Recognizing Distress in Cancer Patients in Day Hospital, by Trained Nurses vs. Non Trained Nurses: A Pilot Study

Laura Iacorossi , Chiara Falcicchio , Francesca Gambalunga * , Emanuela Taraborelli , Gabriella Maggi , Irene Terrenato , Fabrizio Petrone , Anita Caruso , Maria Perrone

Posted Date: 12 November 2024

doi: 10.20944/preprints202411.0905.v1

Keywords: distress; nurse; pilot study; training; cancer patient; competence advanced

 doi:10.20944/preprints202411.0905.v1

Article

Recognizing Distress in Cancer Patients in Day Hospital, by Trained Nurses vs. Non Trained Nurses: A Pilot Study

Iacorossi Laura [1], Falcicchio Chiara [2], Gambalunga Francesca [3,*], Taraborelli Emanuela [4], Maggi Gabriella [2], Terrenato Irene [5], Petrone Fabrizio [6], Caruso Anita [2] and Perrone Maria [2]

[1] Department of Life, Health and Health Professions Sciences— Link Campus University, 00165 Rome, Italy; l.iacorossi@unilink.it
[2] Psychology Unit - IRCCS "Regina Elena" National Cancer Institute – Via Elio Chianesi, 53—00144 Rome, Italy; chiara.falcicchio@ifo.it (F.C.); gabriella.maggi@ifo.it (M.G.); anita.caruso@ifo.it (C.A.); maria.perrone@ifo.it (P.M.)
[3] Professional Health Care Services Department - University Hospital "Policlinico Umberto I," Rome, Italy
[4] RN—IRCCS "Regina Elena" National Cancer Institute - Via Elio Chianesi, 53 – 00144 Rome, Italy; emanuela.taraborelli@ifo.it
[5] CTC and Biostatistics and Bioinformatics - Scientific Direction, IRCCS Regina Elena National Cancer Institute; irene.terrenato@ifo.it
[6] RN— Director of the Health Professions Unit - IRCCS "Regina Elena" National Cancer Institute - Via Elio Chianesi, 53 – 00144 Rome, Italy; fabrizio.petrone@ifo.it
* Correspondence: f.gambalunga@policlinicoumberto1.it; Tel.: +393-475-474-291

Abstract: Background: Cancer can cause psychological distress in 35-40% of patients, influencing their quality of life, adherence to treatment, and relationships with medical staff. Nurses have an important role in monitoring and addressing psychological distress, but they often lack the competencies needed to refer patients for appropriate psycho-social consultations. **Objective**: To evaluate the impact that trained nurses have on the detection of distress and the timely referral of patients for a Psycho-oncology consult. **Methods**: Blind, random, descriptive, monocentric pilot study. The participants were adult patients in Day Hospital 1 of the National Cancer Institute Regina Elena of Rome, irrespective of illness stage. Tools used included a socio-demographic and clinical data form, Distress Thermometer (DT), and Visual Analogic Scale (VAS). Patients were randomly divided into two groups: Group A, where questionnaires were administered by trained nurses, and Group B, where non-trained nurses administered questionnaires. Nurses indicated if patients needed a Psycho-oncology consult. All patients were then seen by a psycho-oncology specialist to determine if the nurse's referral was appropriate. Both patients and Psycho-oncologists were unaware of the nurses' training status. The effectiveness of the training was measured by the degree of agreement between evaluators. **Results**: The study involved 20 patients and four nurses. The average DT score was 5, mainly related to physical and emotional problems. Agreement between evaluators was higher in the trained nurses 'group. **Conclusions**: Specific training on DT has enabled nurses to acquire advanced skills to accurately refer patients to psychological consultations.

Keywords: distress; nurse; pilot study; training; cancer patient; competence advanced

