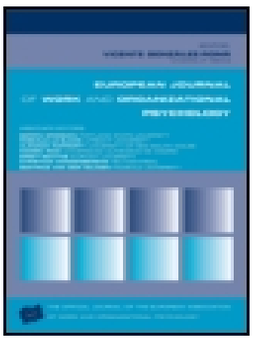

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Exploring self-control of workers with a chronic condition: a qualitative synthesis

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ABSTRACT

Working while having a chronic condition can be challenging. Self-control at work could play an important role for workers with a chronic condition in sustainable work participation. The aim of this qualitative synthesis is to profile elements of self-control at work and to gain insight in its exertion, from the perspective of workers with a chronic condition. Four databases were systematically searched for relevant articles from January 2007 to October 2017 (PubMed, PsycINFO, Embase, and CINAHL). Search terms were related to work, seven prevalent chronic conditions, subjective needs to continue working, and qualitative research. The included articles were thematically analyzed using ATLAS.ti. The search yielded 6,445 articles of which 17 studies were included. Four elements of self-control at work for workers with a chronic condition were identified: disclosure, finding a healthy balance, requesting work accommodations and support, and management of symptoms and limitations in the workplace. These elements of self-control at work for workers with a chronic condition are helpful in developing a strategy for occupational health professionals to support these workers in strengthening their self-control and to facilitate sustainable employment.

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Qualitative synthesis; self-control; work; chronic conditions

Introduction

The rise of chronic conditions due to lifestyle and an aging population leads to a growing number of people in the working population with one or more chronic conditions (European Chronic Diseases Alliance, 2017; World Health Organization, 2014). Chronic conditions have major economic consequences on the labor market; in Europe, the costs due to lost productivity for cardiovascular disease alone are estimated to be €54 billion/year (Busse Reinhard, Scheller-Kreinsen, & Zentner, 2010; European Chronic Diseases Alliance, 2017).

In addition to the economic benefits of working, participating in the workforce is important for people's physical and mental wellbeing; it gives purpose to life, fosters social contact and, contributes to one's quality of life (de Jong, de Boer, Tamminga, & Frings-Dresen, 2015; Meade, Reed, Rumrill, Aust, & Krause, 2016). However, workers with a chronic condition can experience challenges such as pain, fatigue, physical limitations and psychological distress, all of which can hamper work performance, resulting in loss of productivity, extended or frequent sick leave, or job loss (McGonagle, Beatty, & Joffe, 2014; Varekamp & van Dijk, 2010; Varekamp, van Dijk, & Kroll, 2013). Sustainable work participation is of great importance, since returning to work after job loss has proven to be difficult for workers with a chronic condition (European Chronic Diseases Alliance, 2017; Maurits, Rijken, & Friele, 2013). Fortunately, a large percentage of the working population with a chronic condition is able to keep their job, although this may require adjustments depending on their physical or cognitive limitations (Hoving et al., 2014). Much research has been carried out on relevant factors enabling people with a chronic condition to continue working. This research shows that in addition to disease-related factors, personal and environmental factors are of importance for sustained work (Minis et al., 2014; Palstam, Gard, & Mannerkorpi, 2013; Vooijs, Leensen, Hoving, Wind, & Frings-Dresen, 2017). Self-management and self-control could also be identified as facilitators for workers with a chronic condition to remain productive and continue to work (Huber et al., 2011).

In recent years, the Dutch government and society have encouraged people with a chronic condition to self-manage and take control of their lives including their work (Sociaal Economische Raad, 2016). Self-management and self-control both illustrate the ability to master a life with a chronic condition and maintain quality of life (Barlow, Wright, Sheasby, Turner, & Hainsworth, 2003; Delmar et al., 2006; Noreen, Molly, & Niko, 2001), however, there is a difference between these concepts. Although a multitude of definitions is available, self-management can, in a broader sense, be defined as the daily management of a chronic condition over the course of the illness, thereby focusing more on managing symptoms, treatments, and the physical and psychosocial consequences of the condition (Grady & Gough, 2014). While self-control is defined as "the capacity for altering one's own responses, especially to bring them into line with standards such as ideals, values, morals, and social expectations, and to support the pursuit of long-term goals" (p. 351) (Baumeister, Vohs, & Tice, 2007).

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Supplemental data for this article can be accessed here.

