BACKGROUND

Rationale: Most studies up to date focus on older breast cancer or younger leukaemia patients, receiving CNS-directed treatments. Chemotherapy-induced cognitive issues have not been extensively studied in younger adults and populations with other malignancies.

Objectives:
- Are there differences in cognitive functioning between cancer patients and healthy matched controls?
- Are there differences between cancer types?
- Are changes in cognitive functions predicted by measure of fatigue or distress?
- Are memory problems predicted by attention problems?

METHODOLOGY

Participants
- Cancer survivors (N=75): 6 months - 5 years post-treatment.
- Controls (N=75): individually matched.

Materials
- Neuropsychological battery: Wechsler Test of Adult Reading, D2, Stroop, Test of Memory Malingering, Birt Memory and Information Processing Battery, Digit span, Controlled Oral-Word Associations, DKEFS Trail Making Task.
- Self-assessment questionnaires: EORTC-Quality of Life, Hospital Anxiety and Depression Scale, Subjective Cognitive Complaints Questionnaire, Fatigue Scale.

RESULTS

Neuropsychological tests
- Significant difference between controls and survivors on most cognitive tests (F=3.32, p<.001).
- Attention: poorer performance; not significantly different to controls on errors.
- There are differences in performance among the cancer groups (F=1.69, p<.001).
- Hodgkin's lymphoma patients usually perform better than other groups.
- There was no significant difference between groups on measures of memory effort, working memory, visual recognition memory, and information processing tests.
- Variance for most executive functioning scores is not predicted by other variables.
- Variance of most memory tests predicted either by attention performance or depression, cognitive complaints, physical symptoms.

Psycho-social tests
- Significant difference between survivors and controls (F=9.09, p<.001).
- Survivors have a lower quality of life and physical functioning, a larger number of physical symptoms, physical and mental fatigue, anxiety, depression, and cognitive complaints (all p<.001).

CONCLUSIONS

- Young cancer survivors, in either cancer group, have a poorer cognitive performance compared to their healthy control counterparts.
- Despite the general focus of the literature of breast cancer patients, other cancer groups also have cognitive side-effects, especially lymphoma patients.
- Interestingly, attention problems and some executive functioning measures are predicted by the physical functioning of the participants.
- Memory test results are mainly predicted by concentration issues and/or distress, and cognitive complaints.

Table 2. Standardized mean differences, predictors contributing to the variance of each cognitive score, and main cancer groups affected (HL = Hodgkin's lymphoma, NHL = non-Hodgkin's, GCT = germ cell tumour, BC = breast cancer, C=controls)