1. Introduction

Cancer can significantly impact all aspects of the lives of patients and their families, including psychological, affection, sexual, and family relations. The most frequent emotional reaction in cancer patients is psychological distress. Distress has been defined as "an unpleasant emotional experience that can interfere with how a patient deals with cancer itself, with its physical symptoms and with the therapy"; distress can be characterized by normal feelings of vulnerability, sadness, and fear or

 doi:10.20944/preprints202411.0905.v1

by symptoms that are more indicative of a psycho-pathological problem [1,2]. Between 30 and 40% of cancer patients, throughout the different phases of the disease, experience various levels of distress, while approximately 15-20% show symptoms that are insufficient to diagnose a full-blown psychological disorder but which do have consequences for the patient's health and social relationships [3,4]. This psychological framework presents itself as an independent factor in worsening the quality of life [5], increasing the risk of psychological distress, reducing treatment adherence, altering the doctor-patient relationship, prolonging recovery and hospitalization times, reducing the biological effectiveness of therapy, decreasing survival rates and increasing the risk of disease recurrence [6,7]. To quickly identify psychological distress, we have recommended the use of rapid tools. The guidelines developed by the National Comprehensive Cancer Network (NCCN) for Distress Management [2]are particularly well. The Distress thermometer, the tool used in the pilot study, has been validated and applied to all cancer patients in all stages of the disease and different cultural contexts [8]. Although the value of routine screening for distress has been widely documented [9], numerous studies have highlighted the difficulty that healthcare professionals have in detecting psychological problems and distress, often due to a lack of specific training on these aspects [10,11]. Among healthcare workers, the nurse plays a fundamental role in supporting the emotional well-being of patients. In fact, in addition to clinical skills, which include administering medications, monitoring vital signs, wound management, etc, nurses must possess communication and empathy skills. A crucial aspect of nursing skills is the ability to build a trustful relationship with patients, listening to and addressing their emotional needs, as they are always in close contact with them throughout the various stages of the diagnostic and therapeutic process. Furthermore, for many patients, it may be easier to relate to a nurse rather than to other healthcare workers. In this regard, the literature emphasizes the role of the nurse in the monitoring of distress [12] and in the interview aimed at identifying psychic discomfort [13]. When distress is detected, sending the patient for a psychosocial consult is often insufficient [14]. It is important for a healthcare unit treating cancer to be trained on distress to allow for timely recognition and management and to be able to refer the patients for a psycho-oncological consult when necessary. Considering that nurses play a crucial role in improving the health of the patients, not only regarding the disease, their physical conditions, and treatment but also concerning their emotional, mental, and social well-being [15], it is necessary to train the right healthcare professionals [16-18]. Although the value of routine distress screening has been widely documented [9], there is still a lack of data regarding the skills needed to administer the screening, as well as an understanding of the complexity of its implementation in different clinical contexts. The objective of this study was to assess the impact of the training of nursing staff on the detection of distress and on the timely referral of patients for a Psycho-oncology consult.

2. Materials and Methods

2.1. Design

We conducted a blind, random, descriptive, monocentric pilot study.

2.2. Population and Setting

The sample was made up of patients recruited at the Day Hospital 1 (DH1) of the IFO, National Institute for Cancer Regina Elena of Rome (IRE), and nursing staff working in the DH. The criteria for inclusion of patients were being ≥ 18 years of age, having a diagnosis of histologically confirmed cancer, undergoing chemotherapy treatment at the DH1 of the aforementioned facility, being available for psychological counseling, and being willing to adhere to the study (informed written consent). Patients with cognitive impairment or pathological conditions that could be an obstacle to their active participation in the study were excluded. The inclusion criteria for nurses were to be employed at the DH1, to be available to participate in a one-month training course, and to have not participated in any training courses on communication skills in the last two years. The random assignment of nurses to a training group and not sharing information with the patients made it possible to evaluate if there were any behavioral biases of the nurses during the study, as well as

 doi:10.20944/preprints202411.0905.v1

avoiding that knowledge of this information could influence the patients during the interviews conducted by the nurses.

2.3. The Measurement Tools

The tools used were the following: a form for the collection of socio-demographic data (age, education, marital status, employment, family members) and clinical data of patients (previous oncological therapies, ongoing therapy, start date of therapy, follow-up in DH1, use of psychotropic drugs); the Distress Thermometer (DT) and its List of Problems (PL). The DT is a self-report tool used to detect distress levels and associated issues; it measures distress on a scale from 0 (no distress) to 10 (severe distress). Recommended cut-off scores for identifying clinically significant distress vary according to the objectives of the screening [19,20]. Boyes [21] identified a cut-off of 4 to identify patients with a significant degree of distress. The PL consists of a list of problems that patients can tick to identify which ones contribute to increasing their level of distress. The questions asked are related to physical health (e.g., constipation, pain, fatigue), emotions (e.g., concern, sadness), possible practical problems (e.g., transportation), family problems (e.g., caring for family/children), and spiritual/existential problems. A VAS scale of 1 to 10 was also used to evaluate whether the referral of the patient for a psychology consult by the nurse was appropriate or inappropriate. The cut-off in identifying an appropriate referral is 4 (appropriate referral if the VAS>4). At the end of the training program, a satisfaction survey was issued to the nurses to measure the quality of the training received.

