newsround

Selected reports edited by Janet Fricker

Decisional aids increase patient knowledge and reduce regret

British Journal of Cancer

Use of decision aids can potentially increase knowledge and reduce decisional regret around clinical trial participation, a recent study has found. But the joint Australian and UK study, representing the first randomised controlled trial of a decision aid, found they have no effect on reducing decisional conflicts experienced by patients.

While research has demonstrated support for clinical trials as a way to improve oncology care, patients commonly fail to understand the rationale and design of clinical trials, which could potentially compromise informed consent. Decision aids have been developed to optimise informed consent by helping patients weigh up pros and cons. They supplement verbal guidance from clinicians by presenting clear written and graphical information about options and outcomes.

In the study, Ilona Juraskova and colleagues, from the University of Sydney, Australia, and Queen Mary College, London, investigated whether decision aids reduce decisional difficulties among women considering participation in the International Breast Cancer Intervention Study-II (IBIS-II) trial. IBIS-II was an international multicentre study evaluating anastrozole versus standard treatment in two groups of post-menopausal women – those at elevated risk of breast cancer without breast symptoms (IBIS-II Prevention) and those recently treated for ductal carcinoma in situ (IBIS-II DCIS).

For the current trial, participants were randomised to receive a trial pack with additional decision aid information (n=141, of whom 109 were in the prevention group and 32 in the DCIS group), or to a control group who just received the trial pack (n=149, of whom 114 were in the prevention group and 35 in the DCIS group).

The primary outcome was 'decisional conflict score', assessed using the validated decisional conflict scale containing 16 items designed to measure the amount of uncertainty patients have regarding a course of action, and factors contributing to that uncertainty.

Results for the prevention cohort show that the decisional conflict score was 15.7 for the decision aid group versus 13.2 for the control group (P=0.4); while for the DCIS cohort the decisional conflict score was 20.7 for the decision aid group versus 11.9 for the control group (P=0.1).

For the prevention cohort, the secondary outcome score of decisional regret, measured after three months, achieved a score of 10.1 in the decision aid group versus 16.0 in the control group (P=0.04). Also in the prevention cohort, decisional satisfaction after three months was 4.62 in the decision aid group versus 4.42 in the control group (P=0.07).

In the DCIS cohort, no significant differences between decision aid and control groups were found for decisional regret and decisional satisfaction. However, in this cohort, the decision aid group had an objective knowledge score of 77.6 compared to 63.8 for the control group (P=0.008).

"The results suggest that decision aids may improve the informed consent process by increasing knowledge and reducing decisional regret. However, different results were found in the Prevention and DCIS cohorts, suggesting that trial population characteristics are important in determining intervention efficacy," write the authors.

I Juraskova, P Butow, C Bonner et al. Improving decision making about clinical trial participation – a randomised controlled trial of a decision aid for women considering participation in the IBIS-II breast cancer prevention trial. *BJC* 1 July 2014, 111:1–7

Frail breast cancer patients less likely to receive hormone therapy

Journal of Clinical Oncology

Frailty is associated with hormone therapy not being initiated in older breast cancer patients, but does not predict early discontinuation, finds a prospective cohort study.

Women over 65 years make up nearly half of breast cancer patients and are predicted to account for increasing numbers due to ageing populations. While older breast cancer patients are eligible for adjuvant hormonal therapy, its use is not universal. For the study, Vanessa Sheppard from Georgetown University, Washington, and colleagues, examined

the influence of frailty on hormonal therapy non-initiation and discontinuation. The concept is used to capture functional status, and although prior studies have considered age, comorbidity, or functional status, none have included the 'multidimensional construct' of frailty, which encompasses daily functioning, and physiologic, cognitive, and emotional reserves. For the study, functional status and levels of comorbidity were considered as distinct entities from chronological age.

Between January 2004 and April 2011, a prospective cohort of 1,288 women with a mean age of 72.8 years diagnosed with invasive non-metastatic breast cancer was recruited from 78 centres and asked to undertake baseline interviews. Frailty was measured by adapting a 35-item scale (developed by Searle et al) to predict mortality in older people living in the community. This included self-reported items relating to limitations in activities of daily living, sensory deficits, and pre-diagnosis co-morbidity. Hormonal initiation was defined from records and discontinuation from self-report.

