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Factors associated with the decline of psychological support in hospitalized patients with cancer

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Abstract

Objective: Many distressed cancer patients do not want or, finally, do not use psychological support. This study aimed at identifying factors associated with the decline of psychological support during hospital stay.

Methods: This cross-sectional study included inpatients with different cancer diagnoses. Distress was assessed using the short form of the Questionnaire on Stress in Cancer Patients-Revised (QSC-R10) and the Distress Thermometer (DT). Multivariable logistic regression was used to identify factors associated with decline.

Results: Of 925 patients, 71.6% (n = 662) declined psychological support. Male sex (OR = 2.54, 95% CI = 1.69-3.80), low psychosocial distress (OR = 3.76, CI = 2.50-5.67), not feeling depressed (OR = 1.93, CI = 1.24-2.99), perceived overload (OR = 3.37, CI = 2.19-5.20), no previous psychological treatment (OR = 1.88, CI = 1.25-2.83), and feeling well informed about psychological support (OR = 1.66, CI = 1.11-2.46) were associated with decline. Among the patients who indicated clinical distress (46.2%), 53.9% declined psychological support. Male sex (OR = 2.96, CI = 1.71-5.12), not feeling depressed (OR = 1.87, CI = 1.12-3.14), perceived overload (OR = 5.37, CI = 3.07-9.37), agreeableness (OR = 0.70, CI = 0.51-0.95), and feeling well informed about psychological support (OR = 1.81, CI = 1.07-3.07) were uniquely associated with decline in this subgroup.

Conclusions: Decline of psychological support is primarily due to psychological factors. Feeling well informed about support emerged as a relevant factor associated with decline. Thus, design of informational material and education about available psychological services seem crucial.

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KEYWORDS

cancer, consultation-liaision, depression, distress, distress screening, hospitalized patients, inpatients, oncology, psychological support, psycho-oncology

1 | BACKGROUND

A persistent issue in psycho-oncological care of patients with cancer is how to define indication for psychological support. This can be accomplished by expert ratings[1] or by patient self-report on distress or perceived need.[2,3] Typically, expert rating of distress, patient-reported level of psychosocial distress, and patient-reported perceived need correlate only weakly.[3,4] The German Clinical Practice Guideline for Psycho-Oncology,[5] thus, recommends to screen for psychosocial distress and to assess the subjective desire for psychological support.

Research shows that up to 52% of cancer patients indicate clinical levels of psychosocial distress.[6,7] Moreover, about one-third suffers from a mental disorder.[8,9] However, when psychological support is offered, more than half of the distressed cancer patients do not want or, finally, do not use psychological support.[10,11,13] These results suggest that the mere presence of elevated psychosocial distress does not drive patients to access psychological support. In addition, the subjective evaluation concerning the need and adequacy of psychological support has to be taken into account.[3]

Studies on the subjective perspective of psychological support use have applied various concepts like subjective need, desire, or intent to use support. Female sex, younger age, and higher education were found to be associated with more needs, whereas living with a partner and being married were associated with fewer needs.[14] Merckaert et al[15] found an association between increased desire for support and younger age and female sex. Baker-Glenn et al[10] reported associations with distress, anxiety, and depression. Furthermore, they identified subjective reasons for not using psychological support: "receiving informal help elsewhere" and a "preference to manage on one's own" were the most common reasons for declining professional support among distressed patients. Studies examining the future intent to use psycho-oncological services suggest that subjective norms and outcome expectations and attitudes towards help seeking[16] and mental health literacy represent relevant factors.[17]

Past research on the acceptance and decline of psychological support is characterized by the inclusion of different services, heterogeneity of samples, and variability of settings. Furthermore, large-scale studies that investigate a wide range of variables possibly associated with desire for psychological support are currently lacking.

Therefore, we investigated sociodemographic, clinical, and psychological factors and their association with the decline of psychological support in hospitalized patients with cancer.

2 | METHODS

A cross-sectional study was conducted in the two university hospitals of the Comprehensive Cancer Center Munich (CCC Munich), Germany. Local ethic committees approved the study (file numbers: 238/16S; 402-16). Participating departments at both hospitals were the departments for gynecology, urology, and radiation oncology.

2.1 | Participants and setting

Eligible participants were adult (greater than or equal to 18 years) German-speaking inpatients with a verified diagnosis of a malignant tumor. Exclusion criteria were physical, mental, or verbal impairments (clinical assessment by the treating physician) that interfered with the ability to give informed consent and to fill out the self-report questionnaire.

The study took place in the context of routine clinical care. In Germany, it is mandatory for a certified cancer center to provide a psycho-oncology service. In both university hospitals of the CCC Munich, patients are referred to the psycho-oncological service either by exceeding the cut-off for clinical distress on the distress screening measure or by ticking the box indicating a subjective need (regardless of the score on the distress screening). In addition, the treating physician refers the patient to the psycho-oncological service if she notices a need for clinical assessment or supportive care (regardless of the distress screening).

2.2 | Study procedure

An algorithm within the patient data base was implemented to identify all inpatients with a verified tumor diagnosis in the recruiting

departments. A list was provided daily in order to document new admissions. Undergraduate students contacted the treating oncologists to exclude any contraindication for participation. Eligible patients were informed about the study. Those who agreed to participate signed an informed consent sheet. The questionnaire set was handed out to the patient for completion; sets were returned during hospital stay. The data collection took place between 01.08.2016 and 01.10.2017.

