

# Social supports in patients with cancer attending an Irish cancer center: a cross-sectional study

Caitriona Goggin<sup>\*1</sup>, Yasser Ged<sup>1,‡</sup>, Dara Bracken-Clarke<sup>1,‡</sup>, Michelle Hannan<sup>1</sup>,  
Flordeliza Calacsan<sup>1</sup>, Emmet Jordan<sup>1</sup>, Paula M. Calvert<sup>1</sup>, Miriam O'Connor<sup>1</sup>, Anne M. Horgan<sup>1</sup>

<sup>1</sup>Department of Medical Oncology, University Hospital Waterford, Waterford, X91 ER8E, Ireland

<sup>\*</sup>Corresponding author: Caitriona Goggin, MB BCH BAO, MSc, MRCPI, Department of Medical Oncology, University Hospital Waterford, Dunmore Road, Waterford, X91 ER8E, Ireland ([caitriona.goggin1@hse.ie](mailto:caitriona.goggin1@hse.ie)).

<sup>‡</sup>At the time of the study.

## Abstract

A positive association has been demonstrated between social supports, quality of life, and survival outcomes in cancer. This study assessed levels of social supports among patients with cancer in an Irish institution, with an age- and gender-specific stratification. The study highlights relatively low levels of perceived socio-emotional support and social connectedness, but good levels of tangible and informational support in our cohort of patients with cancer. Cancer clinicians should consider social supports as a factor when deciding upon cancer therapies and surveillance programs, and link in available support services for individuals with low levels of social supports where feasible.

**Key words:** cancer; social support; social engagement; isolation.

## Introduction

Social supports can be defined as “an exchange of resources between at least 2 individuals perceived by the provider or the recipient to be intended to enhance the well-being of the recipient.”<sup>1</sup> Social supports are most commonly classified into 3 major categories, including socio-emotional, tangible or instrumental, and informational supports,<sup>2,3</sup> as shown in [Figure 1](#).

Social support is recognized as an important factor for overall health,<sup>4,5</sup> with a positive correlation between social engagement, and physical and mental health outcome.<sup>6–8</sup> Social supports in the older Irish population have been studied in The Irish Longitudinal study on Ageing (TILDA).<sup>9</sup> Findings from TILDA show that social participation is associated with higher quality of life, less depressive symptoms, and less disability.<sup>9</sup>

Higher levels of social support have been associated with improved clinical outcomes in patients with cancer.<sup>10–14</sup> A summary of research suggesting that social supports matter in cancer outcomes is summarized in [Textbox 1 \(Supplementary Material\)](#).

## Methods

### Study population

Patients attending the South-East Cancer Centre at University Hospital Waterford were invited to participate over a 6-month period. Patients with any cancer type or stage, receiving systemic anticancer therapy or in outpatient follow-up were included. Subgroups included gender and age, with  $\geq 70$  years

categorizing older patients, in keeping with the age cutoff for the geriatric oncology service at the institution.

### Measures

A study questionnaire ([Supplementary Appendix 1](#)) was developed to capture the 3 main social supports categories ([Figure 1](#)).

