DOI: http://dx.doi.org/10.22122/ijbmc.v11i1.622 Published by Vesnu Publications

International Journal of Body, Mind and Culture

Relationships between Physicians' Communication Skills, the Psychological Symptoms of Cancer Patients, and their Satisfaction with the Treatment

Hadi Farhadi[1], Alexander Wuensch[2], Seyedeh Zeinab Mousavi[3], Shekoofeh Alidadi[4], Carl Eduard Scheidt[5], Anne Maria Muller[6], Ava Goli[7], Mohammad Reza Sharbafchi[8]

1 Assistant Professor, Department of Psychology and Educational Sciences, Islamic Azad University, Isfahan (Khorasgan) Branch, Isfahan, Iran
2 Senior Researcher, Department of Psychosomatic Medicine and Psychotherapy, Medical Center–University of Freiburg, School of Medicine, Albert Ludwigs University, Freiburg, Germany
3 MSc of Clinical Psychology, Department of Psychology and Educational Sciences, Islamic Azad University, Isfahan (Khorasgan) Branch, Isfahan, Iran
4 MSc of Clinical Psychology, School of Humanities, Khomeini Shahr Azad University, Isfahan, Iran
5 Professor, Department of Psychosomatic Medicine and Psychotherapy, Medical Center-University of Freiburg, School of Medicine, Albert Ludwigs University, Freiburg, Germany
6 PhD of Psychology, Department of Psychosomatic Medicine and Psychotherapy, Medical Center-University of Freiburg, School of Medicine, Albert Ludwigs University, Freiburg, Germany
7 Department of Psychology, Grenoble Alps University, Grenoble, France
8 Assistant Professor, Behavioral Sciences Research Center, Department of Psychiatry, Isfahan University of Medical Sciences, and Iranian Cancer Control Center (MACSA), Isfahan, Iran

Corresponding Author: Seyedeh Zeinab Mousavi; ***Master of Clinical Psychology, Department of Psychology and Educational Sciences, Islamic Azad University, Isfahan (Khorasgan) Branch, Isfahan, Iran***
Email: znbmsv@gmail.com

Quantitative Study

Abstract

Background: The communication skills of treating physicians can affect the psychological burden of cancer patients and the prevalence of mental illness among these patients. This study investigated the communication skills of physicians and their relationship to the psychological symptoms of cancer patients and their satisfaction with the treatment they received.

Methods: This cross-sectional descriptive study was carried out in 2019. A total of 160 cancer patients who fulfilled the inclusion criteria and referred to Omid Hospital in Isfahan, Iran, and the Iranian Cancer Control Center (MACSA) took part in the study. Demographic information, including age, sex, marital status, education, and type and stage of the disease, was collected using the Demographic Information Questionnaire. The patients' psychological states and satisfaction were then measured using the Patient's Depression, Anxiety, and Stress Scale (DASS), the Short Assessment of Patient Satisfaction (SAPS), and the Communication Assessment Tool (CAT). Correlation coefficients and multiple linear regression were performed using the SPSS software to analyze data.

Results: There was a significant direct relationship between the two quantitative variables of CAT and SAPS scores ($r = 0.752$; $P < 0.001$). There was also a significant relationship

between the depression (r = -0.318; P < 0.001) and stress (r = -0.303; P < 0.001) scores and the CAT score. The mean SAPS score in patients undergoing radiotherapy was significantly lower than in the stages of chemotherapy (beta (SE) = -3.14 (1.05); P = 0.003).

Conclusion: It was found that physicians' communication skills play an essential role in patients' satisfaction and are directly correlated. We also showed that the physician communication skills score was inversely related to patients' depression.

Keywords: Physician-patient communication; Patient satisfaction; Communication skills; Psycho-oncology; Anxiety; Stress

Citation: Farhadi H, Wuensch A, Mousavi SZ, Alidadi S, Carl Scheidt E, Muller AM, et al. **Relationships between Physicians' Communication Skills, the Psychological Symptoms of Cancer Patients, and their Satisfaction with the Treatment.** Int J Body Mind Culture 2024; 11(1): 26-37.

Received: 13 Oct. 2023

Accepted: 24 Dec. 2023

Introduction

Cancer is recognized as one of the most critical problems in medicine today. With the increase in the average age of the population and increased life expectancy in different communities, the prevalence of various types of cancer has also increased (van der Meel, Sulheim, Shi, Kiessling, Mulder, & Lammers, 2019). Lifestyle changes, decreased activity, and changes in habits and diet are among the factors that have increased cancer rates in recent decades (Murphy et al., 2019). Cancer currently accounts for 12% of all deaths worldwide (Sitarz, Skierucha, Mielko, Offerhaus, Maciejewski, & Polkowski, 2018). Among the various treatments used today for treating cancers are chemotherapy, surgery, radiotherapy, and immunotherapy (Miller et al., 2019).