2.3 | Measures

2.3.1 | Sociodemographic characteristics and clinical data

The following sociodemographic characteristics were assessed: age, sex, marital status, children, education, and work situation. Clinical data were assessed by patients' self-report and comprised tumor entity, date of initial diagnosis, disease status, metastases, and current treatment. Furthermore, patients rated their current physical condition using a visual analogue scale (1 = "excellent" to 10 = "very poor").

2.3.2 | Psychosocial distress

Psychosocial distress was assessed with two self-reporting questionnaires that are implemented as routine screening measures in the two hospitals of the CCCM: the Questionnaire on Stress in Cancer Patients-Revised (QSC-R10)[18] that is routinely used in one of the two university hospitals and the Distress Thermometer (DT)[19] that is used in the other one.

The QSC-R10 consists of 10 items. Patients answer whether or not each problem applies to them and—if it does—how distressed they feel (0 = "the problem does not apply to me", 5 = "the problem does apply and causes severe distress"). A cutoff $\geq$ 15 indicates clinical distress (Cronbach's alpha in the current sample: α = .87).

The DT assesses distress using a visual analogue scale from 0 ("no distress") to 10 ("extreme distress"). A cutoff $\geq$ 6 indicates clinically significant distress, based on previous research.[3,20]

2.3.3 | Psychological characteristics

Attitudes towards psychological support

Attitudes towards psychological support were assessed with statements pertaining to perceived overload, outcome expectations, and stigmatization.

Perceived overload:	(a) An additional appointment with a psychologist/psycho-oncologist would be too demanding, as I am very busy undergoing medical treatments. (b) My physical condition is currently too poor for an appointment with a psychologist/psycho-oncologist.
Outcome expectations:	(a) I can well imagine that talking to a psychologist/psycho-oncologist might help me in coping with my cancer. (b) I am afraid that I could feel worse after a conversation with a psychologist/psycho-oncologist.
Stigmatization:	(a) I am concerned about social disadvantage in my private sphere when talking to a psychologist/psycho-oncologist. (b) I am concerned about being considered mentally ill if I talk to a psychologist/psycho-oncologist.

Participants indicated on a 5-point Likert scale to what extend they agree (1 = "totally disagree" to 5 = "totally agree"). The responses were categorized as "agree" (4, 5) and "disagree" (1, 2, 3).

Depressive symptoms

The ultrashort version of the Patient Health Questionnaire (PHQ-2),[21,22] which consists of two items assessing depressive symptoms over the past 2 weeks was used. The items are scored from 0 ("not at all") to 3 ("nearly every day"). Cronbach's alpha in the current sample was α = .73. A sum score $\geq$ 3 indicates clinical depression. For use in the logistic regression, we classified patients as below or above the cutoff.

Self-efficacy

The short form of the German version of the General Self-Efficacy Scale (ASKU)[23] consists of three items, which are rated on a 5-point scale from 1 ("does not apply at all") to 5 ("applies completely"). A higher mean score indicates higher self-efficacy (Cronbach's alpha in the current sample: α = .89).

Personality

According to the Five-Factor Model of Personality, personality traits were measured using the short form of the Big Five Inventory (BFI-10).[24] The questionnaire consists of 10 items that measure extraversion, agreeableness, conscientiousness, neuroticism, and openness.[24] Higher scores suggest stronger manifestations of each of the personality traits.

Social support

Social support was assessed with one item asking for the presence of a confidant relationship (response options were "yes" and "no").

Information about psychological support and previous use of psychological treatments

Information about psychological support was assessed with the item "Do you feel well informed about the psychological support offered in this hospital?" Response options were "yes" and "no." We further asked patients about previous uptake of psychological treatments ("Have you ever been in psychological treatment?"). Here, response options were "yes, due to my cancer." "Yes, because of other problems" and "no." The answers were categorized in "yes" and "no."

