**Title**: Prevalence and predictors of burnout and work-life balance within the haematology cancer nursing workforce

## Introduction

Nurses are the largest workforce group within the health service, providing the vast majority of direct patient care within healthcare settings (Holland et al 2019). Globally, nursing is recognised as a highly stressful profession (Wu et al 2010, Zhang et al 2018, Gascon et al 2013); with stress being recorded as one of the most prevalent workplace issues among adult oncology nurses (Joaquim et al 2018). Within this speciality, oncology nurses face multiple additional stressors due to the growing complexity of cancer care and prolonged exposure to highly emotive situations, none more so than the death of patients and grief of families (Grech et al 2018). Oncology nurses today are experiencing exceptional challenges, with intensifying workloads, staff shortages and increasing patient knowledge (Lim et al 2010, Sabzevari and Rad 2019).  Many international studies have revealed the high staff turnover within the oncology nursing workforce, reporting this as more than double when compared to other specialities (Lagerlund et al 2015, Flinkman 2013, Fallatah and Laschinger 2016).

Caring for patients with haematological malignancies bring their own unique challenges and experiences. Unlike most solid tumours, haematological cancers have an uncertain and difficult prognostication (Hui et al 2016). The disease trajectory is unpredictable and the transitions and phases of the illness can be blurred. They can include lengthy periods of remission and relapses (McCaughan et al 2019), resulting in the development of close sustained relationships between patients and their clinical teams. The relational bonds between oncology nurses and patients, alongside their families, can heighten an already complex and emotive situation, especially when patients are potentially at end of life.  Several studies revealed that haematology nurses often grapple with the duality of treating the disease intensively but preparing the patient and families for potential end of life (Le Blanc 2018, Leung et al 2012).  This aspect of care delivery can cause haematology

cancer nurses both personal and professional conflict, and can lead to distress and burnout (Leung et al 2012).

It is widely recognised that continued, excessive workload demands can directly compromise patient care and can cost the health service millions of pounds in work related burnout (Magtibry et al 2017).   Burnout is considered to result from a prolonged exposure to a stressful working environment, which is characterised by the presence of emotional exhaustion, low accomplishment and depersonalisation (Maslach & Jackson 1981, Taleghani et al 2017).  This phenomenon of burnout can inevitably have a negative impact on well-being, home life, work and relationships, causing irritability, sleeplessness and fatigue (McMillan et al 2016). Burnout is a well-recognised occupational disease in some European counties (Barnard et al 2006, Guo et al (2019).  It is also included and defined within the 11th revision of the World Health Organization's (WHO 2019) International Disease Classification (ICD-11).

Research highlights that the demands contributing to work-life imbalance may be a precursor to burnout (Shanafelt et al 2015). Healthcare professionals commonly subjugate personal needs to meet work requirements (Sexton et al 2017, Canadas-De et al 2018). There is also a growing concern that the additional personal expectations in family life (caregiving responsibilities to both children and older family members) may be felt more keenly by those from the predominantly female profession, such as nursing, which can consequently result in higher levels of work-life imbalance and burnout (Hyder et al 2016). Although there is no universally accepted definition for work-life balance, the concept embodies having adequate resources to respond effectively to the demands of work and family roles, simultaneously (Valcour 2007).

Despite acknowledgement within the literature that dissatisfaction with work-life balance and burnout continues to increase within the contemporary healthcare workforce (Mache et al 2017); minimal attention has been placed on determining the prevalence of, and understanding predictors of work-life balance for oncology nurses (Gribben & Semple 2021).  Nor has the literature addressed burnout and work-life balance amongst this specific subset of haematology nurses, who have the unique challenges as set out above.

The aim of this study is to examine the prevalence and predictors of burnout and work-life balance amongst the haematology cancer nursing workforce in Ireland. The specific objectives for this study are:

1. To determine haematology cancer nurses' level of satisfaction with their work-life balance in Ireland

2. To investigate factors that influence work-life balance for the haematology cancer nursing workforce in Ireland

3. To determine the prevalence of burnout in the haematology cancer nursing workforce in Ireland

4. To examine factors that contribute to burnout in the haematology cancer nursing workforce in Ireland.

**Methods**

**Design:** A non-experimental, cross-sectional survey approach was adopted. The survey was distributed anonymously to a convenient sample of all haematology cancer nurses attending a 2-day Haematology Association of Ireland annual conference in October 2019.

**Survey instrument:** The survey instrument had three sections to ensure appropriate data capture to reflect the aim and objectives of this study. Section one focused on demographic and occupational characteristics; section two included a widely used validated tool with good psychometric properties known as the Maslach Burnout Inventory (Maslach et al 1981) and the third section specifically addressed satisfaction with work-life balance by modification of a single-item scale used in previous studies with oncologist (Shanafelt et al 2012, Shanafelt et al 2015).