Studies have shown that cancer can have adverse effects on patients' psychological well-being and also has an impact on their quality of life (QOL) (Schneeweiss et al., 2018; Van Leeuwen et al., 2018). Many patients with cancer experience psychological and social issues, including fatigue, anxiety, difficulty sleeping, pain, anger, depression, loneliness, and stress; these may be due to severe complications and high mortality rates. The psychological problems of cancer patients significantly affect their QOL, suicidal thoughts, length of hospitalization, and even longevity (Wang et al., 2020). For cancer patients, as with other chronic diseases, maximization of QOL and the treatment of the patients are the primary goals of healthcare (Yang, 2019). Increasing QOL, accelerating recovery, and reducing the length of hospitalization will ultimately reduce hospital costs for these patients.

Effective patient care depends on the physicians' understanding of the patient's biological, psychosocial, and cultural status. Correct interpretation requires effective communication between the physician and the patient (Garrett, 2016). Regardless of a physician's academic knowledge, having practical communication skills can be a critical factor in following up on a patient's problems (Nelson, 2017). Some studies have suggested that successfully communicating with patients leads to better understanding, reduced patient stress, improved patient acceptance, decreased numbers of medical errors, improved disease course, and increased physician-patient satisfaction (Allenbaugh, Corbelli, Rack, Rubio, & Spagnoletti, 2019; Seiler et al., 2017).

Various studies have focused on the effects of the communication skills of physicians and their role in the treatment trends in patients (Levinson, Lesser, & Epstein, 2010). These studies have explained that adequate physician-patient communication and improving physicians' communication skills could result in increased patient satisfaction and decreased stress and psychological symptoms (Fallowfield, 2008; Sany, Behzhad, Ferns, & Peyman, 2020). However, there is still much to be learnt about differences in communication skills and styles in different cultures and countries (Hall, Keely, Dojeiji, Byszewski, & Marks, 2004). Very few studies have assessed communication in the context of Iranian healthcare. In 2012, a study was conducted in Iran that assessed the communication skills used by medical staff among themselves and declared that the communication between nurses and physicians was not satisfactory and could have adverse effects on the patients (Aghamolaei, Tavafian, Hasani, & Moeini, 2012). Another study found that communication among medical staff and between physicians and patients should be improved, and this issue could be helpful for the emotional progression of patients (Jasemi, Rahmani, Aghakhani, Hosseini, & Eghtedar, 2013).

Therefore, this study was conducted to determine whether there is a relationship between physicians' communication skills, the psychological symptoms of cancer patients, and their satisfaction with treatment

Methods

This cross-sectional study was conducted from September 2019 to February 2020 at Omid Hospital, affiliated with Isfahan University of Medical Sciences and the Iranian Cancer Control Center (MACSA). The study population was selected using a simple random sampling method from among cancer patients referred to these two centers over six months.

The criteria for inclusion in the study were a diagnosis of cancer by an expert oncologist, the patient either being in treatment or up to 6 months after completion of treatment, a willingness to participate in research, and a minimum education level of diploma. The exclusion criteria included having a chronic mental or personality disorder, being in the terminal stage, and a reluctance to participate in the study.

A total of 160 patients took part in the study, fulfilling the inclusion criteria. Demographic data, including age, gender, marital status, education level, type, and grade of the disease, were collected. The patients were then asked to fill out the Depression, Anxiety, and Stress Scale-21 (DASS-21), the Short Assessment of Patient Satisfaction (SAPS), and the Communication Assessment Tool (CAT).

DASS-21 (Lovibond et al.): DASS-21 has 21 questions with general, low, medium, and high scales. This questionnaire contains a set of 3 scales designed to measure negative emotional states of depression, anxiety, and stress. Each of the three scales has 14 items divided into 2 to 5-item subsets with similar content. The Depression Scale assesses depression, frustration, feelings of worthlessness, reluctance, loss of interest, lack of pleasure, and stillness. Anxiety scale include autonomic arousal, effects on muscles, situational anxiety, and the mental experience of anxiety. The Stress Scale is sensitive to levels of chronic nonspecific arousal. This scale includes problem relaxation, nervous arousal, whether patients are easily upset or disturbed, easily irritated or restless, and whether or not they are impatient. The total score of the questionnaire ranges from 21 to 84. Based on DASS-21, the severity of depression is classified into groups of normal (scores of 0-9), mild (10-13), moderate (14-20), severe (21-27), and very severe (+28). The severity of anxiety is classified into groups of normal (scores of 0-7), mild (8-9), moderate (10-14), severe (15-19), and very severe (+20). The stress of the patients is categorized into normal (scores of 0-14), mild (15-18), moderate (19-25), severe (26-33) and very severe (+34). This scale was developed by Lovibond et al., and it is a set of three self-report scales used to assess negative emotional states of anxiety, depression, and stress (Jun, Johnston, Kim, & O'Leary, 2018). This questionnaire's short, 21-question form has been validated in Persian with a Cronbach's alpha of 0.77, 0.79, and 0.78 for the depression, anxiety, and stress scales, respectively (Sahebi, Asghari, & Salari, 2005).