Results (analysed for the 1,062 patients with ER-positive tumours) showed that 76.4% (*n*=803) had scores in the robust range (0 to <0.2); 18.7% (*n*=197) in the pre-frail range (0.2 to <0.35); and 4.9% (*n*=51) in the frail range (>0.35). Overall only 14% of subjects failed to have hormone therapy initiated; and among those who had hormone therapy initiated, 79.3% (*n*=710) received an aromatase inhibitor, and 21.7% (*n*=185) tamoxifen or another selective ER modulator.

In univariable analyses, several factors were found to relate to non-initiation of treatment, including age (OR=1.04; 95%CI 1.01–1.07 per 1-year increase; *P*=0.007); non-white race (vs white; OR=1.69; 95%CI 1.04–2.75; *P*=0.034); and frailty or pre-frailty versus robustness (OR=1.77; 95%CI 1.21–2.58; *P*=0.003). Continuation of treatment at five years was 41% for those in the frail group versus 50% in the robust group (*P*=0.045).

"This study demonstrates that the overwhelming majority of older women initiated adjuvant hormonal therapy, but nearly half discontinued treatment before 5 years... Even after considering chronologic age, women who were frail or pre frail tended to have higher odds of noninitiation," write the authors.

The relationship between higher frailty and non-initiation, they add, could indicate that women and/or their providers have considered the balance of life expectancy and the probability of recurrence within remaining life expectancy. "An alternative explanation is that women with greater frailty may have been concerned about adverse effects based on interactions of hormonal therapy and specific co-morbidities, such as cardio- and/or cerebrovascular disease, and risk of thromboembolic events," they add.

■ V Sheppard, L Faul, G Luta et al. Frailty and Adherence to Adjuvant Hormonal Therapy in Older women with Breast Cancer: CALGB Protocol 369901. *JCO* 22 August 2014, 22:2318–27

Training needed to recognise low health literacy

■ Patient Education and Counseling

Low subjective health literacy among women with ovarian tumours was associated with less perceived information provision about medical tests and lower information satisfaction, a Dutch study has shown. Healthcare providers require training to identify patients with low health literacy, suggest the authors.

Adequate information has been shown to be an unmet need among cancer survivors through all phases of their disease. Effective provision of information is recognised to require an individualised approach tailored to patients' needs, competences, limitations and possible barriers to use of health information.

In the current study Nicole Ezendam and colleagues, from the Comprehensive Cancer Centre, The Netherlands, investigated associations between health literacy and perceived levels of information provision and information satisfaction, controlling for education. Prior to the study, the authors hypothesised that lower health literacy and education levels would both be associated with less perceived information provision and satisfaction.

For the study, 548 women diagnosed with ovarian cancer or borderline ovarian tumours between 2000 and 2010, registered in the Eindhoven Cancer Registry, were invited to fill in questionnaires that addressed educational levels, employment status and marital status, and also asked about their perceived levels of, and satisfaction with, the information provided. Additionally, a Dutch adaptation of Chew's three-item Set of Brief Screening Questions (SBSQ) was used to evaluate subjective health literacy, asking patients to rate how confident they felt filling out medical forms on their own ("very", "quite", "somewhat", "a little" or "not at all").

Of the 275 women who responded (50%), 13% had low health literacy, 41% medium health literacy and 46% high health literacy. Additionally, 55 (20%) had high educational levels, 171 (62%) medium educational levels, 40 (15%) low educational levels and 9 (3%) unknown educational levels.

Hierarchical multiple logistic regressions revealed no significant associations between educational levels and information satisfaction, but in comparison to patients with high subjective health literacy, women with low health literacy were significantly less likely to be satisfied with information received (OR=0.2, 95%CI 0.1–0.6).

"In the present study, lower subjective HL [health literacy] was associated with less perceived information provision about medical tests and lower information satisfaction," write the authors, adding that contrary to their initial hypothesis, low educational levels were associated with more perceived information provision about disease compared to high levels. But health literacy and educational levels, they add, explain a relatively small amount of variability in perceived information provision and information satisfaction.

Low educational levels, they point out, do not necessarily imply low learning capacity, and other patient characteristics, such as coping styles, also have a part to play.

"Findings from our study highlight the need for low HL to be identified and managed within cancer care. As health care providers may overestimate their patients' HL they might need specific training about recognizing low HL in patients and strategies that can be used to enhance their communication with patients with low HL," write the authors.