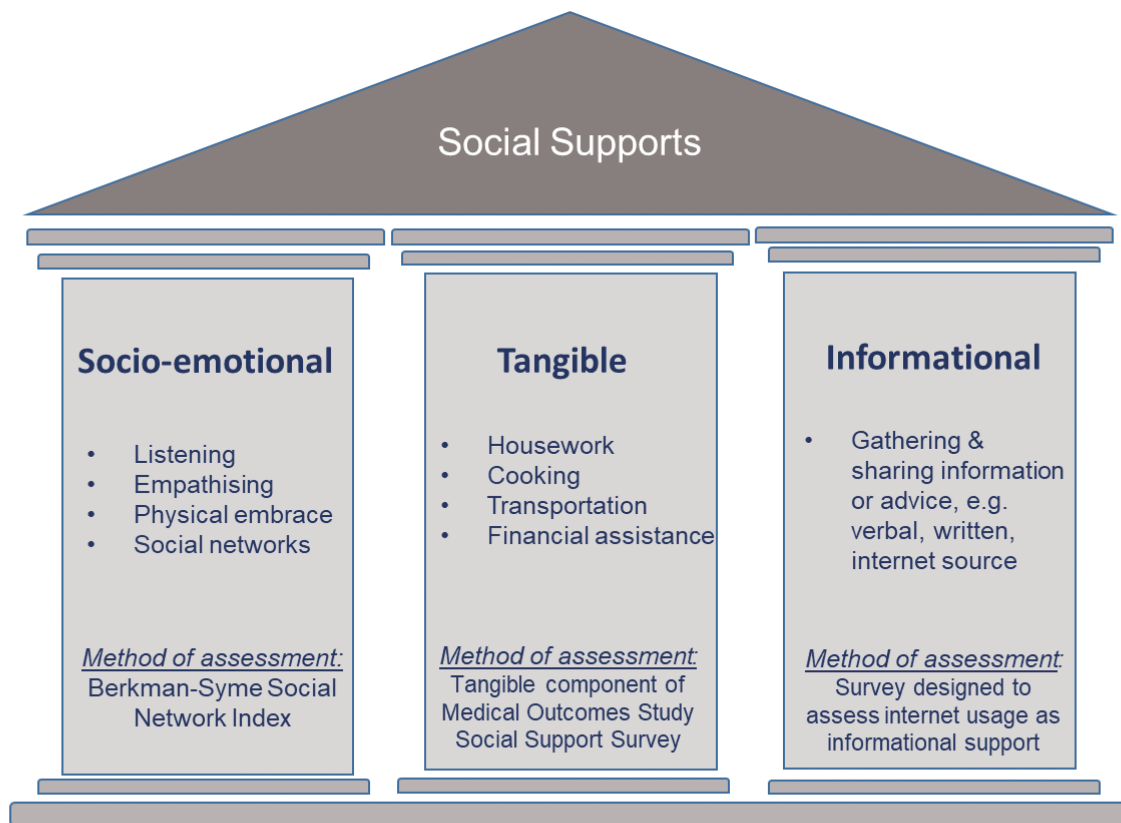
### Socio-emotional support

Socio-emotional support and social connectedness were measured using the Berkman-Syme Social Network Index (SNI).<sup>20</sup> Individuals are categorized into 4 levels of social connection based on parameters and scoring:

1. Socially isolated (most isolated)
2. Moderately isolated
3. Moderately integrated
4. Socially integrated (most integrated)

### Tangible support

Tangible/instrumental support was evaluated using the tangible support component of the Medical Outcomes Study Social Support Survey (MOS-SSS).<sup>21</sup> Participants rate the frequency of available tangible supports to 4 questions on a 5-point scale, including how often the individual has someone to support them in the following circumstances: to help if they were confined to bed; to take them to the doctor if needed; to prepare meals if they were unable to do so; to help with daily chores if unwell. Scores are calculated on a scale from 0 to 100, with higher scores indicating a trend toward more support.<sup>22</sup>



**Figure 1.** The 3 major categories of social supports: socio-emotional, tangible/instrumental, and informational supports; with study measures used to assess these categories.

**Textbox 1.** Summary of studies suggesting that social supports are associated with clinic outcomes in cancer.

---

#### Key findings suggesting an association between social support and clinical outcome in cancer

---

##### Cancer survival

- Social isolation and loneliness are associated with an increased risk of risk of all-cause mortality, and increased risk of cancer mortality (meta-analysis of 90 prospective cohort studies, including >2 million adults)<sup>10</sup>
- Higher perceived social support associated with 60% lower odds of death (study of 568 patients with gastrointestinal cancers)<sup>14</sup>

##### Cancer recurrence

- The After Breast Cancer Pooling Project demonstrated higher rates of both cancer recurrence and breast cancer-specific mortality in more socially isolated women (study of 9267 patients with breast cancer)<sup>12</sup>

##### Quality of life

- Higher perceived social support found to be associated with lower depressive symptoms and higher health-related quality of life (study of 1818 patients with cancer)<sup>15</sup>
- Social support positively predictive of better physical and mental health-related quality of life (study of 412 patients with breast cancer)<sup>16</sup>

##### Likelihood of cancer treatment

- Patients with 2 or more support sources had higher odds of undergoing chemotherapy than those without social support (cross-sectional survey of 1087 adults with colon cancer)<sup>17</sup>

##### Hospital readmission

- Limited social support associated with increased likelihood of hospital readmission within 90 days of index hospitalization discharge (study of >200 patients with hematological malignancies)<sup>18</sup>

##### Cancer incidence

- Social isolation found to be associated with total cancer incidence later in life. Loneliness specifically, was associated with lung cancer incidence (Finnish longitudinal study of 2570 middle-aged men, mean follow-up: 20.44 years)<sup>19</sup>
-

### Informational support

An 8-part questionnaire section was designed assessing technological supports through the availability and ability to use a computer and internet to both seek cancer information and connect with other patients online.