**Section one**: Information was sought on the following demographic characteristics: country of work (Northern Ireland or South of Ireland), age, gender, relationship status, number of dependent children, other dependents, years working in haematology/oncology setting, living status, working setting i.e. outpatient/inpatient and average working hours per week.

**Section two**: Maslach Burnout Inventory (MBI) is a 22 item, rigorously validated questionnaire, considered to be the criterion standard tool for measuring burnout (Emilia et al 2017, Gomez-urquiza et al 2016, Guveli et al 2015). It explores the three components of burnout, namely, emotional exhaustion (EE) (9 items, α=0.85), depersonalisation (DP) (5 items, α = 0.61) and personal accomplishment (PA) (8 items, α=0.7). Participants rate the frequency at which they feel a certain way on a seven-point Likert scale (response options: never, few times a year or less, once a month or less, few times a month, once a week, few times a week, every day). The individual scores for each component are recorded, with score ranges that define low, moderate and high levels of burnout. The authors do not recommend that the three scales are combined to form a single burnout scale but are interpreted together. For example, high scores in EE and DP, with a low score in PA are indicative of a risk of burnout. Many research studies with healthcare professionals have focused on the presences of high levels of EE or DP as the foundations of burnout (Shanafelt et al 2012). A similar principle will be applied within this study, with the manifestation of professional burnout being considered as either high EE or DP subscale score. Copyright approval was obtained for use of this validated tool.

**Section 3**: Satisfaction with work life balance was assessed by modifying the single item scale used by Shanafelt and colleagues (2012, 2015, 2016 & 2019) which asked participants to rate their level of agreement with the statement "the demands of work interfere with my home /family life (response options: strongly agree, agree, unsure, disagree strongly disagree). In addition to the single-item scale, four other Likert-style questions have been devised for the purpose of this study. These questions have been developed by the research team, based on literature and expert opinion; as the research team wanted to distinguish between conflict that occurs when work events affect home (work-home interface) and when home events affect work (home-work interface). By noting the directionality of the conflict, researchers can examine the factors on each side of the spectrum that may contribute to the imbalance.

**Recruitment:**

Following ethical approval from Ulster University Institute of Nursing and Health Research Governance Filter Committee, which included documented permission and

support from the Haematology Association of Ireland Committee the survey instrument, was disseminated at their annual 2-day conference in October 2019. The haematology committee agreed to allocate 20 minutes on Day 2 of the programme, where participants were encouraged to utilize this time to complete and return the anonymised survey.

At the Registration desk on Day 1 of the conference, all potential participants were provided with a hard copy of the survey along with the Participant Information Sheet. Implied consent was noted as return of the survey to a predetermined designated area on Day 2 of the conference. A distress protocol was also included in the participant pack.

Study inclusion was determined as: a Registered Nurse, who cares for patients with a haematological malignancy as part of their routine workload; attending the Haematology Association of Ireland annual conference and able to provide inferred consent by returning completed survey. Exclusion criteria: unable to understand written English.

**Data analysis:**

Using SPSS® version 25, descriptive statistics were performed to provide details of the sample characteristics and mean values of the variables of interest. Cronbach's alpha was used to examine the construct validity of our 5-item work-life balance measure, with all five items above $\alpha = 0.82$.

Independent samples t-test was used to compare the mean scores of the groups of variables. One-way analysis of variance (ANOVA) was utilised to compare the mean scores of the independent variables of interest namely, work-life balance and burnout with the various dependent variables. Where significant differences existed between the mean scores, Post hoc comparisons using the Tukey HSD test was used to test where these differences were. All tests were 2-sided, with a type one error level considered as $< .05$.

**Results**

The questionnaire return rate was 80.4% (n = 78 of 97). Sixty-one percent of the participants worked in the South of Ireland, with 35% working in Northern Ireland. More than half of the nurses (52.6%, n=41) had 6-10 years haematology experience, with 88.6% (n=69) working more than 25 hours per week. With respect to clinical setting, only 12.8% (n=10) worked solely in the inpatient setting, 50% (n=39) solely in outpatients and 37.2% (n=29) worked across both clinical settings. Over half (59%, n=46) the nurses were aged 40 years or over, with the majority being married or partnered (84%, n=66). Irrespective of relationship status, 67.9% (n=53) reported having dependent children, with 11% (n=9) having caring input for at least one adult such as an elderly parent. Participant demographics and occupational characteristics are reported in Table 1.