■ M Verkissen, N Ezendam, M Fransen et al. The role of health literacy in perceived information provision and satisfaction among women with ovarian tumors: A study from the population-based PROFILES registry. *Patient Educ Couns* June 2014, 95:421–428

Classification system shows prognostic and predictive value in lung adenocarcinoma

■ Journal of Clinical Oncology

In patients with lung adenocarcinoma receiving adjuvant chemotherapy, the IASLC/ATS/ERS classification system delivered significant prognostic and predictive information for death and recurrence, a Taiwanese study has concluded. The investigators showed the information could be used to stratify patients for aggressive adjuvant chemoradiotherapy.

In the study, Wen-Hu Hsu and colleagues, from Taipei Veterans General Hospital, in Taiwan, set out to explore the relationship between histologic subtyping according to the new International Association for the Study of Lung Cancer (IASLC)/American Thoracic Society (ATS)/European Respiratory Society (ERS) classification system and recurrence.

The classification system recommended using comprehensive histologic subtyping to semi-quantitatively assess histologic patterns in 5% increments to define the single predominant pattern (lepidic, acinar, papillary, micropapillary, or solid) for invasive adenocarcinomas.

Between January 2004 and December 2010, 573 patients who underwent complete resection for lung adenocarcinomas at Taipei Veterans General Hospital were retrospectively reviewed.

Results show that, among the 573 patients, 35 (6.1%) were found to have lepidic-predominant tumours, 193 (33.7%) acinar-predominant tumours, 155 (27.1%) papillary-predominant tumours, 112 (19.5%) micropapillary-predominant tumours, and 78 (13.6%) solid-predominant adenocarcinomas.

At a median follow-up of 47 months, 58.5% of patients (n=335) were free of tumour recurrence, 32.5% (n=186) had developed recurrence and 9% (n=52) had unknown recurrence status.

Recurrence was significantly higher in patients with micropapillary- and solid-predominant adenocarcinomas than among those with other types of tumours (P<0.01).

Micropapillary- and solid-predominant adenocarcinomas also had a significantly higher possibility of developing initial extrathoracic-only recurrence than other types (P<0.01)

The pattern of initial recurrence of the five predominant histologic patterns was not significantly different according to local/distant (P=0.36) or intrathoracic/extrathoracic recurrence (P=0.25), and no significant differences for pleural effusions were found among the five predominant histologic patterns (P=0.23).

Patients with micropapillary- and solid-predominant adenocarcinomas had a significantly higher probability of having initial extrathoracic-only recurrence than those with lepidic-, acinar-, or papillary-predominant adenocarcinomas (P<0.01).

Patients with micropapillary-predominant tumours showed decreases in overall survival compared with patients with other tumours predominating (HR=1.4, 95%CI 1.0–2.1, P=0.06), as did patients with solid-predominant tumours (HR=2.3, 95%CI 1.6–3.5, P<0.01).

"In conclusion, the IASLC/ATS/ERS classification system has significant prognostic and predictive value for survival and recurrence, which will likely affect clinical decision making in the near future. This information is important for designing clinical randomized trials for aggressive adjuvant therapy," write the authors.

■ J Hung, Y Yeh, W Jeng et al. Predictive value of the International Association for the Study of Lung Cancer/ American Thoracic Society/European Respiratory Society classification of lung adenocarcinoma in tumor recurrence and patient survival. *JCO* 1 August 2014, 36:2357–68

Patient support delivers timely cancer care

■ JNCI

Providing systematic support to patients with abnormal cancer screening results or cancer moderately improved achievement of "timely" cancer care, the Patient Navigation Research Program (PNRP) has found.

Patient navigation – support and guidance offered to people with abnormal cancer screening results or cancer – was devised to address health disparities among people from ethnic minorities and lower income groups. Although rapidly becoming a standard of care, previous studies have reported mixed findings for patient navigation, with some reporting the achievement of more timely care and others not.

In the current study, Karen Freund, from Tufts University School of Medicine, and colleagues, undertook the first multicentre clinical trial (involving nine centres) to examine benefits of patient navigation in participants with breast, cervical, colorectal or prostate screening abnormalities and/or cancer between 2007 and 2010.

Navigation was initiated after a clinician informed the participant of the abnormal test

result, with programmes including opportunities for face-to-face interaction between participants and navigators as well as telephone and mail contact. Navigators also worked with families, healthcare providers, and social service agencies to identify resources to address barriers to care.

Altogether 10,521 participants with abnormal cancer screening results were enrolled, of whom 5,063 received the 'navigation' intervention and 5,458 acted as the controls who did not. Furthermore, for the 2,105 patients with a diagnosis of cancer or of precancerous lesions, 1,032 received the navigation intervention and 1,073 acted as controls who did not. The first outcome of interest was whether and when diagnostic resolution of the abnormal cancer screening result was achieved, and the second was time to initiation of treatment for participants with invasive cancer or precancerous lesions.