### Statistical analysis

Baseline clinical features were analyzed using descriptive statistics. Categorical analysis was performed by Fisher’s exact test to compare between gender and age subgroups.

### Results

A total of 243 patients were invited to participate, of which 194 completed the study questionnaire (80% response rate). Patient characteristics are summarized in Figure 2A.

Social networks and social connectedness assessed using the Berkman-Syme SNI were evaluable in 193 patients. In total, 19% ( $n = 37$ ) of respondents were found to be socially isolated. Fifty-seven percent of patients were among the low social network groups (socially isolated, moderately isolated). Male patients were more likely to have low social networks than women ( $P = .03$ ), with no difference between the older and younger groups ( $P = .88$ ; Figure 2B).

The level of instrumental supports assessed using the tangible component of the MOS-SSS was in the higher range ( $85.3 \pm 21.1$ ), implying satisfactory levels of tangible support in the study population, and was similar across gender and age subgroups.

Regarding informational supports, the majority of patients had access to home computers with internet availability 69% ( $n = 132$ ). There was a significant difference between older and younger patients regarding the availability of a computer, internet access, ability to use the computer, ability to use the

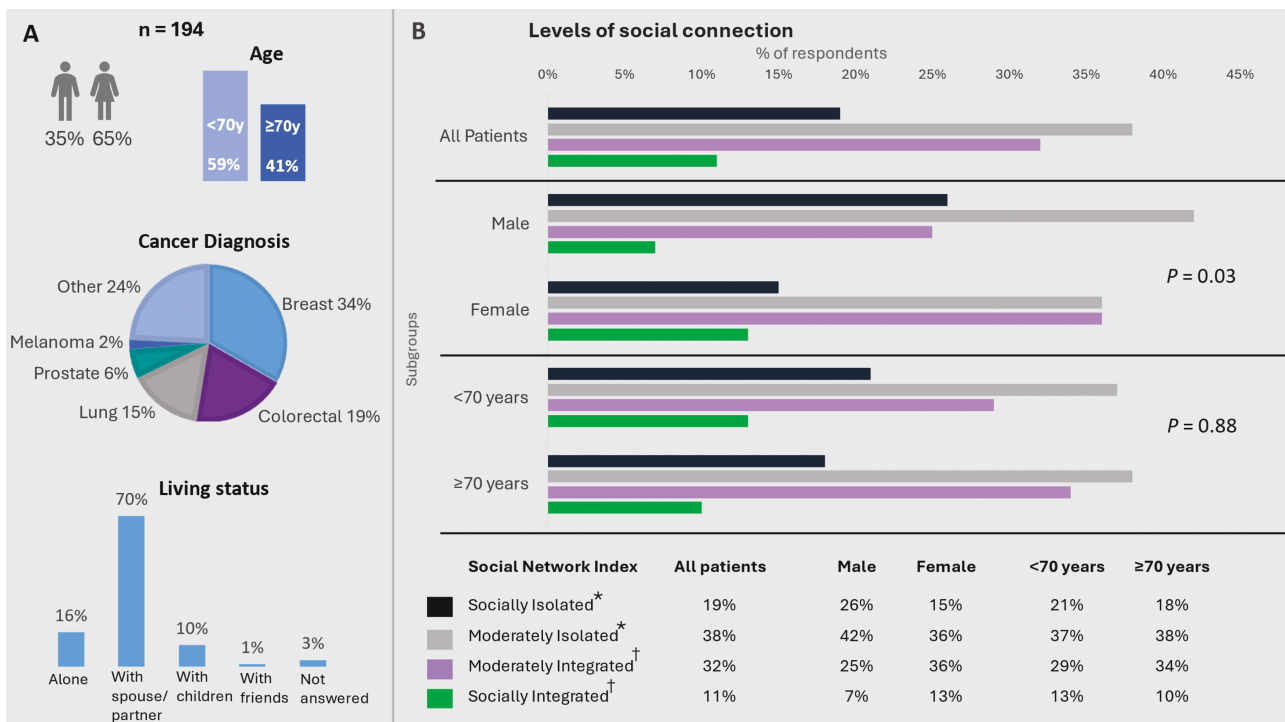
internet, and use of the internet to seek cancer information. Thirty-seven percent of older patients had access to computer/internet. Forty-nine percent ( $n = 91$ ) of patients used a computer source to access information on their cancer diagnosis, with 9% ( $n = 16$ ) using a computer to link with other patients via social groups and blogs.

