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Exploration of the work related experiences of breast cancer survivors returning to work.

Abstract

Background: The risk of unemployment amongst breast cancer survivors is at a much higher incidence level than the healthy population, yet the health related benefits of employment include physical and social functioning, and vitality. Therefore, this study aimed to systematically review and synthesise qualitative research studies on the return to work experiences of breast cancer survivors to identify predictors and challenges influencing return to work outcomes.

Methods: The methods involved following a rigorous meta-synthesis process which aims to integrate the results from several inter-related qualitative studies, using an interpretive approach. A total of 207 results were retrieved from five databases; 31 studies were included following screening of the title and abstracts, and finally 12 publications were deemed relevant following screening of the full text. The included studies were quality appraised and rigorously evaluated using the Critical Appraisal Skills Programme (CASP) prior to rigorously following the meta-synthesis process.

Results: The findings suggest that the benefits of work, financial concerns, the consequences of breast cancer, employer/ coworker support, and new values are key concepts which influence breast cancer survivors RTW experience. The importance of these concepts on returning to work is dependent on the value survivors place on these constituent functions.

Conclusion: The meta synthesis proposed for this research study provides synthesized evidence on the work related experiences of breast cancer survivors, and the implications of this for occupational therapy clinical practice and suggestions for future research, particularly occupational therapist's role in the vocational rehabilitation of breast cancer survivors.

Introduction

Breast cancer (BC) is a chronic illness (Naus *et al.*, 2009). It's the most commonly diagnosed cancer in women (American Cancer Society, 2015; Robinson *et al.*, 2015), and the most prevalent cancer diagnosis amongst the working population (de Boer *et al.*, 2011). The number of women surviving BC is increasing with improvements in cancer detection and treatment resulting in more women living with the disease (Lydon and Hughes 2012). Although, according to the American Cancer Society, treatment options for BC survivors particularly stages II to IVB typically involve surgery or a mastectomy, followed by radiotherapy or radiotherapy given in combination with chemotherapy, resulting in substantial adverse treatment effects (2015). This can result in functional implications, and consequently impact on breast cancer survivors return to employment (Lydon and Hughes 2012). A study of German, French and UK breast cancer participants (n=198) demonstrated that 54% of women with BC were in full time employment before diagnosis, which decreased to 32% after treatment, and over half of the women still working reported difficulties with tiredness or concentration (Braybrooke *et al.*, 2015). This highlights that there's a much higher incidence and risk of unemployment amongst BC survivors than the healthy population (Ahn *et al.*, 2009; Hoving *et al.*, 2009; Braybrooke *et al.*, 2015). Therefore, the adverse effects of BC treatment, and the impact on survivors may correlate with the low percentage of these survivors returning to employment, as employment status after BC is related to recovery from treatment, and functional and psychosocial quality of life (Blinder *et al.*, 2012).

The majority of people's quality of life is significantly better when they return to employment (Dominy and Hayward-Butcher 2012) particularly considering the health related benefits of employment including general health, physical and social functioning (Schuring *et al.* 2011). An important element in cancer patient's quality of life is the ability to continue working throughout cancer illness or returning to employment following treatment (Fantoni *et al.* 2010). The implications of being kept away from employment is economic prejudice and can result in lowered self-esteem and health status, as well as a poor quality of life which could lead to social isolation (Fantoni *et al.* 2010). On returning to work woman can find personal, medical and professional factors simultaneously difficult (Fantoni *et al.* 2010). Therefore, the benefits of occupational therapy for BC patients

returning to work has huge importance in effectively answering unmet needs, as the skills occupational therapists obtain enable a bridge to be created between care and the work environment (Désiron *et al.* 2015). A study of BC survivors demonstrated that most of the participants (85.8%) were satisfied with information received from healthcare professionals, yet only 29.7% of participants received information about returning to employment (Braybrooke *et al.*, 2015), which demonstrates a gap in services and a potential role for occupational therapy.

Methods

This study employed a qualitative meta-synthesis methodology, utilizing meta-ethnographic techniques to provide a synthesis of findings. Meta-synthesis is a term used to describe the integration of results from several inter-related qualitative studies, using an interpretive approach (Walsh and Downe, 2014) which involves examining, critically comparing and synthesising qualitative studies (Hammell, 2007). This enables interpretation of qualitative articles from multiple sources, methods, theories and investigators (Hammell, 2007).

Meta-synthesis of qualitative studies has a greater impact on furthering knowledge and informing practice as qualitative studies are situated in a larger interpretative context, and therefore enhance the generalizability of qualitative research (Barnett-Page and Thomas 2009). There are a range of methods for synthesising qualitative research, and in this study differing methods of synthesis and ways of identifying themes were acknowledged and considered including reciprocal translation analysis and refutational synthesis. (Barnett-Page and Thomas, 2009). Reciprocal translation analysis involves the translation of concepts from original research studies, and developing overarching concepts or metaphors (Barnett-Page and Thomas 2009). Conversely, refutational synthesis involves investigating and justifying contradictions between conflicting original research. However, for the purpose of this study the meta-ethnography method of synthesis was employed, as this method retains the authenticity of original research (Barnett-page and Thomas, 2009).

Meta-ethnography

Meta-ethnography preserves the integrity and authenticity of original studies with the selection of key metaphors, which are then compared and translated to establish a new interpretation of these studies, rather than simply aggregating findings which creates a greater explanatory power than a literature review (Noblit and Hare, 1998; Britten et al., 2002). This supports the researcher to gain a better understanding of BC work related experiences and provide recommendations for occupational therapy practice.