SAPS (Hawthorne et al.): SAPS is a concise, reliable, valid, seven-item scale that can assess patients' satisfaction with their treatment. The scale includes seven assessments of critical areas of patient satisfaction, including satisfaction with treatment, explanation of treatment outcomes, clinical care, participation in medical decision-making, respect for the physician, time with the physician, and satisfaction with hospital/clinic care. The items are scored on a 5-point Likert scale. Studies have shown that SAPS is a valid and reliable measure of patient satisfaction. Cronbach's alpha reliability ($\alpha = 0.85$) indicates a significant correlation with other criteria of patient satisfaction and treatment outcomes (Hawthorne, Sansoni, & Marosszeky, 2009).

CAT (Makoul et al.): The CAT questionnaire assesses the patient's perception of the quality of a physician's communication skills. This scale has 15 items that ask

respondents to rate the communication skill aspects on a five-point Likert scale (1 = poor, 2 = fair, 3 = good, 4 = very good, and 5 = excellent) (Ferranti, Makoul, Forth, Rauworth, Lee, & Williams, 2010). The acceptable Cronbach's alpha reliability (α = 0.96) indicates that CAT is an appropriate instrument for evaluating communication skills (Makoul, Krupat, & Chang, 2007).

The forward and back-translation method was used to ensure the validity of the SAPS and CAT questionnaire based on the World Health Organization (WHO) guidelines (World Health Organization, 2009).

Ethical considerations: All the participants have provided written informed consent. Patients were assured that their information would only be used for research purposes and would remain confidential. The current study followed the Declaration of Helsinki on Biomedical Research Involving Human Subjects and was approved by the Ethics Committee of Islamic Azad University, Isfahan (Khorasgan) Branch (IR.IAU.KHUISF.REC.1399.246). There was no interference concerning providing services to patients.

Statistical analysis: Data from the DASS-21, SAPS, and CAT scores were gathered from patients and analyzed using SPSS software (version 19; SPSS Inc., Chicago, IL, USA). Continuous variables were presented as mean [standard deviation (SD)] and categorical data as numbers (percentage). ANOVA was performed to compare the means of the CAT score according to the severity of depression, anxiety, and stress. The Pearson correlation coefficients were calculated for the correlation between CAT scores, SPAS, depression, anxiety, and stress scores. Multiple linear regression was used for the association between SPAS score and demographic and clinical variables. P-value < 0.05 was considered significant.

Results

A total of 160 patients with a mean age of 49.08 ± 13.94 years participated in the present study. The study population comprised 52 men (32.5%) and 108 women (67.5%). Primary analysis of demographic data showed that the mean duration of the disease was 1.59 ± 1.45 years. Moreover, 119 patients (47.4%) were married, and 41 (25.6%) were single. Data regarding marital status, educational level, occupation, type of cancer, and treatment method are summarized in table 1.

Table 1. Clinical and demographic characteristics of included patients

Variable		n (%) (total = 160)
Marital status	Married	119 (47.4)
	Single	41 (25.6)
Educational level	Lower than Bachelor's	141 (88.1)
	Higher than Bachelor's	19 (11.9)
Occupation	Employed	40 (25)
	Housewife	99 (61.9)
	Student	7 (4.4)
	Retired	13 (8.1)
	Unemployed	1 (0.6)
Type of cancer	Bone marrow	24 (15)
	Breast	71 (44.4)
	Head and neck	15 (9.4)
	Gastrointestinal	24 (15)
	Genitourinary	19 (11.9)
	Lung	7 (4.4)
	Chemotherapy	130 (81.8)
	Radiotherapy	20 (12.6)
	Recovering	9 (5.7)

Table 2. Descriptive statistics of SAPS, CAT, and DASS-21 questionnaires

		n	Min	Max	Mean ± SD
SAPS		160	3	29	21.85 ± 4.26
CAT		160	20	70	52.04 ± 9.87
DASS-21	Depression	160	7	28	11.86 ± 3.99
	Anxiety	160	7	21	10.92 ± 3.02
	Stress	160	7	28	14.41 ± 4.30

SD: Standard deviation

Table 2 presents the descriptive statistics of SAPS, CAT, and DASS-21 questionnaires. The mean (SD) SAPS score in patients was 21.85 (4.26), and the mean (SD) CAT score was 52.04 (9.87).

Table 3 presents the frequency (%) of patients and a comparison of mean CAT scores according to the severity of depression, anxiety, and stress in the patients. The mean CAT score was significantly low for the high severity of depression (P = 0.001), anxiety (P = 0.001), and stress (P < 0.001). The majority of patients had mild severity of depression (43.1%), moderate severity of anxiety (55.6%), and normal severity of stress (54.4%).

Table 4 shows the correlation between CAT and scores of depression, anxiety, stress, and SAPS. There were significant indirect correlations between CAT scores and depression, anxiety, and stress. However, there was a significant correlation between CAT and SAPS scores (r = 0.725; P < 0.001).