Results show that there was no benefit for those receiving 'navigation' during the first 90 days of care, but that benefits for patients in the navigation group in comparison with the control group were seen from 91 to 365 days, for both diagnostic resolution (HR=1.51, 95%CI 1.23–1.84; $P<0.001$) and treatment initiation (HR=1.43, 95%CI 1.10–1.86; $P<0.007$).

"In conclusion, the PNRP demonstrates the effectiveness of patient navigation in settings where resources are low or there is a history of poor follow-up rates and among patients at risk of failure to comply with follow-up or treatment recommendations after an abnormal cancer screening test," write the authors.

The finding of no benefit in the first 90 days, they add, may reflect the time required to connect navigators with participants. The finding that 13% of participants with abnormal breast cancer screening results were not able to be contacted by their navigator within 60 days, they add, supports this view.

The impact of patient navigation was greatest among centres with low baseline resolution or treatment initiation rates in the control arm. "This speaks to a need for patient navigation services in settings that possibly have few resources to assist underserved participants to complete timely diagnostic resolution and initiate cancer treatment," the authors conclude.

■ K Freund, Tracy Battaglia, E Calhoun et al. Impact of patient navigation on timely cancer care: The Patient Navigation Research Program. *JNCI* June 2014, 106(6):dju115

MR-guided ultrasound helps bone pain

■ JNCI

MR-guided focused ultrasound surgery (MRgFUS) offers a safe and effective, non-invasive treatment for alleviating pain from bone metastases in patients who have failed standard treatments, a US trial has found. The study represents the first completed phase III study of MRgFUS in oncology.

Bone metastases are common among patients with advanced cancer, and pain due to bone metastases is a frequent cause of cancer-related morbidity. Radiation therapy, together with systemic therapies and analgesics, is the standard of care for localised metastatic bone pain, although up to two-thirds of patients have residual pain after radiotherapy, leaving limited treatment options.

MRgFUS is a non-invasive technique combining focused ultrasound (FUS) with magnetic resonance (MR), enabling physicians to perform precise localised tumour tissue ablation. FUS delivers acoustic energy to heat lesions focally to ablative temperatures of more than 65°C.

Between July 2008 and May 2012, Mark Hurwitz from the Bodine Center, Philadelphia, and international colleagues, randomly assigned 147 patients 3:1 to MRgFUS ($n=112$) or placebo ($n=35$). The placebo treatment for the study, which took place in 17 centres across the US, Canada, Israel, Italy and Russia, was identical to MRgFUS, but with sonication power switched off. While patients with up to five painful lesions were eligible, the single treated lesion had to cause at least two points' greater pain on the Numerical Rating Scale (NRS) than any other lesion.

The primary endpoint was a composite of change from baseline in worst NRS scores (0–10 scale) and morphine equivalent daily dose (MEDD), with patients considered responders if their worst NRS had decreased by at least two points and their MEDD had not increased by more than 25% from baseline to three months.

Results show that the primary endpoint was achieved in 64.3% in the MRgFUS arm versus 20.0% in the placebo arm ($P<0.001$). At three months the change from baseline in worst NRS was 3.6 for the MRgFUS group versus 0.7 for the placebo group ($P<0.001$), and there was also a statistically significant improvement in the Brief Pain Inventory (a measure of functional interference of pain on quality of life) for the MRgFUS group ($P<0.001$).

The most common treatment-related adverse event was sonication pain, which occurred in 32.1% of MRgFUS patients. Furthermore, two patients had pathological fractures, one patient had third-degree skin burns, and one patient suffered from neuropathy. Overall, 60.3% adverse events resolved on the day of treatment.

"MRgFUS provides durable pain relief and improved function in patients who failed radiation or those who are not candidates for or declined radiation. Given the impact of these clinically significant results, coupled with a favorable side-effect profile, MRgFUS should be considered a viable treatment option for painful bone metastases," write the authors. Further studies, they add, are required to assess the role of MRgFUS in patients with bone metastases as first-line therapy.

■ M Hurwitz, P Ghanouni, S Kanaev et al. Magnetic Resonance-Guided Focused Ultrasound for Patients with Painful Bone Metastases. Phase III Trial Results. *JNCI,* June 2014, 106(5):dju082