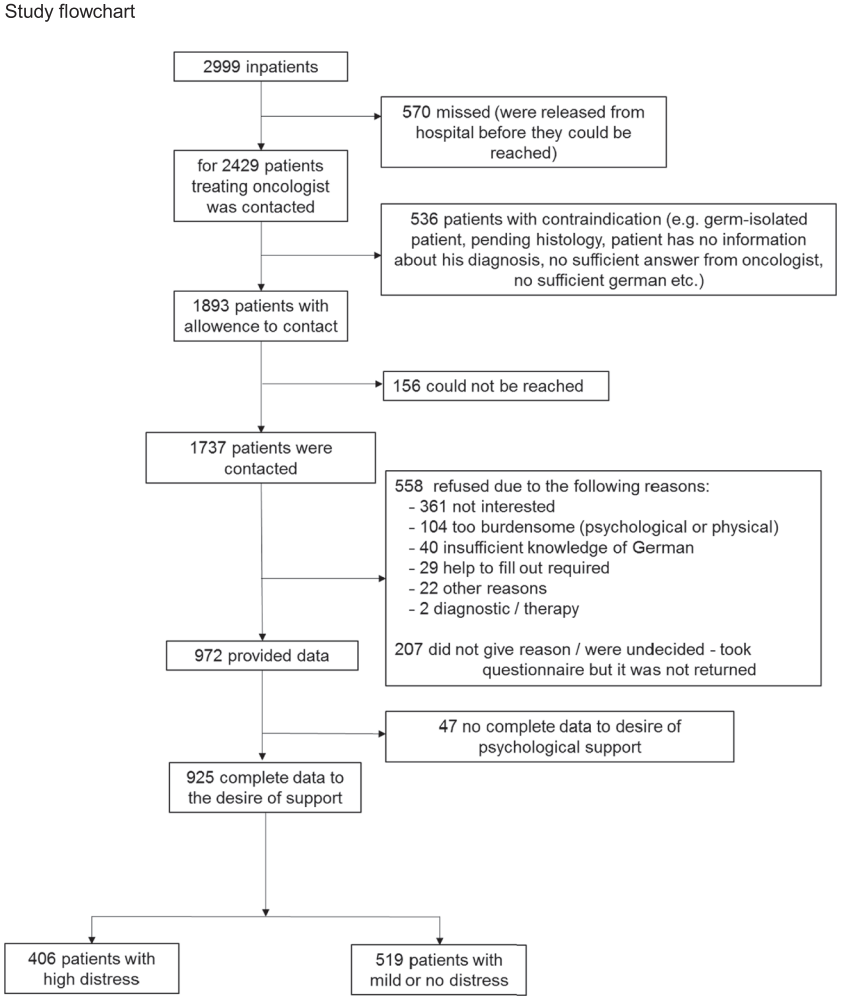

FIGURE 1 Study flowchart

TABLE 1 Sociodemographic, clinical and psychological variables of the study participants (N = 925), subgroups of patients who expressed a desire for support (non-decliners) or declined support (decliners)

	Total Sample		Non-decliners		Decliners		
Sociodemographic variables	***M***	***SD***	***Mean***	***SD***	***Mean***	***SD***	***P***
Age (n = 923)	62.1	11.9	59.6	12.3	63.0	11.6	<.001
	n	**%**	**n**	**%**	**n**	**%**	***P***
	925	100	263	28.4	662	71.6	
Sex (n = 925)							
Female	446	48.2	172	38.6	274	61.4	
Male	479	51.8	91	19.0	388	81.0	<.001
Age group (n = 923)							
≤50	155	16.8	61	39.4	94	60.6	
51 to 65	381	41.3	107	28.1	274	71.9	
66 to 75	275	29.8	73	26.5	202	73.5	
76 and older	112	12.1	21	18.8	91	81.3	.002
Marital status (n = 923)							
Single	105	11.4	28	26.7	77	73.3	
Married/living with partner	642	69.6	168	26.2	474	73.8	

(Continues)

TABLE 1 (Continued)

	Total Sample		Non-decliners		Decliners		
Sociodemographic variables	*M*	*SD*	*Mean*	*SD*	*Mean*	*SD*	*P*
Divorced/separated	103	11.2	39	37.9	64	62.1	
Widowed	73	7.9	26	35.6	47	64.4	.043
Education level (n = 915)							
None/elementary school	230	25.2	64	27.8	166	72.2	
Junior high	249	27.2	72	28.9	177	71.1	
High school	117	12.8	29	24.8	88	75.2	
Graduated	294	32.1	84	28.6	210	71.4	
Other	25	2.7	11	44.0	14	56.0	.431
Work situation (n = 923)							
Employed	385	41.7	115	29.9	270	70.1	
Unemployed	30	3.3	10	33.3	20	66.7	
Retired	445	48.2	113	25.4	332	74.6	
Homemaker	45	4.9	17	37.8	28	62.2	
Other	18	1.9	6	33.3	12	66.7	.296
Clinical variables	**n**	**%**	**n**	**%**	**n**	**%**	***P***
Disease condition (n = 899)							
First occurrence	657	73.1	187	28.5	470	71.5	
Recurrence	127	14.1	41	32.3	86	67.7	
Second tumor	87	9.7	25	28.7	62	71.3	
Unknown[a]	28	3.1	6	21.4	22	78.6	.675
Entities (n = 919)							
Brain	34	3.7	11	32.4	23	67.6	
Head and neck	62	6.7	19	30.6	43	69.4	
Gastrointestinal	30	3.3	10	33.3	20	66.7	
Breast	162	17.6	50	30.9	112	69.1	
Female reproductive organs	89	9.7	39	43.8	50	56.2	
Kidney/urinary passages/bladder	109	11.9	24	22.0	85	78.0	
Prostata	242	26.3	37	15.3	205	84.7	
Testicles	7	0.8	1	14.3	6	85.7	
Bone/soft tissue	17	1.8	8	47.1	9	52.9	
Lung	37	4.0	13	35.1	24	64.9	
Others	46	5.0	18	39.1	28	60.9	
Multiple entities	84	9.1	33	39.3	51	60.7	<.001
Metastases (n = 901)							
Yes	254	28.2	88	34.6	166	65.4	
No	471	52.3	115	24.4	356	75.6	
Unknown[a]	176	19.5	57	32.4	119	67.6	.008
Illness duration (n = 902)							
Up to 3 mo	463	51.3	132	28.5	331	71.5	
4 to 12 mo	155	17.2	50	32.3	105	67.7	
More than 1 y to 5 y	141	15.6	34	24.1	107	75.9	
More than 5 y	143	15.9	44	30.8	99	69.2	.440