Table 5 shows the association of demographic and clinical variables with SAPS score. The mean SAPS score in patients being treated with radiotherapy was significantly lower than in chemotherapy (beta (SE) = -3.14 (1.05); P = 0.003). Moreover, the mean SAPS score in lung patients was significantly lower than in breast cancer (beta (SE) = -4.10 (1.89); P = 0.031). There was no significant association between other variables and SAPS score (P > 0.05).

Discussion

The present study aimed to survey the relationship between physicians' communication skills and the psychological symptoms of cancer patients and their level of satisfaction with the treatment. Our results have demonstrated that there was a direct relationship between physicians' communication skills and patients' satisfaction. In addition, the depression, anxiety, and stress levels that patients experienced were inversely related to the quality of the physician's communication skills. The patients' satisfaction during radiotherapy treatment was significantly lower than during chemotherapy.

Some similar studies have been carried out previously. In 2003, a survey by Shilling, Jenkins, and Fallowfield (2003) assessed various factors that affected patient satisfaction.

Table 3. The comparison of and mean CAT Scores according to the severity of depression, anxiety, and stress

Severity	Depression		Anxiety		Stress	
	n (%)	Mean ± SD	n (%)	Mean ± SD	n (%)	Mean ± SD
Normal	49(30.6)	54.31 ± 8.76	16(10)	56.06 ± 5.54	87(54.4)	54.07 ± 8.73
Mild	69(43.1)	52.88 ± 9.29	36(22.5)	53.47 ± 8.89	42(26.3)	52.88 ± 10.10
Moderate	37(23.1)	48.78 ± 11.33	89(55.6)	52.44 ± 9.96	29(18.1)	45.66 ± 10.08
Severe	3(1.9)	44.67 ± 7.23	16(10)	44.06 ± 9.78	2(1.3)	39.00 ± 4.24
Very severe	2(1.3)	39.00 ± 4.24	3(1.9)	44.33 ± 16.92	0(0)	0 ± 0
P	0.001		0.001		< 0.001	

SD: Standard deviation

Table 4. The correlation between CAT and scores of DASS-21 subscales and SAPS

		r	P
DASS-21	Depression	-0.318	< 0.001
	Anxiety	-0.185	0.019
	Stress	-0.303	< 0.001
SAPS		0.725	< 0.001

Their research emphasized the role of physicians' communication skills (Shilling, Jenkins, & Fallowfield, 2003). Eğeci and Gençöz (2006) also examined patient satisfaction in their study. The factors affecting patient satisfaction were analyzed, and it was found that the stage of the disease, treatment costs, recovery time, and the professional behavior of the medical staff were among the most critical factors. They also stated that physicians' communication skills are perhaps the most important factor, depending on the patient's beliefs and culture (Eğeci & Gençöz, 2006). Therefore, it has been found that in most societies, physicians' communication skills is one of the most critical factors in increasing patient satisfaction.

The role of communication skills has been explored not only among physicians, but also among other medical professionals such as nurses. Mullan and Kothe (2010) found that nurses' functional skills were as essential to patients as their communication skills. The findings of these studies are in line with the results of our research. However, no study has been carried out specifically to measure the importance of physicians' communication skills on the severity of patients' stress, anxiety, and depression, as well as their satisfaction.

Additionally, several studies emphasized the importance of medical team training for the improvement of communication skills. Goelz et al. (2011) showed that communication training for medical teams could be useful for shifting from palliative care to clinical practice and suggested that future studies explore this further.

Table 5. The association of demographic and clinical variables with SAPS score

Variables	Beta	SE	P
Age (year)	0.03	0.03	0.263
Duration	0.00	0.02	0.894
Gender (Ref. group: Male)			
Female	-1.30	1.35	0.338
Marital status (Ref. group: Married)			
Single	-0.25	0.84	0.769
Treatment method (Ref. group: Chemotherapy)			
Radiotherapy	-3.14	1.05	0.003
Recovering	1.70	1.61	0.293
Type of cancer (Ref. group: Brest cancer)			
Gastrointestinal	-1.34	1.04	0.202
Bone marrow	-1.11	1.25	0.376
Lung	-4.10	1.89	0.031
Genitourinary	1.71	1.14	0.136
Head and neck	0.73	1.35	0.588
Occupation (Ref. group: Housewife)			
Employed	-1.15	1.32	0.385
Retired	-0.56	1.81	0.756
Student	-0.11	2.05	0.956
Unemployed	7.99	4.91	0.106
Educational level (ref. group: Lower than Bachelor's)			
Higher than Bachelor's	-0.77	1.17	0.508

A study showed that communication training is very beneficial for providing information on clinical trials (Wuensch et al., 2017); and as another one declared, communication training could lead to some observable and significant changes in the communicative behavior of oncologists in clinical practice (Niglio de Figueiredo et al., 2018).