Table 1: Demographics and occupational characteristics of sample

| Participants demographics | Number (n= 78) | Percentage % |
|---|---|---|
| **Country of residence** | | |
| Northern Ireland | 28 | 35.9 |
| South of Ireland | 48 | 61.5 |
| Missing | 2 | 2.6 |
| **Age** | | |
| 20-29 years | 6 | 7.7 |
| 30-39 years | 26 | 33.3 |
| 40-49 years | 28 | 35.9 |
| 50-59 years | 16 | 20.5 |
| 60+ years | 2 | 2.6 |
| **Gender** | | |
| Male | 1 | 1.3 |
| Female | 77 | 98.7 |
| **Marital status** | | |
| Married/partnered | 66 | 84.6 |
| Divorced/widow | 5 | 6.4 |
| Single | 7 | 9 |
| **Dependent children** | | |
| None | 25 | 32.1 |
| 1-2 | 37 | 47.4 |
| >2 | 16 | 20.5 |
| **Adult dependents (e.g. elderly parent)** | | |
| None | 69 | 88.5 |
| 1-2 | 9 | 11.5 |
| >2 | 0 | 0 |
| **Years of experience working in haematology/oncology** | | |
| 0-2 years | 2 | 2.6 |
| 3-5 years | 13 | 16.7 |

| | | |
|---|---|---|
| 6-10 years | 41 | 52.6 |
| 11-20 years | 20 | 25.6 |
| >21 years | 2 | 2.6 |
| **Lives alone** | | |
| Yes | 5 | 6.4 |
| No | 73 | 93.6 |
| **Clinical setting** | | |
| Inpatient | 10 | 12.8 |
| Outpatient | 39 | 50 |
| Both | 29 | 37.2 |
| **Average hours worked per week** | | |
| Less than 10 | 0 | 0 |
| 10-25 hrs | 9 | 11.5 |
| 25-40 hrs | 58 | 74.4 |
| 40+ hrs | 11 | 14.1 |

**Work-life balance**

On the work-life balance questionnaire, over 50% of the participants consistently reported that work impacted family life by selecting either strongly agree or agree on Q1 – Q3. For example, Q1: *The demands of work interfere with my home life* (n=45, 58%), Q2: *Workload makes it difficult to fulfil family responsibilities* (n=41, 53%) and Q3: *Work duties make me change my family plans* (n= 39, 50%).  Whereas, the majority (n=57, 73%) of respondents on Q4 either strongly disagreed or disagreed that *'Personal pressures make fulfilling work requirements difficult'*.  Finally, over one-third (n=30, 39%) didn't feel that '*Work supports and makes reasonable adjustments to manage home life difficulties'*.

In Table 2, the findings demonstrate that nurses with dependent children had a statistically significant poorer work-life balance scores than their colleagues without dependent children in the following two items: *Workload makes it difficult to fulfil family responsibilities (Q2)* and *Work duties make me change my family plans* (Q3). Furthermore, there was a statistical difference in the scores for Q5, reflecting inpatient nurses were less satisfied than nurses who worked between both outpatients and inpatients areas with the support and reasonable adjustments put in place by work to allow them to manage home life difficulties.

Table 2: Work-life balance scores

| | The demands of work interfere with my home life Q1 | Workload makes it difficult to fulfil family responsibilities Q2 | Work duties make me change my family plans Q3 | Personal pressures make fulfilling work requirements difficult Q4 | Work supports and makes reasonable adjustments to manage home life difficulties Q5 | Statistical significance<br><br>S (2-tailed)* < 0.05 |
|---|---|---|---|---|---|---|
| | Mean | Mean | Mean | Mean | Mean | |
| Age < 40 | 2.5 | 2.7 | 2.6 | 3.4 | 3.3 | |
| Age ≥ 40 | 2.7 | 2.9 | 2.9 | 3.8 | 2.9 | |
| ≤ 25hrs/ wk. | 3.2 | 3.3 | 3.2 | 3.6 | 3.4 | |
| >25hrs/ wk. | 2.6 | 2.8 | 2.8 | 3.6 | 3.0 | |
| Dependent Children: | | | | | | *0.014 |
| Yes | 2.6 | 2.6* | 2.6* | 3.5 | 3.1 | |
| No | 2.9 | 3.3* | 3.3* | 3.8 | 3.1 | |
| Yrs. Experience | | | | | | |
| ≤ 5 years | 3.1 | 3.6 | 3.1 | 3.9 | 3.6 | |
| 6-10 years | 2.3 | 3.0 | 2.5 | 3.4 | 3.0 | |
| 11+ years | 3.0 | 2.9 | 3.2 | 3.8 | 2.9 | |
| Clinical setting | | | | | | |
| Inpatient | 3.3 | 3.3 | 3.1 | 3.8 | 4.1* | *0.013 |
| Outpatient | 2.7 | 3.0 | 3.0 | 3.7 | 2.9 | |
| Both | 2.3 | 2.3 | 2.4 | 3.4 | 3.0* | |