2.4. Phases of the Study

2.4.1. PHASE 1°: Training

In the first phase, the DH1 nursing staff participating in the study were randomly divided into two groups, one that would be trained and the other that would not be trained. Group F was made up of nurses "trained" in communication and relational skills needed to properly detect the emotional distress in cancer patients. Group NF was made up of "untrained" nurses, those who did not receive the training. The training for group F was conducted by two qualified psycho-oncologists, who followed a theoretical and experiential methodology: the course was made up of two parts, a theoretical part lasting 3 hours and an experiential part consisting of 3 training sessions lasting 2 hours each. The theoretical part included an oral presentation where the trainers shared up-to-date scientific data related to the study itself. To allow for active participation and communication, the information was sent to the participants 5 days in advance of the training session. The experiential part included group discussions on clinical cases, role-playing, and gathering of feedback from the participants. The course was held over an entire month, on days scheduled in advance by the DH1 nursing coordinator and shared in advance with the nursing staff to ensure both the participation in the training event by those who had been selected and also to guarantee the continuity of patient care. Nurses from both groups were informed about the location of the meeting with the patients and the dates planned for the data collection. They were also taught how to assess the adequacy of the patient's score on the Distress Thermometer (DT) and Trouble List (PL).

2.4.2. 2°. PHASE: Enrollment/Patient Management

In the second phase of the study, the nurses involved enrolled the patients who met the inclusion criteria, explaining both the objectives of the survey and how the data would be collected. The patients were asked to carefully read the informed consent form to ensure that they had all the information needed when deciding if to participate in the study or not. The patients were also randomly divided into two groups (group A and Group B), the randomized list was generated electronically and with a ratio of 1:1. Group A was made up of patients who were given the questionnaires by the trained nurses; Group B was made up of patients who were given the questionnaires by untrained nurses. Indicative days were identified for the enrollment of patients, ensuring the presence on the shift of both the trained and non-trained nurses so that they could

 doi:10.20944/preprints202411.0905.v1

properly explain the objectives of the study and facilitate the meeting with the nurse in the dedicated room in DH1. As previously pointed out, the patients were not told if the nurse they would be dealing with had been trained or not to avoid that this information could influence them during the interview. Patients were given the DT and the socio-demographic and clinical data collection form, which they were asked to fill out in a dedicated quiet room of the DH1, far from any disturbing elements. Once the questionnaires had been filled in, the tools were collected by the nurse, who then studied the DT questionnaire and had a brief meeting with the patient (in the dedicated room) to evaluate the congruity of the score given by the patient and then based on their interpretation of the results they labeled the questionnaire with either "AP" (appropriate) or "NAP" (not appropriate), to differentiate between those patients that according to them needed to be sent to Psychology for a consult or not.

2.4.3. 3°. PHASE: Interview with the Psycho-Oncologist

In the last phase of the study, all patients, regardless of the nurse's assessment, were interviewed by the psycho-oncologist. The interview was scheduled based on the availability of both the patient and the psycho-oncologist. The psycho-oncologist used a VAS scale (from 1 to 10) to determine if the referral made by the nurse was appropriate or not. The psycho-oncologists were also kept in the dark on whether the nurse referring the patient had been trained or not. Before the questionnaires were administered, each nurse and patient participating in the study was assigned an identification code to allow the researchers to trace the data collection/analysis back to the relevant group.

2.5. Statistical Analysis

According to the study design methodology, descriptive statistics were used to summarize relevant information about the study and presented as mean and relative standard deviation (SD) for continuous variables and as frequencies and percentage values for categorical variables. Concordance between psycho-oncologist and nurse choice regarding the referral of patients for a psychological consult was evaluated by using Cohen's K Statistic (K). A p-value <0.05 was considered statistically significant. Statistical analyses were performed with SPSS 29.0 software (SPSS, Chicago, IL).