As previously mentioned, we have shown that there is a diverse relationship between the physician's communication skills and the patient's depression, anxiety, and stress levels. The patients who experienced higher levels of depression, anxiety, and stress rated the quality of their physician's communication skills significantly lower than patients with lower levels of depression, anxiety, and stress. We also found a direct relationship between physicians' communication skills and patients' satisfaction. In 2004, a study examined communication training programs for the improvement of communication behavior and reduction of job stress among physicians specializing in hematology (Delvaux, Razavi, Marchal, Brédart, Farvacques, & Slachmuylder, 2004). In addition to demonstrating the effectiveness of communication training, they stated that improving physicians' communication skills in dealing with cancer patients could reduce the patients' depression and anxiety (Delvaux, Razavi, Marchal, Brédart, Farvacques, & Slachmuylder, 2004). Razavi et al. (2003) evaluated the advantages of enhancing physicians' communication skills in cancer care. They trained and evaluated 63 physicians and showed that consolidation workshops improve a communication training program's efficacy and facilitate the transfer of acquired skills to clinical practice (Razavi et al., 2003). It has also been indicated that psychological training programs could improve healthcare professionals' sensitivity to communication problems with patients and relatives (Razavi & Delvaux, 1997). Another study suggested that educating students and physicians dealing with cancer patients and improving their communication skills improves patients' mental state and reduces their stress and anxiety (Bragard et al., 2006). Thirty-six psycho-oncology experts were asked to rate the necessity of defined educational needs in the field of psycho-oncology. Their results declared the priority and importance of all educational needs. They also suggested that the psycho-oncology curriculum in postgraduate education can be modified to improve cancer patients' QOL (Amani & Sharbafchi, 2020).

The link between physicians' communication skills and patients' depression was also investigated by Vogel, Leonhart, and Helmes (2009) in patients with breast cancer. In this study, 135 patients were evaluated. It was shown that patients' stress and depression are inversely related to physicians' communication skills. To explain the reason for this relationship, they stated that with improvements in physicians' communication skills, there is an increase in patients' feelings of intimacy and trust, which reduces stress and depression in patients (Vogel, Leonhart, & Helmes, 2009). Another research also found that patients' stress and depression were inversely related to physicians' communication skills (Ghods, Roter, Ford, Larson, Arbelaez, & Cooper, 2008). This study also showed that the rate of depression in patients decreases with the improvement of physicians' communication skills (Ghods et al., 2008). All these results are in line with our results about the relationship between physicians' communication skills and patient's depression, anxiety, and stress.

Our study found no significant relationship between patients' satisfaction level and age, sex, marital status, education, occupation, and duration of illness. The related factors were the type of cancer and treatment method. The patients who had

lung cancer and those who underwent radiotherapy rated their satisfaction with their treatment as lower than patients with breast cancer and those who underwent chemotherapy. Accordingly, among factors affecting patient satisfaction, the physician communication quality was the most important one that we can plan to improve. Two other studies have shown that the type of cancer and patient education can be essential factors in patient satisfaction and QOL; however, this relationship needs further study (Sharbafchi, Rajabi, Sheshboluki, Ghaderi, Fayazi, & Mousavi, 2019; Sitzia & Wood, 1997).

Patient satisfaction associated with what stage of treatment they are at is particularly important with cancer patients (Ong, Visser, Lammes, & De Haes, 2000). We believe this could be mostly due to the complications of radiotherapy and patients' prejudgments about this method. Other reports also addressed this issue (Cordeiro, Albornoz, McCormick, Hu, & Van Zee, 2014; Poinsot et al., 2006). Mucositis, dermal burns, and gastroenteritis are the most prevalent complications of radiotherapy, which can significantly influence a patient's satisfaction (Lee et al., 2010). Additionally, higher satisfaction levels in the recovery stage could also be due to the patients' increased feelings of hope and a reduction in the number of complications compared to other stages.

Clinical Implications: Our key contribution to the field is that we have assessed physicians' communication skills and patients' satisfaction scores and their relationships to different factors that have not been studied previously. We suggest that communication skills be deeply integrated into educational programs for medical students and physicians on the way to specialization.

Limitations: The limitation of our study was the non-humogen distribution of cancer types and treatment methods, which may influence the patients' mood states and satisfaction. To achieve more conclusive results, we suggest that future studies be conducted in a population including relatively equal sample sizes for each cancer and treatment stage.

Conclusion

To summarize, we have shown that physicians' communication skills play an important role in patients' satisfaction and are directly correlated. We have also demonstrated that the physician communication skills score was inversely related to patients' depression. These findings are in accordance with most previous studies, although until now, there have been very few studies in this regard.

Conflict of Interests

Authors have no conflict of interests.

Acknowledgements

The Islamic Azad University, Isfahan (Khorasgan) Branch funded the current research.

The study protocol was confirmed by the Ethics Committee of Islamic Azad University, Isfahan (Khorasgan) Branch.

Freely given, informed consent to participate in the study was obtained from participants. The informed consents were confirmed by the Ethics Committee of Islamic Azad University, Isfahan (Khorasgan) Branch.

