clinical doctors, and biologists. Ward meetings were also recorded on a weekly basis. A great deal of effort was needed from all professionals to adapt to new technologies.

The nursing group focused on different standards to optimize the quality of life, comfort and safety of children and their families and to improve biomedical environments and medical devices.

Results: In 2019, the HSCT unit obtained the CNT/CNS reaccreditation. In March 2021, the Joint Commission international accreditation recognized our institution also as a teaching hospital (Medical Center). In May 2021, both G. Gaslini and the HSCT Unit obtained accreditation for phase 1 clinical studies. On November 3, 2021, the G.Gaslini Institute received the JACIE inspection, one of the first experiences in Europe for a paediatric center, completely online. All nurses were involved in all accreditation processes and this represented an opportunity for professional growth and modification of some internal procedures that would have not to be reviewed under normal conditions.

Conclusions: Despite all limitations of the lockdown period, the nursing staff participation was excellent, showing the staff passion for their work despite all difficulties. The remote training and audit modalities have shown to be an effective alternative to a face-to-face meeting and represent a feasible method in order to make these more achievable

Disclosure: All authors have no conflicts of interest

NP047

Educational program for nurses involved in the care of pediatric stem cell transplant (SCT) patients

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Background: In previous years, an educational program for nurses involved in the care of pediatric SCT patients started 1 year after they initiated their general activities on the ward. Then, after a 3 days bedside training by a senior nurse, she was expected to take care for the SCT patient independently. Obviously, the development of a training program in stem cell transplantation was mandatory.

Methods: First, there was the development of a document (based on the EBMT nurses handbook) written in the local language and including both theoretical topics as well as practical guidelines for everyday care of the SCT patient.

Second, to evaluate the competencies of the nurse, an evolution document with all the required competencies was introduced . This document served as a checklist during the training period and provided an objective evaluation tool.

Third, the junior nurse completed a 10-day bedside training starting upon admission of a new transplant patient, including conditioning regimen, the process of the stem cell infusion, and the post-transplant period. Not only the practical nursing skills were trained, but also the psychological care of the patient was highlighted, with a focus on providing clear information.

Periodically, at 3 and 6 months, the junior nurse was linked back to her senior nurse to give advice and adjustments in patient care and afterwards performance reviews by the senior SCT nurse were organized to discuss these return days.

The junior nurse elaborated a case-report about the experience and knowledge gained during this training period. This was discussed in detail during an final evaluation conversation with the senior SCT nurses, deputy head nurse and transplant nurse consultant. This served as an important link between the theoretical manual and the bedside training.

The implementation of the evolution document, the performance reviews and the case-report were used to evaluate the competence of the nurse.

Results: During spring of 2021, the training program was implemented on the ward and was appreciated by the junior nurses as an added-value in terms of content and training. The theoretical manual was clear and useful as a guideline for the bedside care of an SCT patient.

The evaluation moments and adjustments given by the senior nurses were well structured and coherent. Nurses feel more confident, act more adequate and feel able to work safely and effectively.

Conclusions: A well-structured training program for junior nurses working on the SCT ward provides a solid theoretical background and bedside skills fulfilling the required JACIE competencies.

Disclosure: Nothing to declare

NP048

Evidence-based topical approach for skin gvhd: a literature review

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Background: Skin is frequently the first and most common tissue involved in the course of graft-versus-host disease (GvHD) and its therapeutic management still represents a clinical challenge [1]. Although the need for skin-directed treatments, such as topical medications, is generally accepted, the gold standard treatment strategy still remains a "gray zone" [2].

Aim of this presentation is to report the results from a recent review aimed at focusing on the current knowledge about topical treatments of cutaneous acute GvHD (aGvHD) and chronic GvHD (cGvHD) in hematopoietic stem cell transplantation (HSCT) patients. The review was carried out on behalf of collaboration between the Nursing Campus in Hematology (NCH) group and the Gruppo Italiano Trapianto Midollo Osseo (GITMO) nurses group with the objective of reducing the gap between "what is known" and "what is done" in the clinical practice.