3. Results

Twenty (20) patients were recruited, ten (10) of whom were randomly assigned to the group of trained nurses and ten (10) to the group of untrained nurses. Four (4) nursing units were involved, two (2) for each group, to limit the variability in the evaluation. The sample of patients consisted predominantly of men (60%), married (50%), with a medium-high level of education (55%) who work as employees (35%) (Table 1).

Table 1. Clinical and Socio-demographic data.

	N	%
Sesso		
M	12	60
F	8	40
Education		
Middle school	2	10
High school	11	55
Degree	6	30
Missing	1	5
Marital status		
Single	3	15

 doi:10.20944/preprints202411.0905.v1

Married	10	50
Divorced	5	25
Widow/widower	1	5
Missing	1	5
Employment		
Employee	7	35
Unemployed	3	15
Retired	4	20
Self Employed	2	10
Merchant	1	5
Blu collar	1	5
other	2	10
Lives alone		
Yes	3	15
No	17	85
Location of the tumor		
Ovary	4	20
Urogenital	3	15
Breast	2	10
Melanoma	2	10
Testicole	2	10
Other	7	35
Surgery		
Yes	14	70
No	6	30
Chemotherapy		
Yes	12	60
No	8	40
Radiotherapy		
Yes	2	10
No	18	90

The patients had different oncological pathologies and underwent both surgical treatments (70%) as well as chemotherapy (60%) (Table 1). The patients had an average score of 5 on the DT and emotional problems mainly related to fear and concern (55%), nervousness (50%), and sadness (40%), and the physical problems were main issues of fatigue (75%), memory (40%), tingling hands and feet and low self-esteem (35%) (Table 2).

 doi:10.20944/preprints202411.0905.v1

Table 2. Distress Questionnaire.

Scale of distress (median (min-max))	5 (0-7)	
	YES (N)	(%)
Practical Problems		
Child care	0	-
Housing	0	-
Economical	4	20
School/Work	3	15
Transportation	4	20
Relationship Problems		
Relationship with Partner	0	-
Relationship with Children	0	-
Relationship with others	0	-
Emotional Problems		
Depression	0	-
Fears	11	55
Nervousness	10	50
Sadness	8	40
Worries	11	55
Loss of desire for daily routine	1	5
Spiritual Problems		
Faith	2	10
Physical Problems		
Sleep	6	30
Pain	2	10
Washing/Dressing	4	20
Nausea	4	20
Fatigue	15	75
Problems moving around	3	15
Breathing Problems	3	15
Mouth Ulcers	2	10
Eating disorders	2	10
Problems Digesting	2	10
Constipation	4	20
Urination Disorder	2	10
Fever	0	-
Dry Skin	6	30
Stuffy nose/dryness	4	20
Tingling hands/feet	7	35

 doi:10.20944/preprints202411.0905.v1

Swelling	6	30
Sexual problems	2	10
Diarrhea	2	10
Memory issues	8	40
Self esteem	7	35

The rough correlation between psycho-oncologist and nurse in identifying patients in need of a psychological consult shows that for 12 out of 20 patients examined (60%), the two professionals equally understood their real needs, indicating for 9 of them the need for a referral and three no referral. Despite this, Cohen's K statistic shows a poor overall correlation (Table 3, K=0.12, p=0.539).

Table 3. *Overall*.

		Interview with the psychologist		TOT
		Non suitable	Suitable	
Nurse	**No Interview**	3 (42.9%)	4 (30.8%)	7 (35.0%)
	Yes Interview	4 (57.1%)	9 (69.2%)	13 (65.0%)
TOT		7 (100.0%)	13 (100.0%)	20 (100.0%)

We evaluated the correlation by overlaying the training status of the nurses. For trained nurses, we observed that for seven patients out of 10 (70%), the two professionals identified their real needs in the same way; however, the correlation was only slight, with a K value equal to 0.35 (p= 0.260) (Table 4).

Table 4. Trained Nurse.

		Interview with the psychologist		TOT
		Non suitable	Suitable	
TRAINED Nurse	**No interview**	2 (66.7%)	2 (28.6%)	4 (40.0%)
	Yes interview	1 (33.3%)	5 (71.4%)	6 (60.0%)
TOT		3 (100.0%)	7 (100.0%)	10 (100.0%)

Finally, with regards to the group of untrained nurses, only five patients (50%) of the two professionals agreed on their need for a psychology consult: in fact, the correlation assessed with K was even lower than would have been expected for the case at hand, with a value of -0.09 (p= 0,778) (Table 5)

Table 5. NON trained nurse.