(Continues)

TABLE 1 (Continued)

	Total Sample		Non-decliners		Decliners		
Sociodemographic variables	*M*	*SD*	*Mean*	*SD*	*Mean*	*SD*	*P*
Current treatment (agree)[b] (n = 921)							
Chemotherapy	218	23.7	80	36.7	138	63.3	.003
Radiotherapy	307	33.3	113	36.8	194	63.2	<.001
Surgery	585	63.5	147	25.1	438	74.9	.004
Hormonal therapy	66	7.2	21	31.8	45	68.2	.571
No therapy	48	5.2	14	29.2	34	70.8	.871
Other therapy	41	4.5	10	24.4	31	75.6	.723
	M	*SD*	*M*	*SD*	*M*	*SD*	*P*
Physical condition (n = 881)	4.55	2.00	5.43	1.92	4.21	1.95	<.001
Psychological variables	n %		n	%	n	%	*P*
Feeling well informed about psych. support (n = 886)							
Yes	610	68.8	162	26.6	448	73.4	
No	276	31.2	97	35.1	179	64.9	.011
Previous psychological treatment (n = 920)							
Yes	246	26.7	118	48.0	128	52.0	
No	674	73.3	141	20.9	533	79.1	<.001
Distressed (n = 879)							
Yes	406	46.2	187	46.1	219	53.9	
No	473	53.8	64	13.5	409	86.5	<.001
Social support available (agree) (n = 920)							
From family/friends	853	92.7	237	27.8	616	72.2	.067
From others	498	54.1	148	29.7	350	70.3	.421
Attitudes towards psychological support (agree)							
Perceived overload (n = 903)*	281	30.4	43	15.3	238	84.7	<.001
Physical condition too bad for a conversation with a psychologist (n = 903)	107	11.6	26	24.3	81	75.7	.575
Talking with a psychologist might help (n = 908)	371	40.1	219	59.0	152	41.0	<.001
Afraid that things might get worse after the conversation (n = 906)	75	8.1	23	30.7	52	69.3	.889
Fear of being disadvantaged when talking to a psychologist/psycho-oncologist (n = 902)	24	2.6	9	37.5	15	62.5	.304
Fear of stigmatization (n = 903)	40	4.3	17	42.5	23	57.5	.120
	M	*SD*	*M*	*SD*	*M*	*SD*	*P*
Depression (n = 886)	1.63	1.55	2.51	1.63	1.27	1.36	<.001
Self-efficacy (n = 910)	3.98	0.72	3.82	0.80	4.04	0.67	<.001
Personality							
Extraversion (n = 911)	3.41	1.02	3.32	1.07	3.45	1.00	.097
Neuroticism (n = 909)	2.78	0.92	3.13	0.93	2.64	0.88	<.001
Openness (n = 907)	3.61	0.98	3.56	1.01	3.63	0.97	.286
Conscientiousness (n = 907)	4.14	0.75	4.06	0.79	4.17	0.72	.048
Agreeableness (n = 909)	3.36	0.79	3.42	0.82	3.34	0.78	.143

Note: *P* values are based on chi-square test or exact Fisher's test in case of categorical data and independent samples *t* test in case of continuous data.

*"An additional appointment with a psychologist/psycho-oncologist would be too demanding, as I am very busy undergoing medical treatments."

Abbreviations: M, mean; *P*, *P* value; SD, standard deviation.

[a]Patients who did not know their status and answered that item with "I do not know."

[b]Multiple responses possible.

2.3.4 | Desire for psychological support

To determine the desire for psychological support, participants were asked "Do you want psychological support during your stay in hospital?" Response options were "yes" and "no."

2.4 | Statistical analysis

Mean values, standard deviation, and frequencies were reported for descriptive purposes. Between-group comparisons were performed using chi-square test or independent *t* test. We used multivariable binary logistic regression analyses to identify variables associated with a decline of psychological support. Two models were performed, one for the total sample and a second one for the subsample of distressed patients only. For the total sample, the following variables were added: sex, age, education, illness duration, disease state, metastases, distress, depressive symptoms, attitudes, self-efficacy, personality, information status, and previous use of psychological treatments. For the group of distressed patients, the same predictors, except distress, were included in the model. As the number of cases yield reduced power, we treated missing values within variables with a high number of missings as a separate category (education, illness duration, metastases, depression, attitudes, and information), based on previous research.[25] As the items assessing personal attitudes were newly developed, we refrained from computing a scale with unclear reliability and validity. Instead, for each dimension, we used the one item with the strongest face validity because of consensus rating. All statistical tests were two-tailed. Results $P < .05$ were regarded as statistically significant. SPSS/PC software package version 23 (SPSS, Chicago, IL) was used for the analyses.