The meta-synthesis process is comprised of five stages: identification of the focus of this review, identification of qualitative breast cancer RTW articles and screening to determine their relevance to the research question, quality appraisal of the research studies, extraction of key themes across original studies and comparison and synthesis of key themes (Hammell 2007). These stages are now elaborated on below.

Sampling methods

The focus of this review has been identified; to determine the work related experiences of breast cancer survivors and the consequential implications for returning to employment.

Qualitative published articles were identified from five databases: AMED, CINAHL, MEDLINE, PsychArticles, and PsychINFO. Databases were searched for English language studies and articles on BC survivors above the age of 18 and self-employed or in paid employment using a combinations of terms outlined in table 1. There were no limitations on the publication dates. Table 2 outlines the the full list of inclusion/ exclusion criteria.

Search terms
<p><u>Cancer:</u> OR ‘breast carcinoma’ OR ‘breast tumour’ OR ‘breast carcinoma disease’ OR malignancy OR ‘breast cancer’ OR breast* OR ‘malignant growth’ OR cancerous* OR ‘malignant disease’ OR lumpectomy OR mastectomy OR ‘breast neoplasm’ OR ‘axillary dissection’ OR BC OR ‘metastatic breast cancer’</p>

<p><u>WORK:</u></p> <p>Work* OR Employ* OR “Work function*” OR “Work rehab*” OR Productivity OR “Readiness to work” OR Workability OR “Functional status” OR “Work participation” OR Workplace OR vocation* OR occupation* OR job* OR retention OR role* OR trade* OR dut* OR profession* OR livelihood OR pursuit* OR labour* OR industry* OR worker OR perform* OR task* OR presenteeism OR status OR environment* OR organisation* OR office OR “Sickness absence” OR “Sick leave” OR Vocational rehab* OR Occupational Therap*</p> <p><u>QUALITATIVE:</u></p> <p>Interview* OR “focus group*” OR thematic* OR experience* OR narrative* OR qualit* OR “life-story” OR interpretati* OR “Discourse analysis” OR “Grounded theory” OR “content analysis” OR ethnograph* OR epistemology* OR lived OR phenomenol* OR “In-depth interview*” “Semi-structured interview*” OR “case stud*” OR “Thematic Synthesis” OR Observation*</p>

Table 1. Search terms

	Inclusion criteria	Exclusion criteria
Population	Adults aged 18 years and over who have a form of breast cancer	Children and adolescents Retirees
Study design	Interviews/ In-depth interviews Semi-structured interviews Focus groups Grounded theory Ethnography/ Phenomenology Case studies Thematic Synthesis Observations	Quantitative research and data
Employment	Self-employed Paid employment In employment	Volunteering Education Retirees screening

Table 2. Inclusion/ exclusion criteria

207 returned articles were deemed relevant and appraised as part of the next meta-synthesis stage. Duplicate articles and articles not addressing the focus of the review were excluded through a screening process resulting in twelve studies included in the final review, which is demonstrated as a flow chart in Table 3.