		Interview with the psychologist		TOT
		Non suitable	Suitable	
NON TRAINED	**No interview**	1 (25.0%)	2 (33.3%)	3 (30.0%)
Nurse	**Yes interview**	3 (75.0%)	4 (66.7%)	7 (70.0%)
TOT		4 (100.0%)	6 (100.0%)	10 (100.0%)

In general, although the K statistic was never statistically significant and showed a weak overall correlation, our findings seemed to indicate that the introduction of a training course for nurses generated a greater awareness of the needs of patients, optimizing the support service of the psycho-oncologist given that they would only be sent those who were really in need of a consult.

 doi:10.20944/preprints202411.0905.v1

The nurses participating in the training expressed a high level of satisfaction (Table 6).

Table 6. Mean satisfaction results for event.

	Nurses
Day one	5/5
Day two	5/5
Day three	5/5

4. Discussion

The objective of the study was to assess the impact of the training of nursing staff in the detection of distress and the appropriateness of the patient's referral for a Psycho-oncology consult. The Nurse has an important role in the patient's care, as they are constantly in contact with them at all stages of their journey, and therefore, they are more accessible to patients than other healthcare professionals. The nurse plays a central role in the humanization of care. Through specialized training, the nurse can help detect psychological distress and psycho-social needs of patients on time [22]. Nurses, however, often experience discomfort in treating psycho-social issues because they do not know how to deal with these topics with patients [23]. Previous studies have shown that specific and ongoing training of health workers improves the rate of success of the screening [9,24-27]. The results of our pilot study suggest that specialized training ensures appropriate referral of patients for Psycho-oncological consults. A greater success rate in referring patients for consults by trained nurses versus untrained nurses confirms the effectiveness of training in improving the skills and awareness of health workers. Early and appropriate detection of Distress can reduce the level of anxiety in cancer patients as well as the overall cost of health care [28,29]; it can also improve adherence to chemotherapy treatment [30], hormone therapy [31], quality of life [32] , and survival time [33]. Targeted training becomes the key element in acquiring the skills necessary for the screening of Distress and to enable nurses to know what to look for to refer patients for a Psycho-oncology consult when appropriate. The results of our study also showed that the participating nurses expressed a high level of satisfaction with the training program itself. This can be attributed to the fact that the content of the training met the needs of the nurses, both from a cognitive and clinical perspective, by dealing with common problems related to psychological distress in cancer patients. In addition, the experiential part of the course, which included group discussions and role-playing, [34] allowed participants to share their experiences and elaborate their emotions with the support of experienced psycho-oncologists [35-37]. Patients involved in our study showed an average level of psychological distress of (5), reflecting similar results to those of recent literature [38]. A significant percentage of the sample showed emotional as well as physical problems, emphasizing the influence that psycho-social issues can have on cancer treatment. The ability of nurses to make appropriate referrals could increase the number of patients referred on time for a psycho-oncological consult. The psycho-social problems of patients must be recognized and managed as early on in treatment as possible, and with the right referrals on behalf of the nurses, this is possible. The DT can help nurses with this task, but the implementation of the tool alone is not enough, it is essential to properly train health professionals, as demonstrated also by our findings and by other existing studies [26,39,40]. These findings suggest that training on the psychological aspects of cancer patients can significantly improve the care they receive. However, further studies are needed to assess the long-term effectiveness of the training. Future research, besides studying the effects of the screening for detecting distress, should also study the desire of patients to be sent for the consult and the use of the treatment versus those that do not follow it. Qualitative studies could deepen the understanding as to why some patients do not accept the referral for a psycho-oncological consult.

Limitations of the Study

The pilot study has some limitations. The monocentricity and the small size of the sample make the results non-generalizable. Moreover, the absence of a control group reduces the ability to attribute

 doi:10.20944/preprints202411.0905.v1

results solely to the training received. In order to measure the effectiveness of implementing the training, a randomized and controlled trial could provide greater methodology robustness.

5. Conclusions

The results of this pilot study highlight the importance of investing in psycho-oncology training courses for nurses to ensure advanced competence. Such training not only improves nurses' professional skills but also helps reduce discrepancies in patient assessments and referrals to psycho-oncology consultations. The implementation of this training model would favor an overall improvement in the psychological well-being of patients and optimize the effectiveness of cancer treatment, thus ensuring greater help for the patient.