### Discussion

The rate of social isolation in this population of patients with cancer was higher than reported in other populations. In comparison with a population-based study of older people, 6% of older women and 7% of older men are socially isolated per TILDA ( $n = 6262$ ), compared to 15% of women and 26% of men in our study, across all ages.<sup>9</sup> A worrying finding in our study is that the majority of respondents (57%) had low social networks. Relating specifically to an oncology cohort, UK data suggest an overall social isolation rate of 23% and a severe isolation rate (no or negligible supports) of 7%.<sup>23</sup> Therefore, UK and Irish data suggest that social isolation may be higher in individuals with cancer than the general population.

TILDA demonstrated the majority of the older adult population in Ireland is socially integrated; 26% (men), 23% (women), and >65% for high social networks (moderately and socially integrated categories combined), based on the Berkman-Syme SNI. In contrast, our total cohort had lower levels of social integration with rates of 7% (men) and 13% (women), and 43% for high social networks across all ages.

Social support is an important factor in coping with cancer. Poor social supports, for example, an older patient living alone with limited social connectedness, may be a deciding factor for an oncologist when choosing and planning cancer therapy. Given the evidence supporting the importance



**Figure 2.** (A) Demographics of the study participants. (B) Social network indices of study participants measured by the Berkman-Syme Social Network Index. *P* value (for low and high social networks). \*Low social network, †high social network.

of social integration and strong social support for positive health care outcomes, it is essential for health care professionals involved in the care of patients with cancer to identify those with poor social supports who are at risk for social isolation and those who would benefit from additional supports and resources.

### Limitations

The study was conducted in a single institution; therefore, the results may not be applicable in other regions. The study was conducted prior to the COVID-19 pandemic. It is expected that higher rates of social isolation may have been observed during and following COVID-19 restrictions, specifically in older adults.

### Conclusion

This study assessed levels of social supports in a large Irish oncology cohort. The study has identified relatively high rates of social isolation amongst our study population. A lack of social supports may be a potentially modifiable risk factor in patients with cancer, therefore highlighting the need for adequate assessment of a patient's social situation.

### Author Contributions

Caitriona Goggin: data analysis and interpretation, manuscript writing, final approval of manuscript. Yasser Ged: conception and design, collection and assembly of data, data analysis and interpretation, final approval of manuscript. Dara-Bracken-Clarke: data analysis and interpretation, manuscript writing, final approval of manuscript. Michelle Hannan: manuscript writing, final approval of manuscript. Flordeliza Calacsan: provision of study material or patients, collection and assembly of data, final approval of manuscript. Emmet Jordan: provision of study material or patients, final approval of manuscript. Paula M. Calvert: provision of study material or patients, final approval of manuscript. Miriam O'Connor: provision of study material or patients, final approval of manuscript. Anne M. Horgan: conception and design, collection and assembly of data, data analysis and interpretation, manuscript writing, final approval of manuscript.

### Conflict of Interest

The authors of this study have no conflicts of interest to disclose.

### Funding

No external funding or grant was obtained for this research.

### Ethical Approval

Ethics approval for this study was obtained from the South-East Ethics board. All study participants provided written informed consent.

### Data Availability

The data underlying this article will be shared on reasonable request to the corresponding author.

## Supplementary Material

Supplementary material is available at *The Oncologist* online.