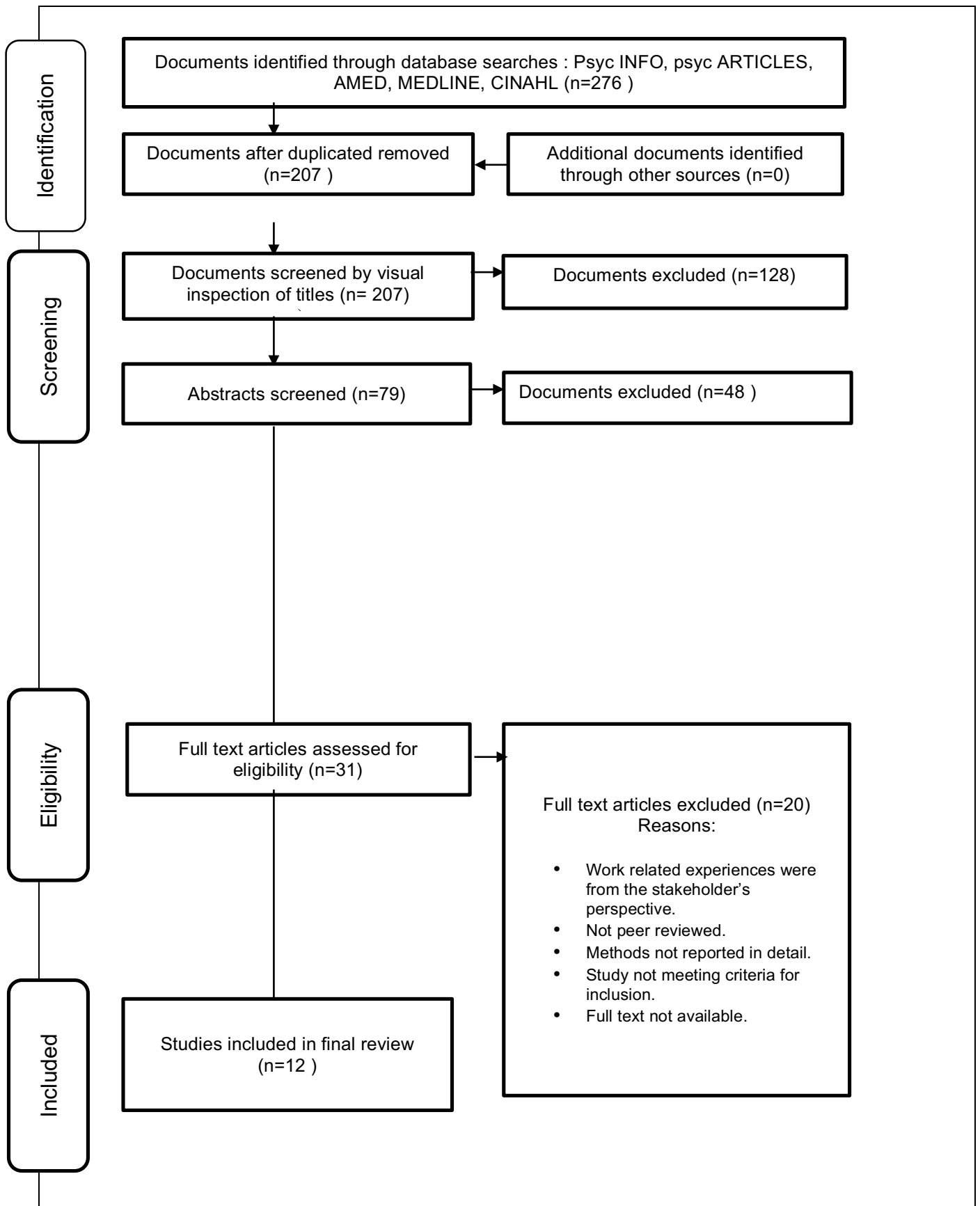


Table 3. Search strategy enabling the identification of eligible articles

The high quality of this meta-synthesis was ensured by rigorous evaluation of the included studies using the Critical Appraisal Skills Programme (CASP) (2010), a well-recognized appraisal tool as cited by Hannes (2011) in the Cochrane Collaboration Qualitative Methods Group Handbook, with outlined predetermined scoring criteria (Table 4). The majority of included studies were high scoring, scoring approximately 8 out of 10, while studies may not have fully scored as a result of an unclear description of selection such as the researchers interpretation (the audit trail). This appraisal process was also used to consider researcher bias, credibility, and dependability of the included studies (Morse *et al* 2002).

Author (Year)	Was there a clear statement of the aims of the research?	Is the qualitative methodology appropriate?	Was the research design appropriate to address the aims of the research?	Was the recruitment appropriate to the aims of the research?	Was the data collected in a way that addressed the research issue?
Ashing-Giwa <i>et al.</i>, 2004	Yes	Yes	Yes	Yes	Yes
2. Blinder <i>et al.</i>, 2012	Yes	Yes	Yes	Yes	Yes
4. Johnsson <i>et al.</i>, 2010.	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes
5. Kennedy <i>et al.</i>, 2007.	Yes	Yes	Yes	Yes	Yes
7. Maunsell <i>et al.</i>, 1999	Yes	Yes	Yes	Yes	Yes
9. Nilsson <i>et al.</i>, 2013	Yes	Yes	Yes	Yes	Yes
10. Raque-Bogdan <i>et al.</i>, 2015.	Yes	Yes	Yes	Yes	Yes

11. Robinson <i>et al.</i>, 2015.	Yes	Yes	Yes	Yes	Yes
12. Sandberg <i>et al.</i>, 2014.	Yes	Yes	Yes	Yes	Yes
13. Tiedtke <i>et al.</i>, 2012.	Yes	Yes	Yes	Yes	Yes
14. Tiedtke <i>et al.</i>, 2015.	Yes	Yes	Yes	Yes	Yes

Author (Year)	Has the relationship between researcher and participants been adequately considered?	Have ethical issues been taken into consideration?	Was the data analysis sufficiently rigorous?	Is there a clear statement of findings?	How valuable is the research?
1. Ashing-Giwa <i>et al.</i>, 2004	Yes	Yes	Yes	Yes	Valuable
2. Blinder <i>et al.</i>, 2012	Yes	Yes	Yes	Yes	Valuable, provides information that may help guide practitioners support breast cancer survivors' RTW
3. Johnsson <i>et al.</i>, 2007	Yes	Yes	Yes	Yes	Valuable
4. Johnsson <i>et al.</i>, 2010.	Yes	Yes	Can't tell	Yes	Highly valuable
5. Kennedy <i>et al.</i>, 2007.	Yes	Yes	Yes	Yes	Highly valuable, helps to highlight the dynamics of work return for breast cancer survivors & helps to inform future service improvements
6. Maunsell <i>et al.</i>, 1999	No, potential bias in relation to the formulation of research questions.	Yes	Can't tell	Yes	Valuable
7. Nilsson <i>et al.</i>, 2013	Yes	Yes	Yes	Yes	Valuable, this study demonstrates that there's an interplay between

					breast cancer survivors' inner possibilities (own preferences and perceived competence), and outer opportunities.
8. Raque-Bogdan <i>et al.</i>, 2015.	Yes	Yes	Yes	Yes	Highly valuable,
9. Robinson <i>et al.</i>, 2015.	Yes	Yes	Yes	Yes	Valuable, as this research creates a tool kit, to support breast cancer employees and employers to manage related difficult conversations.
10. Sandberg <i>et al.</i>, 2014.	Can't tell	Yes	Yes	Yes	Valuable, provided additional knowledge on strategies to address in relation to breast cancer survivors' work related limitations.
11. Tiedtke <i>et al.</i>, 2012.	Yes	Yes	Yes	Yes	Highly valuable, this research highlights 4 considerations made by breast cancer survivors, which should not be ignored, in addition to accompanying emotions.
12. Tiedtke <i>et al.</i>, 2015.	Yes	Yes	Yes	Yes	Valuable, and identifies the need for additional research.