Author Contributions: Conceptualization, Laura Iacorossi, Chiara Falcicchio, Anita Caruso and Maria Perrone; Data curation, Laura Iacorossi, Francesca Gambalunga, Emanuela Taraborelli, Gabriella Maggi and Fabrizio Petrone; Formal analysis, Laura Iacorossi, Francesca Gambalunga and Irene Terrenato; Methodology, Laura Iacorossi, Francesca Gambalunga and Irene Terrenato; Supervision, Laura Iacorossi, Chiara Falcicchio, Anita Caruso and Maria Perrone; Writing – original draft, Laura Iacorossi and Chiara Falcicchio; Writing – review & editing, Anita Caruso and Maria Perrone.

Funding: This work was financially supported through funding from the institutional "Ricerca Corrente 2024" granted by the Italian Ministry of Health. The funders had no role in considering the study design or in the collection, analysis, interpretation of data, writing of the report, or decision to submit the article for publication.

Institutional Review Board Statement: The study was conducted by the Declaration of Helsinki. Before the study started, it was approved by the local Ethics Committee (Protocol n.ro1768/22 of. 21/09/2022).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study. .

Data Availability Statement: The data are not publicly used to protect the privacy of the participants. They are available on request from the corresponding author (F.Gambalunga).

Acknowledgments: We thank all of the nursing staff of the DH for their participation in this study.

Conflicts of Interest: the authors declare no conflicts of interest.

References

1. Riba, M.B.; Donovan, K.A.; Andersen, B.; Braun, I.; Breitbart, W.S.; Brewer, B.W.; Buchmann, L.O.; Clark, M.M.; Collins, M.; Corbett, C. Distress management, version 3.2019, NCCN clinical practice guidelines in oncology. *Journal of the National Comprehensive Cancer Network* **2019**, *17*, 1229-1249.
2. Riba, M.B.; Donovan, K.A.; Ahmed, K.; Andersen, B.; Braun, I.; Breitbart, W.S.; Brewer, B.W.; Corbett, C.; Fann, J.; Fleishman, S. NCCN Guidelines® insights: distress management, version 2.2023: featured updates to the NCCN Guidelines. *Journal of the National Comprehensive Cancer Network* **2023**, *21*, 450-457.
3. Zabora, J.R.; Blanchard, C.G.; Smith, E.D.; Roberts, C.S.; Glajchcn, M.; Sharp, J.W.; Locher, J.W.; Can, E.W.; Best-Castner, S.; Smith, P.M. Prevalence of psychological distress among cancer patients across the disease continuum. *Journal of psychosocial oncology* **1997**, *15*, 73-87.
4. Miovic, M.; Block, S. Psychiatric disorders in advanced cancer. *Cancer* **2007**, *110*, 1665-1676.
5. Skarstein, J.; Aass, N.; Fosså, S.D.; Skovlund, E.; Dahl, A.A. Anxiety and depression in cancer patients: relation between the Hospital Anxiety and Depression Scale and the European Organization for Research and Treatment of Cancer Core Quality of Life Questionnaire. *Journal of psychosomatic research* **2000**, *49*, 27-34.
6. DiMatteo, M.R.; Lepper, H.S.; Croghan, T.W. Depression is a risk factor for noncompliance with medical treatment: meta-analysis of the effects of anxiety and depression on patient adherence. *Archives of internal medicine* **2000**, *160*, 2101-2107.
7. Prieto, J.M.; Blanch, J.; Atala, J.; Carreras, E.; Rovira, M.; Cirera, E.; Gastó, C. Psychiatric morbidity and impact on hospital length of stay among hematologic cancer patients receiving stem-cell transplantation. *Journal of Clinical Oncology* **2002**, *20*, 1907-1917.