Q1-4 lower scores= worse WLB                    Q5 lower scores= better WLB


**Burnout**

Of the 78 participants who completed the MBI, 78% (n=61) demonstrated either a moderate (46%, n=36) or high (32%, n=25) level of EE.  Despite high levels of EE being reported, 64% (n=50) of the nurses reported moderate or high levels of PA and only 3.8 % (n=3) had high DP scores (see Figure 1*).  [NB high EE - exceeding 27 on EE subscale; high DP exceeding 10 on the DP subscale; high PA - lower than 33 on PA subscale].*
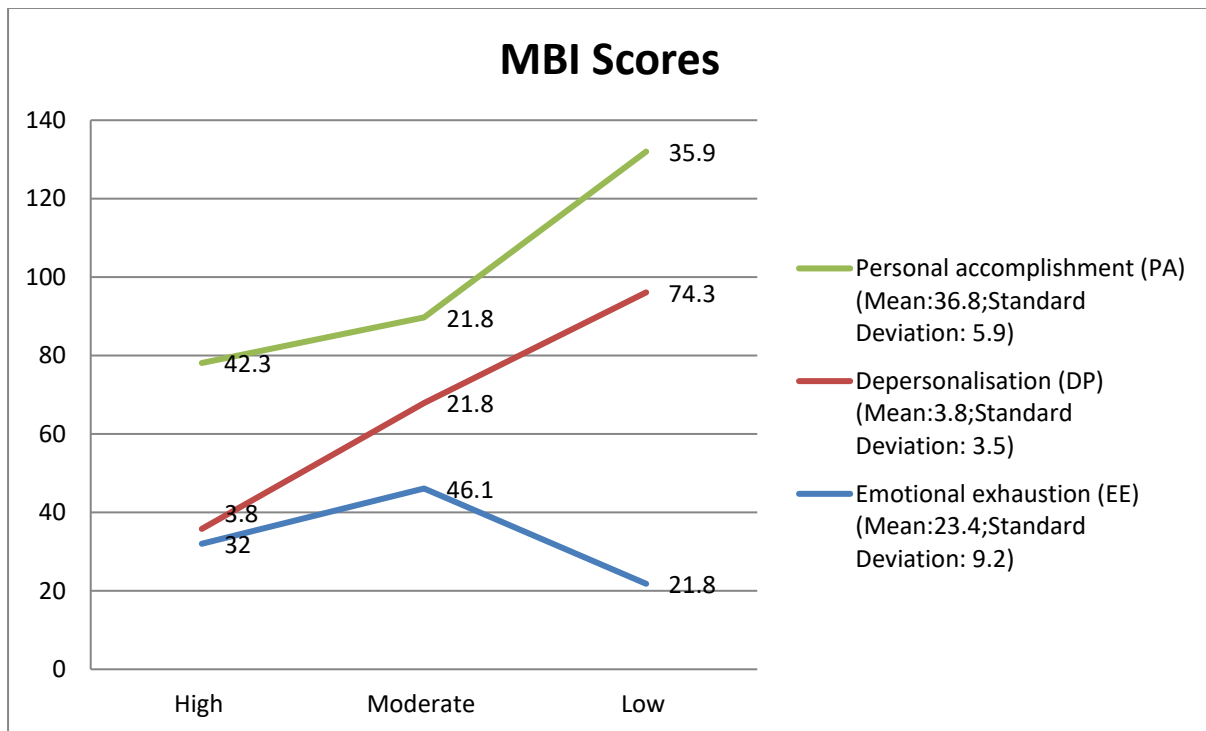
Figure 1:  MBI Burnout scores



Figure 1: MBI Burnout scores

Table 3: Burnout scores across demographic characteristics

| | EE | | PA | | DP | | Statistical significance *< 0.05 |
|---|---|---|---|---|---|---|---|
| | M | Total | M | Total | M | Total | |
| | | | | | | | |
| Age < 40 | 2.8 | 24.8 | 4.4 | 36 | 0.87 | 4.3 | |
| Age ≥ 40 | 2.5 | 22.4 | 4.7 | 37 | 0.83 | 3.3 | |
| ≤ 25hrs/ wk. | 2.6 | 23.0 | *5.1 | 41.0 | 0.38 | 1.9 | *0.05 |
| >25hrs/ wk. | 2.6 | 23.5 | *4.5 | 36.2 | 0.91 | 4.0 | |
| Dep Children: Yes | 2.5 | 22.1 | 4.5 | 37.3 | *0.63 | 3.1 | *0.018 |
| No | 2.9 | 26.1 | 4.6 | 35.7 | *1.3 | 5.1 | |
| Married/partner | 2.5 | 23.1 | 4.6 | 37.0 | 0.67 | 3.4 | |
| Not partnered | 2.8 | 25.0 | 4.4 | 35.0 | 1.8 | 6.0 | |
| Country : Northern Ireland | 3.2 | 25.8 | 4.7 | 38.5 | 0.65 | 3.2 | |
| South of Ireland | 4.2 | 22.3 | 4.4 | 35.6 | 0.99 | 4.2 | |
| Yrs. Experience ≤ 5 years | 2.6 | 23.2 | 4.7 | 37.9 | 0.92 | 4.5 | |
| 6-10 years | 2.7 | 23.9 | 4.4 | 36.4 | 0.81 | 3.2 | |
| 11+ years | 2.5 | 22.5 | 4.6 | 36.8 | 0.89 | 4.4 | |
| Clinical setting Inpatient | 2.2 | 19.8 | 4.4 | 35.5 | 0.94 | 4.7 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Outpatient | 2.6 | 23.1 | 4.5 | 37.4 | 0.76 | 3.8 |
| Both | 2.8 | 25.1 | 4.4 | 36.4 | 0.85 | 3.4 |