Table 4. Critical Appraisal Skills Programme (CASP) quality appraisal of included studies.

The returned articles were also appraised for rigor and quality by rigorously following the meta-synthesis process outlined previously (Hammell, 2007). Following quality appraisal using CASP guidelines, the twelve included studies and key findings were extracted and recorded onto excel spreadsheets. This included the raw data (participant's quotes based on their experiences) which were coded as first order constructs, and the findings (author's interpretations of participant's reported experiences), which were coded as second order constructs. This supported the analysis of the original findings, concepts and themes and the identification of comparisons and transferability of studies in order to establish developed 3rd order constructs/interpretations (Campbell *et al.*, 2003). Another important indicator of quality is clear evidence based on participant's perspectives that the themes outlined by the

researchers is rooted within the data (Jensen and Allen, 1996; Hammell, 2007), which has been evaluated in the included studies.

Ethics

As this review involves the analysis of previously published qualitative research, this eliminated any immediate ethical implications. Ethical consideration was still taken into account, as studies included in this review were assessed for ethical standards upon appraisal of included articles in order to ensure authors of these studies followed ethical protocol, received ethical approval for the individual studies, and obtained participant consent.

Results

Five themes were identified across twelve articles as the work related experiences of breast cancer survivors and the consequential implications for returning to employment (Table 5)

<ol style="list-style-type: none">1. Perceived benefits of work.2. Financial concerns influencing RTW3. The consequences of Breast Cancer and Breast Cancer treatment after returning to work.4. Employer/ Co-worker support and work environment which enable / act as barriers to RTW5. New Values- altered/ changed value of work as an occupation, which impacts on work performance.

Table 5. Identified 3rd order constructs (themes)

Perceived benefits of work

The perceived benefits of work were identified by participants in eight out of twelve studies included in this review. Work was often emphasized by women as a distraction from being ill (Maunsell *et al.*, 1999; Kennedy *et al.*, 2007; Johnsson *et al.*, 2010), and offered a sense of normality and structure (Johnsson *et al.*, 2010; Kennedy *et al.*, 2007; Nilsson *et al.*, 2011): ‘*my work was my life and I lived through that disease thinking: get on with it, so I can go back to work*’ (Tiedtke *et al.*, 2015, page 1773). Women described feeling like they have recovered when they had returned to work (Tiedtke *et al.*, 2012;

Tiedtke *et al.*, 2015), with returning to work perceived as a sign of returning to life (Johnsson *et al.*, 2010). In addition, work provided women with a source of social interaction, and a connection with others, they felt emotionally better at work (Kennedy *et al.*, 2007; Johnsson *et al.*, 2010).

Many women described returning to work as a means to re-establish their former selves, as work contributed to their sense of identity, which was often both challenged and supported on returning to work (Maunsell *et al.*, 1999; Kennedy *et al.*, 2007; Johnsson *et al.*, 2010; Tiedtke *et al.*, 2015). Work provided some women with a means of validation when they returned, in terms of achievement: *'Before I left... I felt that my work was taken for granted. I felt nobody saw me'* (Johnsson *et al.*, 2010, page 320-321). For others work provided the opportunity to be alert, constructive and creative (Johnsson *et al.*, 2010).

Financial concerns influencing RTW

Although work was reported to have several beneficial attributes, issues of financial concern were still prominent and identified in five out of the twelve included studies in this review, with many women reporting that financial concerns were the primary reason for returning to work. Some women expressed that they had no desire to return to work (RTW) other than financial reasons (Johnsson *et al.*, 2010), which accelerated after sick pay leave had expired (Kennedy *et al.*, 2007; Nilsson *et al.*, 2011).

Financial pressure due to family circumstances and commitments often resulted in trepidation in relation to women disclosing their diagnosis to their employer (Johnsson *et al.*, 2010), as the fear of potential job loss caused by not knowing whether complete recovery was a possibility created enormous financial concerns about the future (Tiedtke *et al.*, 2012). In some cases, this fear became a reality as women experienced unemployment or reduced wages which caused financial stress and challenged family budgets (Maunsell *et al.*, 1999; Ashing-Giwa *et al.*, 2004; Kennedy *et al.*, 2007; Johnsson *et al.*, 2010; Raque-Bogdan *et al.*, 2015). In addition, financial insecurity often resulted in women not attending treatment appointments (Ashing-Giwa *et al.*, 2004), although this may prompt a vicious cycle, as lack of treatment appointment attendance may prohibit full recovery.

Some women however were more fortunate and were able to avail of benefits, noting that the 'permitted work' scheme in the UK provided support in relation to being able to work

part time and claim benefits (Kennedy *et al.*, 2007). Although others found negotiating the benefits system as sometimes challenging and an insensitive experience (Kennedy *et al.*, 2007).