Methods: The Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) was used to conduct the analysis and report it [4]. With an evidence-based perspective, a practical algorithm for the topical treatment of patients with cutaneous GvHD was suggested. A literature search was performed on Medline, Cinhal and Scopus databases, and manually on the best journal-sites in this field, as well as by exploring reference lists of the included records.

Results: Twenty-eight studies were included in our qualitative synthesis and the results of various topical interventions such as phototherapy, steroids creams, calcineurin inhibitors (CNIs) creams or ointments and a miscellany of non-immunosuppressive medications were reported. However, the included studies were mainly retrospective or case reports with low sample sizes, and none of the topical interventions discussed provided strong evidences supporting their use. Despite their wide use in the clinical practice, no study on the use of topical steroids to treat aGvHD skin manifestations was available. Photobiomodulation with PUVA was not included in the review.

Conclusions: Topical approaches appear to have an adjuvant role in the treatment of any form of cutaneous GvHD. The role of topical interventions on systemic immunosuppression tapering or discontinuation has been described but not studied in depth. This appeared as the lack of knowledge due to a shortage of research in this field emerged from this review, indicating that well-designed prospective studies are needed to clarify the role of topical therapy in the treatment of acute and chronic cutaneous GvHD. In agreement with our results and literature suggestions [5], the following practical algorithm is recommended for the topical treatment of patients with cutaneous cGvHD. Topical steroids remain the mainstay of first-line therapy of mild cGvHD, with different potencies available, according to the anatomical site (e.g., lower potency steroids should be preferred for the face, axillae, due to the risk of skin atrophy and striae). Topical preparations of CNIs should be reserved for patients with steroid-refractory or steroid-dependent cGvHD. Finally, for cases with an extended skin surface area involvement, phototherapy should be considered. In all cGvHD manifestations leading to ulcers or

erosions, skin supportive and wound care techniques should be applied.

Disclosure: Nothing to declare

NP054

Hand hygiene teaching technologies for the healthcare team and caregivers: systematic review

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Background: Hand hygiene is globally accepted as a key strategy for infection prevention and control. However, despite being widely established, its implementation represents a barrier in healthcare environments. Given the importance of this subject, it is essential that the practice is known by everyone within the hospital environment, and for that, a series of teaching strategies have been studied, especially the possibility of using technology in favor of dissemination and provision of responsible, evidence-based content as a teaching tool to promote the improvement of knowledge.

Methods: This is a systematic review that aimed to synthesize the use of available technologies in teaching hand hygiene for the healthcare team and caregivers. The protocol was published on the Open Science Framework platform, available at https://osf.io/38rst/, reported according to Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA). The inclusion criteria were primary studies with a quantitative approach that identified the use of hand hygiene teaching technologies among health professionals, patients, family members and visitors, with no restrictions on language and publication period. Non-original studies, and those that did not meet the scope of this review were excluded. The electronic databases searched were CINAHL, Cochrane Library, Embase, LILACS, PubMed, Scopus, and Web of Science. The documents were exported to EndNote Basic, then to the Rayyan platform. After a complete selection and descriptive synthesis of the primary studies, an assessment of the risk of bias was carried out using the tools of the Joanna Briggs Institute. All steps were performed by two masked reviewers and the conflicts were resolved by a third reviewer.

Results: A total of 377 studies were identified, of which 39 were excluded for being duplicates, and 290 for not meeting the previously established eligibility criteria. Thus, 48 studies were selected for full reading, of which six were considered eligible to compose the systematic review, being one quasi-experimental study, two randomized trials, and three cross-sectional studies. Five of the six included studies had a moderate risk of bias, while one study had high risk of bias, according to the specific Joanna Briggs Institute tools for each type of study design. Primary studies address different teaching strategies with technological resources, and since they deal with different populations, different types of teaching approaches and content were needed, depending on the population that was intended to be reached.

Conclusions: Electronic devices such as tablets and cell phones, and virtual reality are the main technologies used. The use of technological resources for teaching is a facilitator in the cognitive process, collaborating in accessing and transmitting information on how and when to perform hand hygiene.

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