**Age**

When determining what factors influence burnout amongst haemato-oncology nurses, Table 3 highlights that nurses younger than 40 years reported higher EE scores (M= 2.8 SD = 10.7) compared with older nurses (≥ 40 years old) (M = 2.5 SD=7.9) and lower PA scores (M= 4.4 SD= 6.2) compared with the over 40 years (M= 4.7 SD= 5.8). DP scores were also higher in younger nurses (M= .9 SD= 3.7), compared to their older colleagues (M= .8 SD= 3.3); however, none of these reached statistical significance. A similar trend was noted for the combined work-life balance score, with younger nurses reporting a poorer work-life balance scores (M=2.9) compared to older nurses (M=3.1).

**Hours worked per week**

When examining the impact of hours worked per week, the only statistically significant difference was revealed in PA score. Nurses who worked ≤ 25hrs per week had a higher PA score (M= 5.1.0 SD= 3.7), than those working > 25hrs per week (M= 4.5 SD= 6.0). Although nurses working less than 25 hours per week have improved combined work-life balance scores than their colleagues who worked more hours, none of these reached statistical significance.

**Dependent children**

Nurses with dependent children reported lower EE scores (M= 2.5 SD= .9) and higher PA scores (M= 4.5 SD= 6.6) than those without dependent children (EE (M= 2.9 SD= 1.1), PA (M= 4.4 SD= 6.6)), none of which reached statistical significance. Nurses with children did however, report statically significant lower DP scores (M= .63 SD= 3.0) than those with no dependent children (M= 1.3 SD= 3.9). Furthermore, when the five work-life balance items were combined, nurses with dependent

children had a statistically significant poorer work-life balance scores (M= 2.9 SD= .8) compared to nurses without dependent children (M=3.3 SD= .9).

## Marital status

Participants who were currently single, reported higher EE scores (M= 2.8 SD= .9) versus (M= 2.5 SD= 1.0) married/partnered participants. Single nurses also scored much higher DP scores (M= 1.8 SD= 4.7) and lower PA scores (M= 4.4 SD= 8.7), compared with their married counterparts ((DP: M=0.67 SD 3.1); (PA: M= 4.6 SD= 5.4)).  There was slightly poorer work-life balance for married or partnered participants (M= 2.9 SD=.9) compared to single nurses (M= 3.1 SD= .9).   None of these differences reached statistical significance.

## Years' experience

Examining the impact of years of experience on burnout scores revealed no statistical difference in EE, PA and DP scores between the three groups. There was however a statistically significant difference reported in work-life balance combined item scores and years of experience in haemato-oncology setting. Using the Turkey HSD test, this result shows that nurses with ≤ 5 years' experience in haematology were more satisfied with their work-life balance than those working 6-10 years in haematology, scoring M = 3.4, SD = .8 and M = 2.7, SD = .8 respectively. However, nurses with ≥ 11years haematology experience (M = 3.2, SD = .9) did not differ significantly from either group.

## Clinical setting

Nurses working in an inpatient setting reported the lowest EE scores (M= 2.2 SD= 1.2), compared to their outpatient colleagues (M= 2.6 SD= 1.2) or those working between both inpatient and outpatient settings (M= 2.8 SD= .7), although not reaching statistical significance. There was also no statistical significance in PA and DP scores within the clinical setting variable.

**Discussion**

This study of 78 haemato-oncology nurses from the island of Ireland provides an insight into the prevalence rates of burnout and factors contributing to burnout and work-life balance. Findings highlight the presence of substantial levels of burnout as indicated by one-third of the haemato-oncology nurses reporting high levels of EE, with an additional 46% reporting moderate levels of EE. The high prevalence of burnout in this study is akin to that of Neumann and colleagues (2018) in the US, who similarly concluded that one-third of their oncology nurses had high levels of EE and burnout. Comparable high levels of burnout have also been demonstrated in several other international studies among oncology nursing in Western countries (Emold 2011, Kotpa 2017 and McMillan et al 2016). Despite the high levels of EE reported by the participants in this study, 64% of respondents still felt a moderate or high level of PA. This finding possibly reflects the quintessence of cancer nursing; that despite the challenges placed on their own emotional wellbeing, haemato-oncology nurse experience a sense of reward and privilege in being able to care for someone at their most vulnerable.