The consequences of Breast Cancer and Breast Cancer treatment after returning to work

This theme was identified in eight out of twelve studies. One of the main apprehensions encountered by women returning to work were fears of being less competent at work (Maunsell *et al.*, 1999; Ashing-Giwa *et al.*, 2004). The work ability of women returning to work was impacted by physical and cognitive impairments following cancer treatment including fatigue, weakness, feeling unwell, (Maunsell *et al.*, 1999; Ashing-Giwa *et al.*, 2004; Johnsson *et al.*, 2007; Kennedy *et al.*, 2007; Tiedtke *et al.*, 2012; Raque-Bogdan *et al.*, 2015) and slower cognitive processing, difficulty with multitasking, reduced decision making ability, short-term memory and concentration (Main *et al.*, 2005; Raque-Bogdan *et al.*, 2015), which impacted on women's confidence and reduced their self-esteem and self acceptance (Maunsell *et al.*, 1999; Ashing-Giwa *et al.*, 2004; Kennedy *et al.*, 2007). Kennedy *et al.*, 2007 found that 25% of BC survivors experience residual fatigue which often lasts months following treatment, one woman quoted: *'The fatigue was the worst. And it's different...it's like your whole body's tired'* (Raque-Bogdan *et al.*, 2015, page 659). Women also displayed fears of BC recurrence with the possibility of further absence from work, which consequently had an impact on new employment prospects, as it prevented women from seeking promotion or new job opportunities (Maunsell *et al.*, 1999).

Women tended to be very apprehensive about co-workers and employers' perceptions of them, particularly in relation to changes in their appearance, and their changed bodies (Ashing-Giwa *et al.*, 2004; Kennedy *et al.*, 2007). Women felt they were confronted with social beauty norms, and were often acutely aware of their post- mastectomy appearance or loss of their hair following chemotherapy treatment:

'being without hair is like having the word cancer stamped on your forehead' (Maunsell *et al.*, 1999, page 471).

Women expressed feelings of being different than before and different than others (Johnsson *et al.*, 2010). Yet work also offered opportunity for women to confront and

adjust to their altered appearance.

Employer/ Co-worker support and the work environment which enable / act as barriers to RTW

This theme was identified in nine out of twelve studies included in this review. On returning to work, women reported variations in employer's expectations of their work capacity, which impacted on the implemented work place accommodations provided (Maunsell *et al.*, 1999; Ashing-Giwa *et al.*, 2004; Kennedy *et al.*, 2007). Some women received a warm welcome from both employers and co-workers upon returning to work, who had also visited them at home and made them feel valued (Robinson *et al.*, 2015; Nilsson *et al.*, 2011). Emotional and practical support from employers and co-workers were reported as essential in making returning to work achievable and helped to diminish vulnerability (Tiedtke *et al.*, 2015).

'Check-up on Thursday: don't come in to work, you'll probably be too nervous, so take the day off, you can always make it up later'.. 'if you can't manage, or you don't feel good, let me know'. (Tiedtke *et al.*, 2015, page 1773).

Although genuine recognition of the women's vulnerability and insight into their work ability appeared as necessary for such support to be received, this support often only came from employers and colleagues who previously experienced cancer (Robinson *et al.*, 2015; Tiedtke *et al.*, 2015). Some women felt discouraged when employers or colleagues lacked insight into their work ability, particularly in relation to sick leave as indicated by the following quote: *'Can you really manage this, shouldn't you be off sick more often?'* (Nilsson *et al.*, 2011, page 271).

Reverse experiences in relation to genuine support were also reflected, many employers expected typical work performance upon returning to work (Johnsson *et al.*, 2010): *'they did not cut me any slack'* (Raque-Bogdan *et al.*, 2015, page 659). Some employers and co-workers were misled by women's deceiving physical appearance, which perhaps indicated a complete recovery. This may have caused employers and co-workers to misunderstand the relentless impact of physical and cognitive impairments following treatment, and consequently resulted in women encountering reduced work place

adjustments and support (Kennedy *et al.*, 2007). Work place modifications were often refused (Maunsell *et al.*, 1999; Ashing-Giwa *et al.*, 2004; Kennedy *et al.*, 2007). Negative RTW experiences were also accelerated as work tasks weren't individually adapted by employers to support physical and cognitive impairments, and women expressed fears of being fired and discriminated against due to their breast cancer past:

'we won't be extending your contract because you're far too tired, you're walking around the shop like a zombie'... 'we have had no complaints, but if you don't decide to go, I'll decide for you' (Tiedkte *et al.*, 2015, page 1773).

Some employers were openly hostile towards women, requesting that they either permanently leave or retire (Johnsson *et al.*, 2010).

In one study women unemployed at 24 months post treatment reported that the work environment, and the physical demands of the work were the only factors preventing them from returning to work (Johnsson *et al.*, 2007). Women reported that modifications to their work environment typically counteracted these factors. Such modifications included working from home and using communicative technology to connect with work colleagues and their employer, or working part-time (Kennedy *et al.*, 2007; Sandberg *et al.*, 2014).

New Values- altered/ changed value of work as an occupation, which impacts on work performance

In three out of twelve studies women expressed altered perceptions of work as a result of their cancer experience, which impacted on how they perceived the relevance of work and prompted the re-evaluation of their priorities:

'I'm not nearly as ambitious as I was...I'm not aspiring to have loads of money, that's not ...what it's about, it's about enjoying life and getting a balance between work and home' (Kennedy *et al.*, 2007, page 24).