References

Aghamolaei, T., Tavafian, S. S., Hasani, L., & Moeini, B. (2012). Nurses' perception of nurse-physician communication: A questionnaire-based study in Iran. *Int J Hosp Res, 1*(2), 77-84.

Allenbaugh, J., Corbelli, J., Rack, L., Rubio, D., & Spagnoletti, C. (2019). A brief communication curriculum improves resident and nurse communication skills and patient satisfaction. *J Gen.Intern Med, 34*(7), 1167-1173. doi:10.1007/s11606-019-04951-6 [pii];4951 [pii];10.1007/s11606-019-04951-6 [doi]. Retrieved from PM:30997637

Amani, O., & Sharbafchi, M. R. (2020). Psycho-oncology curriculum needs assessment in postgraduate education. *Int J Body Mind Culture, 7*(2), 98-109. doi:10.22122/ijbmc.v7i2.215 [doi]

Bragard, I., Razavi, D., Marchal, S., Merckaert, I., Delvaux, N., Libert, Y. et al. (2006). Teaching communication and stress management skills to junior physicians dealing with cancer patients: a Belgian Interuniversity Curriculum. *Support Care Cancer, 14*(5), 454-461. doi:10.1007/s00520-005-0008-3 [doi]. Retrieved from PM:16418828

Cordeiro, P. G., Albornoz, C. R., McCormick, B., Hu, Q., & Van, Z. K. (2014). The impact of postmastectomy radiotherapy on two-stage implant breast reconstruction: an analysis of long-term surgical outcomes, aesthetic results, and satisfaction over 13 years. *Plast.Reconstr.Surg., 134*(4), 588-595. doi:00006534-201410000-00004 [pii];10.1097/PRS.0000000000000523 [doi]. Retrieved from PM:25357021

Delvaux, N., Razavi, D., Marchal, S., Bredart, A., Farvacques, C., & Slachmuylder, J. L. (2004). Effects of a 105 hours psychological training program on attitudes, communication skills and occupational stress in oncology: A randomised study. *Br.J Cancer, 90*(1), 106-114. doi:6601459 [pii];10.1038/sj.bjc.6601459 [doi]. Retrieved from PM:14710215

Eğeci, I. S., & Gençöz, T. (2006). Factors Associated with Relationship Satisfaction: Importance of Communication Skills. *Contemp Fam Ther, 28*(3), 383-391. doi:10.1007/s10591-006-9010-2 [doi]

Fallowfield, L. J. (2008). Treatment decision-making in breast cancer: The patient-doctor relationship. *Breast.Cancer Res Treat., 112 Suppl 1*, 5-13. doi:10.1007/s10549-008-0077-3 [doi]. Retrieved from PM:18546072

Ferranti, D. E., Makoul, G., Forth, V. E., Rauworth, J., Lee, J., & Williams, M. V. (2010). Assessing patient perceptions of hospitalist communication skills using the Communication Assessment Tool (CAT). *J Hosp Med, 5*(9), 522-527. doi:10.1002/jhm.787 [doi]. Retrieved from PM:21162155

Garrett, J. H. (2016). Effective Perioperative Communication to Enhance Patient Care. *AORN.J, 104*(2), 111-120. doi:S0001-2092(16)30283-6 [pii];10.1016/j.aorn.2016.06.001 [doi]. Retrieved from PM:27472971

Ghods, B. K., Roter, D. L., Ford, D. E., Larson, S., Arbelaez, J. J., & Cooper, L. A. (2008). Patient-physician communication in the primary care visits of African Americans and whites with depression. *J Gen.Intern Med, 23*(5), 600-606. doi:539 [pii];10.1007/s11606-008-0539-7 [doi]. Retrieved from PM:18264834

Goelz, T., Wuensch, A., Stubenrauch, S., Ihorst, G., de, F. M., Bertz, H. et al. (2011). Specific training program improves oncologists' palliative care communication skills in a randomized controlled trial. *J Clin Oncol., 29*(25), 3402-3407. doi:JCO.2010.31.6372 [pii];10.1200/JCO.2010.31.6372 [doi]. Retrieved from PM:21825268

Hall, P., Keely, E., Dojeiji, S., Byszewski, A., & Marks, M. (2004). Communication skills, cultural challenges and individual support: challenges of international medical graduates in a Canadian healthcare environment. *Med Teach., 26*(2), 120-125. doi:UUMY26W54KFJQ4LT [pii];10.1080/01421590310001653982 [doi]. Retrieved from PM:15203520

Hawthorne, G., Sansoni J. & Marosszeky, N. (2009 Nov 4-7). An update on the development of the short assessment of patient satisfaction (SAPS). Proceedings of the 18th National Conference on Incontinence (Continence Foundation of Australia); 2009 Nov 4-7; Adelaide, Australia.

Jasemi, M., Rahmani, A., Aghakhani, N., Hosseini, F., & Eghtedar, S. (2013). Nurses and physicians' viewpoint toward interprofessional collaboration. *Iran J Nurs, 26*(81), 1-10.