3 | RESULTS

3.1 | Sample characteristics

Out of 1893 eligible cancer patients, 972 (51.3%) participated in the study, leading to a final sample of 925 (48.9%) patients with complete data regarding the desire for psychological support. Top reasons for declining study participation were "not interested" and "too much psychological or physical strain" (Figure 1); 40.2% (n = 372) of the participants were recruited from the departments of urology, 29.9% (n = 277) from the departments of gynecology, and 29.8% (n = 276) from the departments of radiation oncology. The mean age of the participants was 62.1 years (*SD* = 11.9; range = 18-93); 48.2% were women (Table 1)

3.2 | Distress and decline of psychological support

Of 925 inpatients, 28.4% (n = 263) expressed a desire for psychological support, and 71.6% (n = 662) declined psychological support during hospital stay. Of all patients, 46.2% (n = 406) experienced elevated psychosocial distress, and 53.9% (n = 219) of those patients declined psychological support. Among the patients who indicated low distress, 86.5% (n = 409) declined psychological support. Correlates of decline and desire for psychological support are shown in Table 1.

3.3 | Variables associated with decline: All patients (model 1)

Distress was the strongest predictor of decline of support, followed by perceived overload (Table 2, model 1). Men declined psychological support more than 2.5 times more often than women. Patients without depressive symptoms were nearly twice as likely to decline support as patients with depressive symptoms. Patients without previous uptake of psychological support declined more often than patients who had used psychological treatments. Patients who felt well informed about psychological support offers declined more frequently than patients who did not. The model for the total sample showed an explained variance of Nagelkerk's $R^2 = .367$.

3.4 | Variables associated with decline: Distressed patients (model 2)

In the group of highly distressed patients, perceived overload proved to be the strongest predictor of decline, followed by sex. Furthermore, feeling well informed and not feeling depressed also seemed to be associated with decline, although the overall test did not reach significance due to the category of missing responses (Table 2, model 2). Additionally, patients with low agreeableness were more prone to decline support. Explained variance of this model was Nagelkerk's $R^2 = .344$.

4 | CONCLUSIONS

Many patients with cancer decline professional psychological support. Screening for psychosocial distress and subsequent referral for psychological support has been regarded as a hallmark of timely patient-centered psychosocial care. Many efforts have been undertaken to implement distress screening and psychological support services in cancer centers.[26,27] However, research shows that there exists a complex interplay between distress, desire for, acceptance of, and uptake of psychological support. As the self-evaluation of the desire for support seems crucial,[3] we investigated variables associated with decline of psychological support offerings.

A total of 71.6% inpatients declined psychological support. In the group of highly distressed cancer patients, still 53.9% declined. It should be noted that we asked patients, "Do you want psychological support during your stay in hospital?" This narrow focus might have reduced the number of patients who agreed with the support offering, as some patients who declined might want psychological support after discharge from the hospital. Previous studies often did not specify a time frame. However, decline rates were similar across the different studies, with decline rates of 68% to 80% in unselected samples and 49% to 71% in patients with significant distress.[10-15] Thus, the decline rates of our study are quite compatible with the available evidence.

TABLE 2 Logistic regression predicting decline of psychological support for the whole sample (model 1, n = 855) and for distressed patients only (model 2, n = 391)

	Model 1			Model 2		
Factors	**OR**	**95% CI**	***P***	**OR**	**95% CI**	***P***
Sociodemographic variables						
Male sex	2.54	1.69-3.80	<.001	2.96	1.71-5.12	<.001
Age	1.00	0.99-1.02	.821	0.99	0.97-1.01	.492
Education			.570			.584
More than 10 y	Ref.					
Up to 10 y	0.94	0.63-1.40	.771	1.33	0.78-2.28	.301
Missing data	0.60	0.23-1.55	.289	1.12	0.26-4.72	.882
Clinical variables						
Illness duration			.730			.405
Up to 3 mo	Ref.					
More than 3 mo	1.18	0.77-1.82	.447	1.44	0.81-2.59	.217
Missing data	1.28	0.32-5.05	.726	2.36	0.21-26.64	.488
Metastases			.505			.902
Yes	Ref.					
No	1.28	0.83-1.96	.270	1.11	0.64-1.93	.720
Missing data	1.27	0.76-2.14	.367	1.15	0.59-2.26	.677
Disease state: other than first occurrence	1.31	0.82-2.10	.258	1.09	0.59-2.02	.781
Psychological variables						
Not distressed	3.76	2.50-5.67	<.001			n.a.
Depressive symptoms:			.010			.052
Yes	Ref.					
No	1.93	1.24-2.99	.003	1.87	1.12-3.14	.017
Missing data	2.47	0.75-8.11	.136	1.88	0.42-8.51	.411
Self-efficacy	1.17	0.87-1.56	.301	1.11	0.75-1.64	.599
Personality						
Extraversion	0.99	0.82-1.19	.894	0.90	0.70-1.15	.395
Neuroticism	0.82	0.66-1.03	.091	0.81	0.60-1.10	.178
Openness	0.92	0.76-1.12	.431	0.87	0.68-1.12	.274
Conscientiousness	1.15	0.88-1.50	.304	0.98	0.68-1.40	.899
Agreeableness	0.87	0.69-1.10	.250	0.70	0.51-0.95	.024
Attitudes towards psychology						
Perceived overload*			<.001			<.001
Disagree	Ref.					
Agree	3.37	2.19-5.20	<.001	5.37	3.07-9.37	<.001
Missing data	0.39	0.08-2.00	.260	0.41	0.03-5.71	.507
Being afraid of stigmatization			.333			.509
Disagree	Ref.					
Agree	0.50	0.20-1.25	.138	0.51	0.16-1.63	.254
Missing data	0.94	0.10-9.00	.954	0.72	0.05-11.29	.812
Being afraid that things might get worse after the conversation			.421			.599
Disagree	Ref.					
Agree	1.08	0.54-2.16	.836	0.91	0.40-2.04	.814