Some women expressed that their outlook and perception on the value of work had diminished, expressing feelings of ambivalence towards work (Johnsson *et al.*, 2007; Johnsson *et al.*, 2010; Kennedy *et al.*, 2005; Maunsell *et al.*, 1999) particularly if they disliked what their work entailed, while realising that they would like to partake in something they *'really want to do'* (Johnsson *et al.*, 2010, page 320). In addition, work absence provided BC survivors with the opportunity to redefine their values in life, and

reassess their life course while coming to the conclusion that they wanted to '*live life to the full*' (Kennedy *et al.*, 2005), and therefore many women identified the necessity to establish a work/life balance (Johnsson *et al.*, 2010; Kennedy *et al.*, 2005; Maunsell *et al.*, 1999). Women described desires to set new more fulfilling goals and engage in new activities, particularly when RTW wasn't possible (Johnsson *et al.*, 2010).

In contrast some participant's motivation to succeed in work increased, and their desire to work was intensified with work absence: '*within me, there was the wish to work... it was stronger... I wanted to return to work*' (Johnsson *et al.*, 2010, page 320).

Tabulation of key findings

Perceived benefits of work

Contributes to identity (work identity) 4,5,6,11,12

Contributes to self-worth/ sense of purpose/ achievement/ validation 4

Provides normality/ structure 4,5,7

Distraction from life as a cancer patient 4,5,6

'not being ill', feeling emotionally better, an indication of health and well-being 4,5,9

source of social interaction/ isolated when not working/ feeling connected with others 4,5,9,10.

Financial concerns influencing RTW

Reduced wages / unemployment causing financial stress/ anxiety/ Family budgets challenged 1,4,5,6,7

Positive & negative attitudes towards benefits/ negotiating the benefits system 5

Medical bills & medical insurance issues 5

Exhaustion of sick pay, 5,6

Financial pressure due to family circumstances and commitments resulting in trepidation in relation to disclosing diagnosis to employer 4

Survivors remaining in work role due to financial commitments 4,6

BC survivors missed treatment appointment rather than taking time of work due to financial concerns 1,5

The consequences of Breast Cancer and Breast Cancer treatment after returning to work.

Conscious of changes in their appearance, and their changed bodies. Acutely aware of post-mastectomy appearance / loss of hair following chemotherapy treatment /confronting social beauty norms 1,5,6

Difficulty with acceptance / perceiving oneself as being different than before/ than others 4

Consciously aware of changes in work ability and self-confidence 1,4,5

Fears of recurrence / possible absence from work/ fear of potential impact on new employment prospects 6

Work offers opportunity to confront and adjust to altered appearance.

Work ability impacted by physical 1,2,3,5,6,7,10 and cognitive impairments 2,7 following cancer treatment/ diminished work capacity 1,3,5,

Reduced self-esteem/ self acceptance 1,5

Employer/ Co-worker support and work environment which enable / act as barriers to RTW

Support from colleagues with personal experience of breast cancer 8,11

Interpersonal support- New understanding of illness in workplace 1,3,4,5

Emotional support and empathy within the workplace 1,3,4,5,8

Work place accommodations provided 4,5,6

Co-worker attitudes- insensitive, insincere attitude or short lived support 1,4,5

Negative perceptions of how

colleagues saw them/ negative attitudes/ stigma 1,4,5

Managing employers and colleague's expectations and worrying about their perceptions of you as a BC survivor 4,5,6

Social support 1,3,4,5,8

Discrimination experienced- unfair dismissal, forced changes, coerced into leaving or returning to employment 1,4,5,7,11

Modify or change work environment/ reduced working hours in order to tolerate BC side effects/ flexible working hours/ shared workloads 1,2,4,5,9

New Values- altered/ changed value of work as an occupation, which impacts on work performance

Outlook and perception on value of work changed / the value of work diminished/ feeling ambivalent towards work 3,4,5

Redefining values/ re-evaluate work and life priorities and goals, establish work/life balance 3,4,5

Reduced work ambition 5

Review priorities/ reassessment of life course/ 'life is short' 3,4,5

Renewed aspirations- work related aspirations reduced 3,4,5

Seek less stressful work 5

Set new more fulfilling goals, engage in new activities, particularly when RTW isn't possible 4

Work valued in terms of the social aspect 4,5

In contrast some participant's motivation to succeed in work increased 4

Table 6. Translated 1st and 2nd order constructs mapped onto 3rd order constructs

Discussion

The findings suggest that the benefits of work, financial concerns, the consequences of breast cancer, employer/ coworker support, and new values (themes one to five) are key concepts which influence BC survivors RTW. This suggests that BC survivor's experiences are similar with other populations of chronic illnesses, identifying similar predictors of RTW and similar challenges. Theme one as outlined in Table 7, which expresses BC survivors perceived benefits of work, is notably comparable with those of individuals with rheumatoid arthritis (Codd *et al.*, 2010) and stroke (Wolfenden and Grace 2009). Work participation of these populations is often determined by individuals perceived benefits of work, and the implications working has on their self-esteem and identity (Wolfenden and Grace 2009; Codd *et al.*, 2010). Therefore, given the perceived benefits of work, this identifies and justifies an urgent need for occupational therapists to promote novel employment strategies and healthcare policies to support BC survivors RTW.