Jun, D., Johnston, V., Kim, J. M., & O'Leary, S. (2018). Cross-cultural adaptation and validation of the Depression, Anxiety and Stress Scale-21 (DASS-21) in the Korean working population. *Work, 59*(1), 93-102. doi:WOR2661 [pii];10.3233/WOR-172661 [doi]. Retrieved from PM:29439379

Lee, B. T., Adesiyun, A., Colakoglu, S., Curtis, M. S., Yueh, J. H., Anderson, E. et al. (2010). Postmastectomy radiation therapy and breast reconstruction: an analysis of complications and patient satisfaction. *Ann.Plast.Surg., 64*(5), 679-683. doi:10.1097/SAP.0b013e3181db7585 [doi]. Retrieved from PM:20395800

Levinson, W., Lesser, C. S., & Epstein, R. M. (2010). Developing physician communication skills for patient-centered care. *Health Aff.(Millwood.), 29*(7), 1310-1318. doi:29/7/1310 [pii];10.1377/hlthaff.2009.0450 [doi]. Retrieved from PM:20606179

Makoul, G., Krupat, E., & Chang, C. H. (2007). Measuring patient views of physician communication skills: development and testing of the Communication Assessment Tool. *Patient.Educ Couns, 67*(3), 333-342. doi:S0738-3991(07)00178-4 [pii];10.1016/j.pec.2007.05.005 [doi]. Retrieved from PM:17574367

Miller, K. D., Nogueira, L., Mariotto, A. B., Rowland, J. H., Yabroff, K. R., Alfano, C. M. et al. (2019). Cancer treatment and survivorship statistics, 2019. *CA.Cancer J Clin, 69*(5), 363-385. doi:10.3322/caac.21565 [doi]. Retrieved from PM:31184787

Mullan, B. A., & Kothe, E. J. (2010). Evaluating a nursing communication skills training course: The relationships between self-rated ability, satisfaction, and actual performance. *Nurse.Educ Pract, 10* (6), 374-378. doi:S1471-5953(10)00086-7 [pii];10.1016/j.nepr.2010.05.007 [doi]. Retrieved from PM:20541974

Murphy, N., Moreno, V., Hughes, D. J., Vodicka, L., Vodicka, P., Aglago, E. K. et al. (2019). Lifestyle and dietary environmental factors in colorectal cancer susceptibility. *Mol Aspects.Med, 69*, 2-9. doi:S0098-2997(19)30033-0 [pii];10.1016/j.mam.2019.06.005 [doi]. Retrieved from PM:31233770

Nelson, B. (2017). The case for empathy: Researchers differ on the finer points, but largely agree that stronger skills in empathy are needed for effective patient care. *Cancer Cytopathol., 125*(8), 589-590. doi:10.1002/cncy.21902 [doi]. Retrieved from PM:28805987

Niglio de, F. M., Krippeit, L., Ihorst, G., Sattel, H., Bylund, C. L., Joos, A. et al. (2018). ComOn-Coaching: The effect of a varied number of coaching sessions on transfer into clinical practice following communication skills training in oncology: Results of a randomized controlled trial. *PLoS One, 13*(10), e0205315. doi:PONE-D-17-35381 [pii];10.1371/journal.pone.0205315 [doi]. Retrieved from PM:30289905

Ong, L. M., Visser, M. R., Lammes, F. B., & de Haes, J. C. (2000). Doctor-patient communication and cancer patients' quality of life and satisfaction. *Patient.Educ Couns, 41*(2), 145-156. doi:S0738-3991(99)00108-1 [pii];10.1016/s0738-3991(99)00108-1 [doi]. Retrieved from PM:12024540

Poinsot, R., Altmeyer, A., Conroy, T., Savignoni, A., Asselain, B., Leonard, I. et al. (2006). [Multisite validation study of questionnaire assessing out-patient satisfaction with care questionnaire in ambulatory chemotherapy or radiotherapy treatment]. *Bull Cancer, 93*(3), 315-327. Retrieved from PM:16567319

Razavi, D., & Delvaux, N. (1997). Communication skills and psychological training in oncology. *Eur J Cancer, 33 Suppl 6*, S15-S21. doi:S0959-8049(97)00195-0 [pii];10.1016/s0959-8049(97)00195-0 [doi]. Retrieved from PM:9404235

Razavi, D., Merckaert, I., Marchal, S., Libert, Y., Conradt, S., Boniver, J. et al. (2003). How to optimize physicians' communication skills in cancer care: Results of a randomized study assessing the usefulness of posttraining consolidation workshops. *J Clin Oncol., 21*(16), 3141-3149. doi:JCO.2003.08.031 [pii];10.1200/JCO.2003.08.031 [doi]. Retrieved from PM:12915605

Sahebi, A. (2024). , Asghari, M. J., & Salari, R. S. (2005). Validation of Depression Anxiety and Stress Scale (DASS-21) for an Iranian Population. Developmental Psychology, 1(4), 36-54.