(Continues)

TABLE 2 (Continued)

Factors	Model 1			Model 2		
	OR	95% CI	*P*	OR	95% CI	*P*
Missing data	6.19	0.41-94.67	.190	4.68	0.21-106.35	.333
Feeling well informed about psych. support			.030			.090
No	Ref.					
Yes	1.66	1.11-2.46	.013	1.81	1.07-3.07	.028
Missing data	2.49	0.66-9.35	.176	1.41	0.04-46.20	.846
No previous psychological treatment	1.88	1.25-2.83	.002	1.53	0.90-2.60	.118

Note. Outcome variable: "Do you wish psychological support during your stay in hospital?" Response options were "yes" and "no."

*"An additional appointment with a psychologist/psycho-oncologist would be too demanding, as I am very busy undergoing medical treatments."

Abbreviations: CI, confidence intervals; OR, odds ratios; n.a., not applicable; *P*, *P* values.

Psychosocial distress showed the strongest association with the decline for psycho-oncological support, ie, low psychosocial distress was predictive of decline. This result is in line with the majority of studies[10,16,28,29]; contradictory results, however, have also been reported.[30] In addition, not feeling depressed was also uniquely associated with decline. This is comparable with previous research investigating desire or uptake rates for psychological support.[10,13,28] Thus, our results underscore the relevance of general as well as specific forms of emotional burden for the subjective evaluation of the necessity of psychological support.

The second most relevant factor was perceived overload, which has not been investigated in previous studies. Within the group of highly distressed patients, this was the strongest predictor. A possible explanation might be the average length of hospital stay, which is rather short for acute care. Moreover, this result may also be attributed to patients' lack of information about psycho-oncological treatment setting and consequently, ignorance of time required for psychological support. The exact time point when patients answer the questionnaire during their stay in hospital might also be relevant here. Unfortunately, this has not been assessed in this study. In this context, Brebach et al[31] demonstrated that patients more often use psychological support when it is offered prior to medical treatment as compared with later on.

Interestingly, patients who felt well informed about psychological support offers were more likely to decline than patients who did not feel well informed. This association emerged in the total sample, and there was a probable association in the group of highly distressed patients. Contrary, previous research found lack of information being a barrier for uptake of psycho-oncological service.[32] There are several possible explanations for the association in our study. The most apparent explanation is that the information about available psychological support during hospital stay, which was routinely offered to patients did not arouse their interest. It was not within the scope of our study to investigate which kind of information was provided or how it was provided. Frey Nascimento et al[33] found that additional information from a physician about psychological support did not play a role in uptake behavior whereas oncologists' recommendations for psycho-oncological services were associated with increased uptake of these services. Similarly, Senf et al[34] reported that physicians' personal commitment towards psycho-oncology influences integration of psycho-oncology in patient treatment. Thus, physicians' attitude and opinion towards psycho-oncological care might be a key factor of patients' desire for psychological support. Furthermore, our result raises the question whether the psychological support offers match the needs of patients receiving acute care. For instance, Brebach et al[31] showed that patients were more likely to accept interventions provided by nurses than by other health professionals. Finally, well-informed patients likely know that they have access to psychological support also after discharge and they might decline support during hospital stay as they had already considered to use it afterwards.

No previous use of psychological treatments accounted for decline in the total sample. It is quite possible that lack of experience with psychological treatments is associated with unfavorable attitudes, leading to decline of psychological support.

Regarding personality, we found that in the group of highly distressed patients, lower scores on agreeableness predicted higher decline rates. The measurement of agreeableness consists of two items examining trust in others and the propensity to criticize others (reversed). Comparable with these items, Dilworth et al[32] found that a frequently perceived barrier to psychosocial care is that cancer patients have "no confidence in service". Only a few studies explicitly investigated personality factors in health care use. Schomerus et al[35] found that of the big five personality factors, only conscientiousness was associated with help seeking for depression. These results are noteworthy and should be validated in future studies.

4.1 | Study limitations

The strengths of our study are the large sample size and the inclusion of various variables pertaining to different domains. However, some limitations have to be noted. The patients were recruited in two

hospitals of a comprehensive cancer center with well-established psycho-oncological care and thus may not be representative of other hospitals. Furthermore, as this study was conducted with patients undergoing inpatient treatment, the results cannot be generalized to the outpatient setting and to long-term cancer survivors. Moreover, there are some differences in routine screening and provision of psychological support in the two hospitals, which might have imposed some bias. Finally, this is a cross-sectional study that captures the desire for psychological support in acute care. We did not investigate current or future uptake of psychological support.