Financial concerns are a key concept influencing BC survivors RTW, and similarly comparable with other chronic illness populations such as acquired brain injury (Liaset and Loras 2016), stroke (Hartke and Trierweller 2015). As such, financial concerns across populations were often identified as an intrinsic motivation of RTW, and similarly paid employment has been found to represent normality and financial security for many cancer survivors (Lydon and Hughes 2012) and other chronic illness populations (Hartke and Trierweller 2015; Liaset and Loras 2016). Therefore, while collaboratively establishing work related goals and tailoring them to individual's life circumstances, financial concerns may be at the forefront for many BC survivors returning to work.

The consequences of BC and associated treatment in some respects are similar with other chronic illness populations. Individuals with arthritis and stroke similarly experience fatigue, which is ranked as a very high impairment barrier on RTW across arthritis studies (Lacaille *et al.*, 2007) and studies on stroke (Liaset and Loras 2016). Similarly, in a qualitative study of Detroit Metropolitan women with mixed types of cancer extreme fatigue, cognitive decline and physical weakness were common reasons for delaying RTW, which are seen as severe responses to cancer chemotherapy (Bradley and Bednarek 2002).

Although, in contrast with all other chronic illness populations BC survivors expressed feelings of being confronted with social beauty norms, and were often acutely aware of their post- mastectomy appearance or loss of their hair (Maunsell *et al.*, 1999), which offers a deeper insight into why returning to work is often viewed by BC survivors as an accomplishment but also a severe challenge (Degner *et al.*, 2003). Therefore, the impact of BC and associated treatment implications on RTW is identified as a multidimensional experience. This illustrates that successful RTW in terms of associated treatment implications and impairments are dependent upon adjustments of BC survivor and employer perceptions, education and support from the employer and at a societal level.

Similarities across populations were noted in relation work ability and support. Emotional and practical support from employers and co-workers were reported as essential in making returning to work achievable for BC survivors (Tiedtke *et al.*, 2015). This was similarly noted amongst rheumatoid arthritis (Lacaille *et al.*, 2007), acquired brain injury (Liaset and Loras 2016), and stroke (Hartke and Trierweller 2015) populations. Employer and coworker support and attitudes, which additionally facilitate the establishment of flexible work schedules were identified as crucial in the RTW process of these populations (Liaset and Loras 2016). Although in contrast with BC survivors, individuals with rheumatoid arthritis found interpersonal relationships with coworkers often more challenging than with employers, and often found that they had to deal with coworker's anger and resentment (Lacaille *et al.*, 2007). This contrast between populations may occur as BC is considered a life threatening disease (de Boer *et al.*, 2011), which ultimately may result in coworkers feeling more compassionate and empathetic towards breast cancer survivors. Although genuine recognition of the women's vulnerability and insight into their work ability appeared as necessary for emotional and practical support to be received, and such support often only came from employers and colleagues who previously experienced cancer (Robinson *et al.*, 2015; Tiedtke *et al.*, 2015)

Conversely, in contrast with similar populations, new values are expressed by BC survivors on returning to work, although absent in similar RTW studies on people with stroke (Hartke and Trierweller 2015) or acquired brain injury (Liaset and Loras 2016). The differences in themes between similar populations, may be apparent as BC is a life threatening diagnosis.

This can consequently result in survivors encountering altered values particularly in relation to their outlook and perception on the value of work. These findings suggest that the meaning of work has diminished as a result of these women's cancer experience, although such meaning may be restored for some individuals with the endorsement of work place adaptations and flexible working practices (Chirkos *et al.*, 2002). Such adaptations and flexibility may also promote rehabilitation and enhance these women's workability (Morell and Pryce 2005), and create a supportive social environment (Taskila *et al.*, 2006).

Recommendations for occupational therapy practice

Occupational therapy is successful in enabling people to RTW (Désiron *et al.* 2015). It can effectively answer unmet needs in relation to returning to work, as the skills occupational therapists acquire enable a bridge to be created between care and the work environment (Désiron *et al.* 2015). Research suggests an early start in vocational rehabilitation is necessary to best support the needs of BC survivors (Desiron *et al.*, 2013), which needs to be taken into considering when addressing the above findings of this meta- synthesis. Additionally, a client centered approach with RTW as the final goal of the occupational therapy intervention is necessary (Feuerstein *et al.*, 2010). According to Desiron *et al.*, 2013 an occupational therapy model to facilitate BC survivors RTW could not be identified, although the Model of Human Occupation appears to be the most applicable model to meet the RTW needs of BC survivors. Adaptations to enhance its usability may include work-related outcome measures and a greater emphasis on client centered goal-setting (Feuerstein *et al.*, 2010), with attention specifically on regaining capabilities following breast cancer treatment, and taking potentially altered and new values into consideration as identified previously.