Many of the demographic characteristics examined within this current study, such as <40yrs old, unmarried, working ≥25hrs per week and having 6-10 years' experience in haemato-oncology, all showed trends towards increased burnout scores, although not reaching statistical significance. A number of other recent studies also reported disparate findings on the role of age, post-graduate education, length of employment, job satisfaction and workload on burnout for oncology nurses (Guveli et al 2015, Duarte and Pinto-Gouveia 2017, Kotpa et al 2017). Furthermore, a recent integrative review by the researchers of this study (Gribben and Semple 2021), also identified similar spurious findings across demographic characteristics. There is therefore an inability to draw firm conclusions as to which, or if any, demographic characteristics influences burnout for oncology nurses, which purports the possibility that organisational culture and the environment that oncology nurses are delivering care may have a key fundamental role in influencing burnout rates. This integrative review (Gribben and Semple 2021) highlighted the instrumental, protective value of fostering effective relationships and good communication within the team. This can

be acquired through peer support, regular clinical supervision, debriefing after challenging situations and clear communication channels from management within the organisation.  In addition to working as a cohesive oncology nursing team, a workplace culture can be further optimised by facilitating active learning to transform care, embracing research and development initiates, identifying and empowering champions and ensuring visible leadership (Fallatah and Laschinger 2016, Gribben and Semple 2021).  Such an environment is conducive to maximising oncology nurses' potential, increasing job satisfaction and reducing burnout.

Recognising that the findings from this current research study, alongside those of Gomez-Urquiza et al (2016) and Murali et al (2018) all report high rates of burnout within haemato-oncology nurses, it is important to emphasize that prevention of, and recovery from burnout is possible by altering the personal and professional provoking factors (Guo et al 2019).  As a profession we need to explore and adapt personal and organisational strategies to reduce burnout and promote personal health. Waiting until a nurse has reached the criteria to be diagnosed with burnout suggests we have waited too long, and will have very costly implications in both organisational and personal terms. Healthcare organisations should have a responsibility and a vested interest to support haemato-oncology nurses to do the job they have been trained to do, through early identification of those at risk and also introducing measures to support and equip nurses with more effective coping skills and strategies. This may involve teaching individuals improved approaches to stress management and fostering individuals' resilience.  Delivering resilience training would appear key, as resilience has been identified as a hallmark of successful leaders within oncology nursing (Cline 2015, Dyess et al 2015). It has been suggested that resilient leaders embrace difficult and challenging situations with optimism, leading to development and growth as a result. Also, having the ability to adapt well to adversity, trauma or stress is a quality that can be learned and is described by Guo et al (2019) as extremely important in one's ability to self-care.

Within the literature, there is clearly limited understanding on what features contribute to a healthy work-life balance, not only for this study population of haemato-oncology nurses, but within cancer nursing.  To the authors' knowledge, this is the first known study to examine work-life balance in this group of nurses not

only on the Island of Ireland, but internationally.  This study observed over half of the haemato-oncology nurses in Ireland were dissatisfied with their work-life balance, reporting that the demands of their work negatively interfere with their family and personal lives. When the directionality of work-life balance was examined, interestingly it appears from our findings, that personal and family pressures do not make it difficult to fulfil work commitments.  Moreover, what is of concern, is that one-third of our respondents felt they received inadequate support or reasonable adjustments from their employers to manage the challenges and difficulties of family life, and this proved more challenging for those working in inpatient settings.

Furthermore, parents with dependent children also reported a statistically significant poorer work-life balance than colleagues without young children, suggesting they found it more challenging to fulfil family responsibilities, alongside having to juggle family plans.  Given the nursing profession is a female dominated profession, largely of parenting age, this points towards the need for organisations to concentrate further efforts to support families with young children, especially for those in inpatient settings. Within the general nursing population, Anandan and Karthikeyan (2016) recognised the negative correlation between having dependent children and unsatisfactory work-life balance, predominately due to the complex situation between working and parenting. This is further provoked today, not only by the shift in family dynamics with most Western families having both parents working but with limited support available from immediate family members, putting additional pressure on nurses' ability to manage a satisfactory work-life balance. Acknowledging this, it is vital that organisations adapt workplaces that provide fair workload expectation and avoid unpredictable changes to schedules while providing additional support and adjustments to young nurses with dependent children and family commitments (Banerjee et al 2017, Shanafelt and colleagues 2015, 2016 2019).

Addressing work-life balance for nurses working in oncology is fundamentally important, as Neumann et al (2018) recognised burnout was much more likely to be experienced in those with an inadequate work-life balance.  Drawing from a more substantial body of work focusing on oncologists, it is clear that conflict between work and home is reported as a significant challenge in over 50% of oncology

physicians (Dyrbye et al 2011, Arigoni et al 2009, Shanafelt et al 2016 and Shanafelt et al 2015). Furthermore, professionals who incorporate a philosophy of obtaining a satisfactory work-life balance and focus on the important things in life, appear to have much lower risks of burnout (Banerjee et al 2017, Shanafelt et al 2015). This may explain, in part, as to why nurses with children reported less burnout (lower DP score); raising the question does children act as a mediator to lower burnout in oncology nurses despite negatively impacting work-life balance. This clearly warrants further exploration.