8. Mitchell, A.J. Short screening tools for cancer-related distress: a review and diagnostic validity meta-analysis. *Journal of the National Comprehensive Cancer Network* **2010**, *8*, 487-494.
9. Mitchell, A.J. Screening for cancer-related distress: when is implementation successful and when is it unsuccessful? *Acta Oncologica* **2013**, *52*, 216-224.
10. Passik, S.D.; Dugan, W.; McDonald, M.V.; Rosenfeld, B.; Theobald, D.E.; Edgerton, S. Oncologists' recognition of depression in their patients with cancer. *Journal of clinical oncology* **1998**, *16*, 1594-1600.
11. Söllner, W.; DeVries, A.; Steixner, E.; Lukas, P.; Sprinzl, G.; Rumpold, G.; Maislinger, S. How successful are oncologists in identifying patient distress, perceived social support, and need for psychosocial counselling? *British journal of cancer* **2001**, *84*, 179-185.
12. Musiello, T.; Dixon, G.; O'Connor, M.; Cook, D.; Miller, L.; Petterson, A.; Saunders, C.; Joske, D.; Johnson, C. A pilot study of routine screening for distress by a nurse and psychologist in an outpatient haematological oncology clinic. *Applied Nursing Research* **2017**, *33*, 15-18.
13. van der Meulen, I.C. A distress thermometer intervention for patients with head and neck cancer. *Number 1/January 2018* **2018**, *45*, E14-E32.
14. Carlson, L.E.; Waller, A.; Mitchell, A.J. Screening for distress and unmet needs in patients with cancer: review and recommendations. *Journal of Clinical Oncology* **2012**, *30*, 1160-1177.
15. Ploos van Amstel, F.K.; Peters, M.E.; Donders, R.; Schlooz‐Vries, M.S.; Polman, L.J.; van der Graaf, W.T.; Prins, J.B.; Ottevanger, P.B. Does a regular nurse‐led distress screening and discussion improve quality of life of breast cancer patients treated with curative intent? A randomized controlled trial. *Psycho‐Oncology* **2020**, *29*, 719-728.
16. Rohan, E.A.; Boehm, J.E.; Samarasinha, R.; Stachon, K.; Gallaway, M.S.; Huang, G.; Ng, D.; Manian, N. Diving deeper into distress screening implementation in oncology care. *Journal of psychosocial oncology* **2023**, *41*, 645-660.
17. Simnacher, F.; Götz, A.; Kling, S.; Schulze, J.B.; von Känel, R.; Euler, S.; Günther, M.P. A short screening tool identifying systemic barriers to distress screening in cancer care. *Cancer Medicine* **2023**, *12*, 17313-17321.
18. Rivest, J.; Jodoin, V.D.; Fitch, M.; Martineau, J.T.; Levenson, J.A. Screening for distress in cancer care: How to overcome barriers after unsuccessful implementation? *Palliative & Supportive Care* **2022**, *20*, 1-3.
19. Jacobsen, P.B.; Donovan, K.A.; Trask, P.C.; Fleishman, S.B.; Zabora, J.; Baker, F.; Holland, J.C. Screening for psychologic distress in ambulatory cancer patients: a multicenter evaluation of the distress thermometer. *Cancer* **2005**, *103*, 1494-1502.
20. Roth, A.J.; Kornblith, A.B.; Batel‐Copel, L.; Peabody, E.; Scher, H.I.; Holland, J.C. Rapid screening for psychologic distress in men with prostate carcinoma: a pilot study. *Cancer: Interdisciplinary International Journal of the American Cancer Society* **1998**, *82*, 1904-1908.
21. Boyes, A.; D'Este, C.; Carey, M.; Lecathelinais, C.; Girgis, A. How does the Distress Thermometer compare to the Hospital Anxiety and Depression Scale for detecting possible cases of psychological morbidity among cancer survivors? *Supportive Care in Cancer* **2013**, *21*, 119-127.
22. Bidstrup, P.E.; Johansen, C.; Kroman, N.; Belmonte, F.; Duriaud, H.; Dalton, S.O.; Andersen, K.G.; Mertz, B. Effect of a nurse navigation intervention on mental symptoms in patients with psychological vulnerability and breast cancer: the REBECCA randomized clinical trial. *JAMA network open* **2023**, *6*, e2319591-e2319591.
23. Götz, A.; Kröner, A.; Staudacher, D.; Spirig, R. Einführung des Belastungsthermometers auf einer onkologischen Station. *Pflege* **2017**, *30*, 289-297.
24. Hammelef, K.J.; Friese, C.R.; Breslin, T.M.; Riba, M.; Schneider, S.M. Implementing Distress Management Guidelines in Ambulatory Oncology. *Clinical Journal of Oncology Nursing* **2014**, *18*.