4.2 | Clinical implications

The decline of psychological support is primarily due to psychological factors, such as distress, feeling overload, and information status. As feeling well informed about support emerged as a relevant factor associated with decline, design of information material and education about available psychological services seem crucial. In further consequence, even patients who feel in overload should know that they can have a short contact and that psycho-oncologists are guided by patients' needs.

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CONFLICT OF INTEREST

The authors have declared no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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REFERENCES

1. Siedentopf F, Marten-Mittag B, Utz-Billing I, Schoenegg W, Kentenich H, Dinkel A. Experiences with a specific screening instrument to identify psychosocial support needs in breast cancer patients. *Eur J Obstet Gynecol Reprod Biol*. 2010;148(2):166-171. https://doi.org/10.1016/j.ejogrb.2009.10.014
2. Dinkel A, Berg P, Pirker C, et al. Routine psychosocial distress screening in radiotherapy: implementation and evaluation of a computerised procedure. *Br J Cancer*. 2010;103(10):1489-1495. https://doi.org/10.1038/sj.bjc.6605930
3. Mayer S, Teufel M, Schaeffeler N, et al. The need for psycho-oncological support for melanoma patients: central role of patients' self-evaluation. *Medicine*. 2017;96(37):e7987. https://doi.org/10.1097/MD.0000000000007987
4. Nolte S, van der Mei SH, Strehl-Schwarz K, et al. Comparison of patient-reported need of psycho-oncologic support and the doctor's perspective: how do they relate to disease severity in melanoma patients? *Psychooncology*. 2016;25(11):1271-1277. https://doi.org/10.1002/pon.4050
5. Leitlinienprogramm-Onkologie.de [electronic material]. Berlin: Arbeitsgemeinschaft der Wissenschaftlichen Medizinischen Fachgesellschaften (AWMF). *S3-Leitlinie Psychoonkologische Diagnostik, Beratung und Behandlung von erwachsenen Krebspatienten* [Cited 2019 Feb 01]. Available from: http://www.leitlinienprogramm-onkologie.de/fileadmin/user_upload/Downloads/Leitlinien/Psychoonkologieleitlinie_1.1/LL_PSO_Langversion_1.1.pdf.
6. Carlson LE, Zelinski EL, Toivonen KI, et al. Prevalence of psychosocial distress in cancer patients across 55 North American cancer centers. *J Psychosoc Oncol*. 2019;37(1):5-21. https://doi.org/10.1080/07347332.2018.1521490
7. Mehnert A, Hartung TJ, Friedrich M, et al. One in two cancer patients is significantly distressed: prevalence and indicators of distress. *Psychooncology*. 2018;27(1):75-82. https://doi.org/10.1002/pon.4464
8. Mehnert A, Brähler E, Faller H, et al. Four-week prevalence of mental disorders in patients with cancer across major tumor entities. *J Clin Oncol*. 2014;32(31):3540-3546. https://doi.org/10.1200/JCO.2014.56.0086
9. Singer S, Szalai C, Briest S, et al. Co-morbid mental health conditions in cancer patients at working age–prevalence, risk profiles, and care uptake. *Psychooncology*. 2013;22(10):2291-2297. https://doi.org/10.1002/pon.3282
10. Baker-Glenn EA, Park B, Granger L, Symonds P, Mitchell AJ. Desire for psychological support in cancer patients with depression or distress: validation of a simple help question. *Psychooncology*. 2011;20(5):525-531. https://doi.org/10.1002/pon.1759
11. Clover KA, Mitchell AJ, Britton B, Carter G. Why do oncology outpatients who report emotional distress decline help? *Psychooncology*. 2015;24(7):812-818. https://doi.org/10.1002/pon.3729
12. Cohen A, Ianovski LE, Frenkiel S, et al. Barriers to psychosocial oncology service utilization in patients newly diagnosed with head and neck cancer. *Psychooncology*. 2018;27(12):2786-2793. https://doi.org/10.1002/pon.4889
13. Faller H, Weis J, Koch U, et al. Utilization of professional psychological care in a large German sample of cancer patients. *Psychooncology*. 2017;26(4):537-543. https://doi.org/10.1002/pon.4197
14. Faller H, Weis J, Koch U, et al. Perceived need for psychosocial support depending on emotional distress and mental comorbidity in men and women with cancer. *J Psychosom Res*. 2016;81:24-30. https://doi.org/10.1016/j.jpsychores.2015.12.004
15. Merckaert I, Libert Y, Messin S, Milani M, Slachmuylder J-L, Razavi D. Cancer patients' desire for psychological support: prevalence and implications for screening patients' psychological needs. *Psychooncology*. 2010;19(2):141-149. https://doi.org/10.1002/pon.1568
16. Steginga SK, Campbell A, Ferguson M, et al. Socio-demographic, psychosocial and attitudinal predictors of help seeking after cancer diagnosis. *Psychooncology*. 2008;17(10):997-1005. https://doi.org/10.1002/pon.1317
17. Tondorf T, Grossert A, Rothschild SI, et al. Focusing on cancer patients' intentions to use psychooncological support: a longitudinal, mixed-methods study. *Psychooncology*. 2018;27(6):1656-1663. https://doi.org/10.1002/pon.4735
18. Book K, Marten-Mittag B, Henrich G, et al. Distress screening in oncology-evaluation of the questionnaire on distress in cancer patients-short form (QSC-R10) in a German sample. *Psychooncology*. 2011;20(3):287-293. https://doi.org/10.1002/pon.1821