LIMITATION

This study was slighted underpowered, with the power calculation noting a sample size of 80 was required, however we had a total of 78 participants. Further recruitment was planned via the 1-day Haematology All-Ireland Spring conference scheduled for April 2020, but as a consequence of Coronavirus (COVID-19) pandemic this conference was unable to procced and further recruitment was unfortunately not possible. This study was cross-sectional in nature, which allowed for the examination of a number of pertinent variables in one study, however, we are unable to determine, with certainty, whether the associations observed are causally related and the potential directions of the effect. Finally, there is a possibility of a twofold response bias in this study; due to those most dissatisfied more likely to participate and a more motivated cohort of staff attending a 2-day conference over a weekend.

**Conclusion**

It is evident that haemato-oncology nurses in Ireland experience a high level of burnout but an inability to draw firm conclusions as to which, or if any, demographic characteristics influences burnout for these nurses.  Moreover, oncology nurses require support to achieve and improve their work-life balance, especially those with dependent children working within the inpatient setting as dissatisfaction with work-life balance can be derived from a sense of lack of flexibility and reasonable adjustments offered by their organisation.   Being cognisant of workforce pressures

in nursing, coupled with high workforce turnover in cancer nursing, additional research is required to both identify how organisations can offer additional flexibility for those with dependents, and deliver effective interventions or environments to reduce burnout.  Leaving burnout and work-life balance unaddressed in the clinical context could have a detrimental impact for oncology nursing, both in respect of the quality of care delivered and the negative impact on health and emotional wellbeing for oncology nurses. It is hoped by addressing these aspects; this will promote, sustain and build workforce capacity.

**Highlights:**

- Haemato-oncology nurses in Ireland experience high levels of burnout
- Haemato-oncology nurses with dependent children have poorer work-life balance than colleagues without dependent children
- Dissatisfaction with work-life balance can be derived from a sense of lack of flexibility and reasonable adjustments offered by their organisation
- To improve work-life balance there is a need for greater flexibility in working conditions, especially for oncology nurses with dependent children, working in in-patient settings.

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**Ulster University**

# Appendix 1

# Survey instrument

## 1) Demographic Questionnaire

Please indicate your answer by ticking the appropriate box for each question below.

**Country of work**
Northern Ireland ☐
South of Ireland ☐
Other ☐

**Age in years**
20-29 ☐
30-39 ☐
40-49 ☐
50-59 ☐
≥60 ☐

**Gender**
Female ☐
Male ☐

**Relationship status**
Married or partnered ☐
Divorced/widowed/widower ☐
Single

**Number of dependents children**
0 ☐
1-2 ☐
≥3 ☐

**Other dependents (not children)**

0 ☐
1-2 ☐
≥3 ☐

**Years working in haematology/oncology setting**

0-2 ☐

3-5 ☐

6-10 ☐

11-20 ☐

≥21 ☐

**Lives alone:**

Yes ☐

No ☐

**Work setting**

Inpatient ☐

Outpatient ☐

Inpatient and outpatient ☐

**Average hours worked/week**

Less than 10 hours ☐

10 -25 hours ☐

25 – 40 hour ☐

40+ hours ☐

.

## 2) Burnout Self-Test
## Maslach Burnout Inventory (MBI)

The Maslach Burnout Inventory (MBI) is the most commonly used tool to self-assess whether you might be at risk of burnout. To determine the risk of burnout, the MBI explores three components: exhaustion, depersonalization and personal achievement. While this tool may be useful, it must not be used as a scientific diagnostic technique, regardless of the results. The objective is simply to make you aware that anyone may be at risk of burnout.

For each question, indicate the score that corresponds to your response. Add up your score for each section and compare your results with the scoring results interpretation at the bottom of this document.