25. Lazenby, M.; Ercolano, E.; Grant, M.; Holland, J.C.; Jacobsen, P.B.; McCorkle, R. Supporting commission on cancer–mandated psychosocial distress screening with implementation strategies. *Journal of oncology practice* **2015**, *11*, e413-e420.
26. Smith, S.K.; Loscalzo, M.; Mayer, C.; Rosenstein, D.L. Best practices in oncology distress management: beyond the screen. *American Society of Clinical Oncology Educational Book* **2018**, *38*, 813-821.
27. Cutillo, A.; O'Hea, E.; Person, S.; Lessard, D.; Harralson, T.; Boudreaux, E. NCCN distress thermometer: cut off points and clinical utility. In Proceedings of the Oncology nursing forum, 2017; p. 329.
28. Stafford, L.; Judd, F.; Gibson, P.; Komiti, A.; Mann, G.B.; Quinn, M. Anxiety and depression symptoms in the 2 years following diagnosis of breast or gynaecologic cancer: prevalence, course and determinants of outcome. *Supportive Care in Cancer* **2015**, *23*, 2215-2224.
29. Donovan, K.A.; Grassi, L.; Deshields, T.L.; Corbett, C.; Riba, M.B. Advancing the science of distress screening and management in cancer care. *Epidemiology and psychiatric sciences* **2020**, *29*, e85.
30. Greer, J.A.; Pirl, W.F.; Park, E.R.; Lynch, T.J.; Temel, J.S. Behavioral and psychological predictors of chemotherapy adherence in patients with advanced non-small cell lung cancer. *Journal of psychosomatic research* **2008**, *65*, 549-552.
31. Iacorossi, L.; Gambalunga, F.; Fabi, A.; Giannarelli, D.; Facchinetti, G.; Piredda, M.; De Marinis, M.G. Adherence to hormone therapy in women with breast cancer: a quantitative study. *Professioni infermieristiche* **2016**, *69*.
32. Kadan‐Lottick, N.S.; Vanderwerker, L.C.; Block, S.D.; Zhang, B.; Prigerson, H.G. Psychiatric disorders and mental health service use in patients with advanced cancer: a report from the coping with cancer study. *Cancer: Interdisciplinary International Journal of the American Cancer Society* **2005**, *104*, 2872-2881.
33. Hinkle, J.L.; Cheever, K.H. Infermieristica medico-chirurgica. *Milano, Italy: Casa Editrice Ambrosiana* **2017**.
34. Kissane, D.W.; Bylund, C.L.; Banerjee, S.C.; Bialer, P.A.; Levin, T.T.; Maloney, E.K.; D'Agostino, T.A. Communication skills training for oncology professionals. *Journal of Clinical Oncology* **2012**, *30*, 1242-1247.
35. Lopez, G.; Eddy, C.; Liu, W.; Li, Y.; Chen, M.; Bruera, E.; Cohen, L. Physical therapist–led exercise assessment and counseling in integrative cancer care: effects on patient self-reported symptoms and quality of life. *Integrative cancer therapies* **2019**, *18*, 1534735419832360.
36. Fielding, R.; Lam, W. Unresolved problems with distress screening. *British journal of cancer* **2013**, *108*, 1922-1923.
37. Zebrack, B.; Kayser, K.; Bybee, D.; Padgett, L.; Sundstrom, L.; Jobin, C.; Oktay, J. A practice-based evaluation of distress screening protocol adherence and medical service utilization. *Journal of the National Comprehensive Cancer Network* **2017**, *15*, 903-912.
38. Bultz, B.D.; Waller, A.; Cullum, J.; Jones, P.; Halland, J.; Groff, S.L.; Leckie, C.; Shirt, L.; Blanchard, S.; Lau, H. Implementing routine screening for distress, the sixth vital sign, for patients with head and neck and neurologic cancers. *Journal of the National Comprehensive Cancer Network* **2013**, *11*, 1249-1261.
39. Feldstain, A.; Tomei, C.; Bélanger, M.; Lebel, S. Screening for distress in patients with cancer: methodologic considerations. *Current Oncology* **2014**, *21*, 330-333.
40. Buxton, D.; Lazenby, M.; Daugherty, A.; Kennedy, V.; Wagner, L.; Fann, J.R.; Pirl, W.F. Distress screening for oncology patients: practical steps for developing and implementing a comprehensive distress screening program. *Oncology Issues* **2014**, *29*, 48-52.