## References

- Shumaker SA, Brownell A, et al. Toward a theory of social support: closing conceptual gaps. *J Soc Issues*. 1984;40(4):11-36.
- Bloom JR. The relationship of social support and health. *Soc Sci Med*. 1990;30(5):635-637. [https://doi.org/10.1016/0277-9536\(90\)90162-1](https://doi.org/10.1016/0277-9536(90)90162-1)
- Schaefer C, Coyne JC, Lazarus RS. The health-related functions of social support. *J Behav Med*. 1981;4(4):381-406. <https://doi.org/10.1007/BF00846149>
- Reblin M, Uchino BN. Social and emotional support and its implication for health. *Curr Opin Psychiatry*. 2008;21(2):201-205. <https://doi.org/10.1097/YCO.0b013e3282f3ad89>
- Gruenewald TL, Seeman TE. Social support and physical health: links and mechanisms. In Steptoe A, editor. *Handbook of Behavioral Medicine: Methods and Applications*. Springer New York; 2010:225-236. [https://doi.org/10.1007/978-0-387-09488-5\\_17](https://doi.org/10.1007/978-0-387-09488-5_17)
- Sirven N, Debrand T. Social participation and healthy ageing: an international comparison using SHARE data. *Soc Sci Med*. 2008;67(12):2017-2026. <https://doi.org/10.1016/j.socscimed.2008.09.056>
- Naito R, McKee M, Leong D, et al. Social isolation as a risk factor for all-cause mortality: systematic review and meta-analysis of cohort studies. *PLoS One*. 2023;18(1):e0280308. <https://doi.org/10.1371/journal.pone.0280308>
- Holt-Lunstad J, Smith TB, Layton JB. Social relationships and mortality risk: a meta-analytic review. *PLoS Med*. 2010;7(7):e1000316. <https://doi.org/10.1371/journal.pmed.1000316>
- Timonen V, Kamiya Y, Maty S. Fifty plus in Ireland 2011. *First results from the Irish longitudinal study on ageing. Chapter 4. Social engagement of older people. The Irish Longitudinal Study on Ageing*. Trinity College Dublin; 2011. <https://doi.org/10.38018/TILDARE.2011-00>
- Wang F, Gao Y, Han Z, et al. A systematic review and meta-analysis of 90 cohort studies of social isolation, loneliness and mortality. *Nat Hum Behav*. 2023;7(8):1307-1319. <https://doi.org/10.1038/s41562-023-01617-6>
- Kroenke CH, Paskett ED, Cené CW, et al. Prediagnosis social support, social integration, living status, and colorectal cancer mortality in postmenopausal women from the women's health initiative. *Cancer*. 2020;126(8):1766-1775. <https://doi.org/10.1002/cncr.32710>
- Kroenke CH, Michael YL, Poole EM, et al. Post-diagnosis social networks and breast cancer mortality in the After Breast Cancer Pooling Project (ABCPP). *Cancer*. 2017;123(7):1228-1237. <https://doi.org/10.1002/cncr.30440>
- Sarma EA, Kawachi I, Poole EM, et al. Social integration and survival after colorectal cancer diagnosis. *Cancer*. 2018;124(4):833-840. <https://doi.org/10.1002/cncr.31117>
- Bou-Samra P, Scott P, Cheng H, et al. Social support is associated with survival in patients diagnosed with gastrointestinal cancer. *J Gastrointest Cancer*. 2022;53(4):854-861. <https://doi.org/10.1007/s12029-021-00741-8>
- Yoo H, Shin DW, Jeong A, et al. Perceived social support and its impact on depression and health-related quality of life: a comparison between cancer patients and general population. *Jpn J Clin Oncol*. 2017;47(8):728-734. <https://doi.org/10.1093/jjco/hyx064>
- Leung J, Pachana NA, McLaughlin D. Social support and health-related quality of life in women with breast cancer: a longitudinal study. *Psychooncology*. 2014;23(9):1014-1020. <https://doi.org/10.1002/pon.3523>
- Davis RE, Trickey AW, Abrahamse P, et al. Association of cumulative social risk and social support with receipt of chemotherapy among patients with advanced colorectal cancer. *JAMA Netw*



- Open*. 2021;4(6):e2113533-e2113533. <https://doi.org/10.1001/jamanetworkopen.2021.13533>
18. Johnson PC, Markovitz NH, Gray TF, et al. Association of social support with overall survival and healthcare utilization in patients with aggressive hematologic malignancies. *J Natl Compr Canc Netw*. 2021;1-7. <https://doi.org/10.6004/jnccn.2021.7033>
  19. Kraav S, Lehto SM, Kauhanen J, et al. Loneliness and social isolation increase cancer incidence in a cohort of Finnish middle-aged men. A longitudinal study. *Psychiatry Res*. 2021;299:113868. <https://doi.org/10.1016/j.psychres.2021.113868>
  20. Berkman LF, Syme SL. Social networks, host resistance, and mortality: a nine-year follow-up study of Alameda County residents. *Am J Epidemiol*. 1979;109(2):186-204. <https://doi.org/10.1093/oxfordjournals.aje.a112674>
  21. Sherbourne CD, Stewart AL. The MOS social support survey. *Soc Sci Med*. 1991;32(6):705-714. [https://doi.org/10.1016/0277-9536\(91\)90150-b](https://doi.org/10.1016/0277-9536(91)90150-b)
  22. Social support survey instrument scoring instructions. RAND. Accessed September 11, 2022. [https://www.rand.org/health-care/surveys\\_tools/mos/social-support/scoring.html](https://www.rand.org/health-care/surveys_tools/mos/social-support/scoring.html)
  23. Macmillan Cancer Support. Isolation among cancer patients. 2013. Accessed September 11, 2022. [https://www.macmillan.org.uk/documents/aboutus/newsroom/isolated\\_cancer\\_patients\\_media\\_report.pdf](https://www.macmillan.org.uk/documents/aboutus/newsroom/isolated_cancer_patients_media_report.pdf)