Assessments of BC survivor's endurance, cognitive ability and occupational capabilities following treatment will support vocational rehabilitation based on the previously reported findings on BC and BC treatment consequences, and can improve BC survivor's employment outcomes (Desiron *et al.*, 2013). Innovations in clinical and occupational therapy supportive services can improve the management of BC physical, cognitive and emotional symptoms, vocational rehabilitation and support the accommodation of treatment impairments in the workplace (Desiron *et al.*, 2013). As employer and coworker support enables RTW as

previously discussed, innovations in supportive services may include the education of employers and coworkers in relation to vocational rehabilitation of BC survivors following treatment (Morell and Pryce 2005). Therefore, an occupational therapy role may involve offering employers and managers with education, training and guidance on realistic work expectations from BC survivors returning to work, accompanied with guidance on graded RTW practices to establish more supportive work environments. Occupational therapists may also consider using additional tools to accompany MOHO, including the OPPM and DM road book, which considers the clients' perspective, but also that of secondary stakeholders such as employers and coworkers, which may offer additional support in the promotion of graded RTW practices (Desiron *et al.*, 2013)

Limitations and recommendations for future research

It is acknowledged that this synthesis is limited in terms of the small number of included studies which might affect the reliability of the data. Also limitations emerge as the included studies focused on research from various locations including Europe, Canada and the USA. The healthcare systems differ in each of these locations in terms of cost, availability of immediate and follow up treatment, legislation, and protection systems for sick pay which all impacts on participants RTW experience. These differences limited this synthesis in terms of the transferability of included studies and focus context specific studies are recommended for future research. Further longitudinal research is also recommended on the experiences of participants throughout the BC process, over a longer duration of time. Research exploring employer's perspectives, and research that explicitly explores the experiences of participants that do not RTW, or self employed participants is also recommended.

Additionally, future research should focus on vocational intervention, which is client centered, and aiming to support vocational rehabilitation, occupational rehabilitation or encouraging workplace adjustments and improved communication with employers and colleagues, as this may have the largest impact on BC survivors RTW (de Boer *et al.*, 2011).

Conclusion

Through this meta-synthesis of 12 studies, five themes emerged and were identified as key factors influencing the RTW experiences of BC survivors. The perceived benefits of work were identified as a distraction from being ill, offering a sense of normality and a source of social interaction, although some women reported that financial concerns were the primary reason for returning to work. One of the main apprehensions encountered by women returning to work were fears of being less competent at work following BC treatment due to physical and cognitive impairments which can influence their confidence and self acceptance. Emotional and practical support from employers and co-workers were reported as essential in making returning to work achievable, although insight into their work ability and vulnerability appeared necessary for such support to be received. 'New values' was the final theme outlined by BC survivors, which contrasts the findings of similar populations, particularly in relation to their outlook and perception on the value of work, which may be apparent as BC is a life threatening diagnosis.

With these factors in mind, an occupational therapy role in supporting BC survivors RTW should include a client centered approach to vocational rehabilitation, education on treatment implications, guidance on graded RTW practices and new or altered values need to be taken into consideration. Future research should focus on the occupational therapy role on BC survivor vocational rehabilitation.

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Appendix: Description of included studies characteristics

Author (Year)	location	Analysis	Sampling method	Method of study	Number and sex	Age, years	Education and work characteristics
Ashing-Giwa <i>et al.</i>, 2004	United States	Thematic and conceptual analysis	Purposeful sampling	Focus group interviews	26 Female	18- 65 years	Low income communities
Blinder <i>et al.</i>, 2012.	United States	Thematic analysis	Systematic sampling	Ethnically cohesive focus groups	23 Female	18- 65 years	In paid employment throughout the 3 months prior to diagnosis
Johnsson <i>et al.</i>, 2007	Sweden	Thematic analysis	Purposeful sampling	Participation in semi-structured interviews	16 Female	18- 65 years	Diverse educational backgrounds, with varied occupations
Johnsson <i>et al.</i>, 2010.	Sweden	Thematic analysis	Purposeful sampling	1 hour individual interview	16 Female	44- 58 years	Diverse educational backgrounds, with varied occupations
Kennedy <i>et al.</i>, 2007.	Midlands, United Kingdom	Thematic analysis	Purposive sampling	Participation in semi-structured interviews or a focus group	24 Female	36-66 years	Diverse educational backgrounds, with varied occupations.
Maunsell <i>et al.</i>, 1999	Quebec City, Canada	Thematic analysis	systematic sampling	Individual interviews	13 Female	33-59 years at time of diagnosis	In paid employment at the time of diagnosis, and returned to work afterwards.
Nilsson <i>et al.</i>, 2013	Sweden	Thematic analysis	Purposive sampling	Focus group interviews	23 Female	20- 63 years	Diverse educational backgrounds and all participants

							were working prior to diagnosis.
Raque-Bogdan et al., 2015.	United States	Grounded theory analysis	Purposive sampling	Demographic questionnaire and semi-structured interview	13 Female	21-38 years at time of diagnosis	Diverse educational backgrounds, with varied occupations. 6 participants graduated from college, and remainder graduated from school
Robinson et al., 2015.	Nova Scotia, Canada	Thematic analysis	Purposive sampling	Semi-structured interviews	19 Female	18 years and older	Employed full-time at the time of diagnosis.
Sandberg et al., 2014.	North Carolina, United States	Grounded theory analysis	Purposive sampling	Semi-structured, in-depth interviews	14 Female	25-55 years	Diverse educational backgrounds, with varied occupations. Employed at the time of diagnosis
Tiedtke et al., 2012	Belgium	Grounded theory analysis	Purposive sampling	In-depth interviews	22 Female	41- 55 years	All participants were high school graduates. Women working for the government and self-employed women (because of different legal arrangements) were excluded.
Tiedtke et al., 2015.	Limburg, Belgium	Grounded theory analysis	Purposive sampling	Data was collected through in-depth interviews	14 Female	42- 55 years at time of surgery	All participants were high school graduates, and were a combination of office workers, care givers and shop assistants.