Schneeweiss, A., Lux, M. P., Janni, W., Hartkopf, A. D., Nabieva, N., Taran, F. A. et al. (2018). Update Breast Cancer 2018 (Part 2) - Advanced Breast Cancer, Quality of Life and Prevention. *Geburtshilfe Frauenheilkd., 78*(3), 246-259. doi:5654328 [pii];10.1055/s-0044-101614 [doi]. Retrieved from PM:29576630

Seiler, A., Knee, A., Shaaban, R., Bryson, C., Paadam, J., Harvey, R. et al. (2017). Physician communication coaching effects on patient experience. *PLoS One, 12*(7), e0180294. doi:PONE-D-16-40098 [pii];10.1371/journal.pone.0180294 [doi]. Retrieved from PM:28678872

Sharbafchi, M. R., Rajabi, F., Sheshboluki, F., Ghaderi, S., Fayazi, M., & Mousavi, S. Z. (2019). The effect of educational sessions for couples on quality of life among patients with breast cancer undergoing mastectomy. *J Isfahan Med Sch, 37*(513), 1-8. doi: 10.22122/JIMS.V37I513.9771 [doi]

Shilling, V., Jenkins, V., & Fallowfield, L. (2003). Factors affecting patient and clinician satisfaction with the clinical consultation: can communication skills training for clinicians improve satisfaction? *Psychooncology., 12*(6), 599-611. doi:10.1002/pon.731 [doi]. Retrieved from PM:12923800

Sitarz, R., Skierucha, M., Mielko, J., Offerhaus, G. J. A., Maciejewski, R., & Polkowski, W. P. (2018). Gastric cancer: epidemiology, prevention, classification, and treatment. *Cancer Manag.Res, 10*, 239-248. doi:cmar-10-239 [pii];10.2147/CMAR.S149619 [doi]. Retrieved from PM:29445300

Sitzia, J., & Wood, N. (1997). Patient satisfaction: a review of issues and concepts. *Soc Sci.Med, 45*(12), 1829-1843. doi:S0277953697001287 [pii];10.1016/s0277-9536(97)00128-7 [doi]. Retrieved from PM:9447632

Tavakoly Sany, S. B., Behzhad, F., Ferns, G., & Peyman, N. (2020). Communication skills training for physicians improves health literacy and medical outcomes among patients with hypertension: a randomized controlled trial. *BMC Health Serv.Res, 20*(1), 60. doi:10.1186/s12913-020-4901-8 [pii];4901 [pii];10.1186/s12913-020-4901-8 [doi]. Retrieved from PM:31973765

van der Meel, R., Sulheim, E., Shi, Y., Kiessling, F., Mulder, W. J. M., & Lammers, T. (2019). Smart cancer nanomedicine. *Nat.Nanotechnol., 14*(11), 1007-1017. doi:10.1038/s41565-019-0567-y [pii];10.1038/s41565-019-0567-y [doi]. Retrieved from PM:31695150

van, L. M., Husson, O., Alberti, P., Arraras, J. I., Chinot, O. L., Costantini, A. et al. (2018). Understanding the quality of life (QOL) issues in survivors of cancer: towards the development of an EORTC QOL cancer survivorship questionnaire. *Health Qual.Life.Outcomes., 16*(1), 114. doi:10.1186/s12955-018-0920-0 [pii];920 [pii];10.1186/s12955-018-0920-0 [doi]. Retrieved from PM:29866185

Vogel, B. A., Leonhart, R., & Helmes, A. W. (2009). Communication matters: the impact of communication and participation in decision making on breast cancer patients' depression and quality of life. *Patient.Educ Couns, 77*(3), 391-397. doi:S0738-3991(09)00421-2 [pii];10.1016/j.pec.2009.09.005 [doi]. Retrieved from PM:19796910

Wang, Y., Duan, Z., Ma, Z., Mao, Y., Li, X., Wilson, A. et al. (2020). Epidemiology of mental health problems among patients with cancer during COVID-19 pandemic. *Transl.Psychiatry, 10*(1), 263. doi:10.1038/s41398-020-00950-y [pii];950 [pii];10.1038/s41398-020-00950-y [doi]. Retrieved from PM:32737292

World Health Organization. (2009) [Online]. Process of translation and adaptation of instruments [Online]. http://www.who. int/substance_abuse/research_tools/translation/en/. Access 2009.

Wuensch, A., Goelz, T., Ihorst, G., Terris, D. D., Bertz, H., Bengel, J. et al. (2017). Effect of individualized communication skills training on physicians' discussion of clinical trials in oncology: results from a randomized controlled trial. *BMC Cancer, 17*(1), 264. doi:10.1186/s12885-017-3238-0 [pii];3238 [pii];10.1186/s12885-017-3238-0 [doi]. Retrieved from PM:28403837

Yang, P. (2019). Maximizing quality of life remains an ultimate goal in the era of precision medicine: exemplified by lung cancer. *Precis.Clin Med, 2*(1), 8-12. doi:pbz001 [pii];10.1093/pcmedi/pbz001 [doi]. Retrieved from PM:35694702