| Questions: | Never | A Few Times per Year | Once a Month | A Few Times per Month | Once a Week | A Few Times per Week | Every Day |
|---|---|---|---|---|---|---|---|
| Section A: | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| I feel emotionally drained by my work. | | | | | | | |
| Working with people all day long requires a great deal of effort. | | | | | | | |
| I feel like my work is breaking me down. | | | | | | | |
| I feel frustrated by my work. | | | | | | | |
| I feel I work too hard at my job. | | | | | | | |
| It stresses me too much to work in direct contact with people. | | | | | | | |
| I feel like I'm at the end of my rope. | | | | | | | |
| **Total score – SECTION A** | | | | | | | |

| Questions: | Never | A Few Times per Year | Once a Month | A Few Times per Month | Once a Week | A Few Times per Week | Every Day |
|---|---|---|---|---|---|---|---|
| Section B: | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| I feel I look after certain patients/clients impersonally, as if they are objects. | | | | | | | |
| I feel tired when I get up in the morning and have to face another day at work. | | | | | | | |
| I have the impression that my patients/clients make me responsible for some of their problems. | | | | | | | |
| I am at the end of my patience at the end of my work day. | | | | | | | |
| I really don't care about what happens to some of my patients/clients. | | | | | | | |
| I have become more insensitive to people since I've been working. | | | | | | | |
| I'm afraid that this job is making me uncaring. | | | | | | | |
| **Total score – SECTION B** | | | | | | | |

| Questions: | Never | A Few Times per Year | Once a Month | A Few Times per Month | Once a Week | A Few Times per Week | Every Day |
|---|---|---|---|---|---|---|---|
| Section C: | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| I accomplish many worthwhile things in this job. | | | | | | | |
| I feel full of energy. | | | | | | | |
| I am easily able to understand what my patients/clients feel. | | | | | | | |
| I look after my patients'/clients' problems very effectively. | | | | | | | |
| In my work, I handle emotional problems very calmly. | | | | | | | |
| Through my work, I feel that I have a positive influence on people. | | | | | | | |
| I am easily able to create a relaxed atmosphere with my patients/clients. | | | | | | | |
| I feel refreshed when I have been close to my patients/clients at work. | | | | | | | |
| **Total score – SECTION C** | | | | | | | |

## SCORING RESULTS – INTERPRETATION

### Section A: Burnout

Burnout (or depressive anxiety syndrome): Testifies to fatigue at the very idea of work, chronic fatigue, trouble sleeping, physical problems. For the MBI, as well as for most authors, "exhaustion would be the key component of the syndrome." Unlike depression, the problems disappear outside work.

- Total 17 or less: Low-level burnout
- Total between 18 and 29 inclusive: Moderate burnout
- Total over 30: High-level burnout

### Section B: Depersonalization

"Depersonalization" (or loss of empathy): Rather a "dehumanization" in interpersonal relations. The notion of detachment is excessive, leading to cynicism with negative attitudes with regard to patients or colleagues, feeling of guilt, avoidance of social contacts and withdrawing into oneself. The professional blocks the empathy he can show to his patients and/or colleagues.

- Total 5 or less: Low-level burnout
- Total between 6 and 11 inclusive: Moderate burnout
- Total of 12 and greater: High-level burnout

## Section C: Personal Achievement

The reduction of personal achievement: The individual assesses himself negatively, feels he is unable to move the situation forward. This component represents the demotivating effects of a difficult, repetitive situation leading to failure despite efforts. The person begins to doubt his genuine abilities to accomplish things. This aspect is a consequence of the first two.

- Total 33 or less: High-level burnout
- Total between 34 and 39 inclusive: Moderate burnout
- Total greater than 40: Low-level burnout

**A high score in the first two sections and a low score in the last section may indicate burnout.**

**Note**: *Different people react to stress and burnout differently. This test is not intended to be a scientific analysis or assessment. The information is not designed to diagnose or treat your stress or symptoms of burnout. Consult your medical doctor, counsellor or mental health professional if you feel that you need help regarding stress management or dealing with burnout.*

**C. Maslach, S.E. Jackson, M.P. Leiter (Eds.), Maslach Burnout Inventory manual (3rd ed.), Consulting Psychologists Press (1996)**

**Ulster University**

## 3) Work life balance questionnaire

**Please tick one box to each of the following questions.**

**The demands of my work interfere with my home and family life**

Strongly agree ☐

Agree ☐

Unsure ☐

Disagree ☐

Strongly disagree ☐

**The amount of time my job takes up makes it difficult to fulfil family responsibilities**

Strongly agree ☐

Agree ☐

Unsure ☐

Disagree ☐

Strongly disagree ☐

**Due to work related duties, I have to make changes to my family life plans.**

Strongly agree ☐

Agree ☐

Unsure ☐

Disagree ☐

Strongly disagree ☐

**I find it difficult to fulfil my work requirements effectively, due to personal and family pressures**

Strongly agree ☐

Agree ☐

Unsure ☐

Disagree ☐

Strongly disagree ☐


**My work provides adequate support and reasonable adjustments to manage difficult and stressful situations arising from home life**

Strongly agree ☐

Agree unsure ☐

Unsure ☐

Disagree ☐

Strongly disagree ☐

## Appendix 5 Authorisation to reproduce MBI

# Maslach Burnout Inventory™

## Instruments and Scoring Keys

### Includes MBI Forms:
Human Services - MBI-HSS
Medical Personnel - MBI-HSS (MP)
Educators - MBI-ES
General - MBI-GS
Students - MBI-GS (S)

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