19. Mehnert A, Müller D, Lehmann C, Koch U. Die Deutsche version des NCCN Distress-Thermometers: empirische prüfung eines screening-instruments zur erfassung psychosozialer belastung bei krebspatienten. *ZPPP*. 2006;54(3):213-223. https://doi.org/10.1024/1661-4747.54.3.213

20. Hamilton J, Kroska EB. Distress predicts utilization of psychosocial health services in oncology patients. *Psychooncology*. 2019;28(1):61-67. https://doi.org/10.1002/pon.4910

21. Kroenke K, Spitzer RL, Williams JBW. The patient health questionnaire-2: validity of a two-item depression screener. *Med Care*. 2003;41(11):1284-1292. https://doi.org/10.1097/01.MLR.0000093487.78664.3C

22. Löwe B, Wahl I, Rose M, et al. A 4-item measure of depression and anxiety: validation and standardization of the patient health questionnaire-4 (PHQ-4) in the general population. *J Affect Disord*. 2010;122(1-2):86-95. https://doi.org/10.1016/j.jad.2009.06.019

23. Beierlein C, Kovaleva A, Kemper CJ, Rammstedt B. *Ein Messinstrument zur Erfassung subjektiver Kompetenzerwartungen: Allgemeine Selbstwirksamkeit Kurzskala (ASKU)*. Köln: GESIS - Leibniz-Institut für Sozialwissenschaften; 2012.

24. Rammstedt B, John OP. Measuring personality in one minute or less: a 10-item short version of the big five inventory in English and German. *J Res Pers*. 2007;41(1):203-212. https://doi.org/10.1016/j.jrp.2006.02.001

25. Drummond FJ, Kinnear H, O'Leary E, Donnelly, Gavin A, Sharp L. Long-term health-related quality of life of prostate cancer survivors varies by primary treatment. Results from the PiCTure (prostate cancer treatment, your experience) study. *J Cancer Surviv*. 2015;9(2):361-372. https://doi.org/10.1007/s11764-014-0419-6

26. Zebrack B, Kayser K, Sundstrom L, et al. Psychosocial distress screening implementation in cancer care: an analysis of adherence, responsiveness, and acceptability. *J Clin Oncol*. 2015;33(10):1165-1170. https://doi.org/10.1200/JCO.2014.57.4020

27. van Nuenen FM, Donofrio SM, Tuinman MA, van de Wiel HBM, Hoekstra-Weebers JEHM. Feasibility of implementing the 'screening for distress and referral need' process in 23 Dutch hospitals. *Support Care Cancer*. 2017;25(1):103-110. https://doi.org/10.1007/s00520-016-3387-8

28. Compen FR, Adang EMM, Bisseling EM, van der Lee ML, Speckens AEM. Exploring associations between psychiatric disorder, psychological distress, and health care utilization in cancer patients. *Psychooncology*. 2018;27(3):871-878. https://doi.org/10.1002/pon.4591

29. Weis J, Hönig K, Bergelt C, et al. Psychosocial distress and utilization of professional psychological care in cancer patients: an observational study in National Comprehensive Cancer Centers (CCCs) in Germany. *Psychooncology*. 2018;27(12):2847-2854. https://doi.org/10.1002/pon.4901

30. McDowell ME, Occhipinti S, Ferguson M, Chambers SK. Prospective predictors of psychosocial support service use after cancer. *Psychooncology*. 2011;20(7):788-791. https://doi.org/10.1002/pon.1774

31. Brebach R, Sharpe L, Costa DSJ, Rhodes P, Butow P. Psychological intervention targeting distress for cancer patients: a meta-analytic study investigating uptake and adherence. *Psychooncology*. 2016;25(8):882-890. https://doi.org/10.1002/pon.4099

32. Dilworth S, Higgins I, Parker V, Kelly B, Turner J. Patient and health professional's perceived barriers to the delivery of psychosocial care to adults with cancer: a systematic review. *Psychooncology*. 2014;23(6):601-612. https://doi.org/10.1002/pon.3474

33. Frey Nascimento A, Tondorf T, Rothschild SI, et al. Oncologist recommendation matters!: —Predictors of psycho-oncological service uptake in oncology outpatients. *Psychooncology*. 2019;28(2):351-357. https://doi.org/10.1002/pon.4948

34. Senf B, Fettel J, Demmerle C, Maiwurm P. Physicians' attitudes towards psycho-oncology, perceived barriers, and psychosocial competencies: indicators of successful implementation of adjunctive psycho-oncological care? *Psychooncology*. 2019;28(2):415-422. https://doi.org/10.1002/pon.4962

35. Schomerus G, Appel K, Meffert PJ, et al. Personality-related factors as predictors of help-seeking for depression: a population-based study applying the behavioral model of health services use. *Soc Psychiatry Psychiatr Epidemiol*. 2013;48(11):1809-1817. https://doi.org/10.1007/s00127-012-0643-1

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