Self-control is a widely discussed concept in literature, with numerous theories and models being developed and assumptions being made (Milyavskaya, Berkman, & Ridder, 2019). Self-control is about dealing with the dilemma of pursuing long term goals, which is often the desirable behavior, or to go for the immediate satisfaction of short term desires or temptations. Exerting self-control successfully implies effortful controlling one's behavior, profiting the long term goal, while self-control failure is then deduced to choosing the short term desire (de Ridder, Lensvelt-Mulders, Finkenauer, Stok, & Baumeister, 2012; Milyavskaya & Inzlicht, 2018). In the literature a distinction is being made between trait and state self-control, with an individual's trait self-control being relatively stable over time, in contrast to state self-control, which varies per situation and over time. It is assumed that people with high levels of trait self-control are better at controlling their responses and impulses (Ent, Baumeister, & Tice, 2015). As self-control is said to aid in attaining desired behaviors, it is important to understand the mechanisms behind self-control. The available models on self-control, such as *the discounting model of impulsiveness* and *the reflective-impulsive model of behavior*, discourse underlying mechanisms of self-control and the way one's behavior is controlled. The common denominator in many of the self-control models is that behavior is controlled by an interplay between impulsive processes on the one hand, and rational and deliberate processes on the other hand (de Ridder et al., 2012; Milyavskaya & Inzlicht, 2017). Another aspect of self-control is the availability of certain cognitive resources that guide behavior, as shown in *the self-regulatory strength model of self-control*. In this model self-control is considered a strength, with the exertion of self-control requiring effort and willpower. Exerting self-control depletes these resources, described as ego-depletion, making subsequent exertion of self-control and changing behavior more difficult (Baumeister et al., 2007). According to Duckworth self-control can be seen as "effortful regulation of the self by the self" (p. 2639) (Duckworth, 2011). A study by De Witt Huberts et al. postulated that, besides the ego-depletion theory, another route to self-control failure is possible, namely justifications. Justification refers to "making excuses for one's behavior, so the prospected failure is made acceptable for oneself"(p. 119) (De Witt Huberts, Evers, & De Ridder, 2013). Other studies also suggest that motivation and personal beliefs play a role in the exertion of self-control (Muraven & Slessareva, 2003; Vohs, Baumeister, & Schmeichel, 2012; Werner & Milyavskaya, 2019). *The shifting priorities model* describes that subjective values, added to the different options of a dilemma, can change over time and per situation. These shifting values can be explained by changes in motivation and determine the main goal for an individual at a certain point in time (Milyavskaya & Inzlicht, 2018). Kotabe at al captured seven components of the available theories on self-control in an integrative framework, *the integrative self-control theory*, which can be used for identifying forms self-control failure and possibilities for interventions (Kotabe & Hofmann, 2015).

Different processes could explain the ultimate behavior that is shown. Impulse control, rational decision making, the availability of cognitive resources, motivation and personal beliefs are pointed out as relevant aspects to self-control and self-control failure. Identifying causes of self-control failure in different settings could provide starting points for intervention development. Research on self-control in the work setting (de Boer, van Hooft, & Bakker, 2015; Kanfer & Kanfer, 1991), mostly focused on organizational management and job performance. Also in the organization management literature on self-control, depletion of resources is often considered as a reason for self-control failure, but as Lian states in the review on self-control at work, a depletion of resources is part of the problem of self-control failure (Lian, Yam, Ferris, & Brown, 2017). In recent years, existing theories and assumptions about self-control and self-control failure are being challenged. As Milyavskaya et al. recommend in the article on the assumptions about self-control and subsequent recommendations, it is important to focus on the *capacity* of a person to exert self-control, as well as on the *context* in which exertion of self-control occurs (Milyavskaya et al., 2019). In view of this context, *the integrative self-control theory* describes enactment constraints, which are environmental factors that influence the exertion of self-control (Kotabe & Hofmann, 2015). To the best of our knowledge, there is no research available on self-control in the context of working with a chronic condition. The new definition of health, "having the ability to adapt and self-manage", as proposed by Huber et al. (p. 2) (Huber et al., 2011) implies that even a person with a chronic condition can feel healthy. Since self-control can be seen as a benchmark for adaptation (de Ridder et al., 2012; Hagger & Chatzisarantis, 2013), having higher levels of self-control at work and having the possibility to exert it might improve wellbeing and health, thereby facilitating sustainable employment for workers with a chronic condition.

Although the literature on factors enabling work participation provides indications of self-control for workers with a chronic condition and what influences its exertion, an in depth understanding of self-control at work and according behaviors is lacking. Using the definition of Baumeister et al. (2007, p. 351), the long-term goal of workers with a chronic condition in this study is seen as sustainable work participation. But what behavior facilitates the pursuit of this long-term goal and what are the influences of the environment on the enactment of this behavior, possibly leading to self-control failure? To encourage self-control at work in workers with a chronic condition, these elements of self-control in the context of working with a chronic condition need to be identified. Besides encouraging workers with a chronic condition in exerting self-control at work, knowing these elements of self-control and possible influences on its exertion could also contribute to policy, practices and future intervention development regarding working with a chronic condition in the work environment. This qualitative synthesis therefore aims to explore elements of self-control at work from the perspective of workers with a chronic condition and to gain insight in influences on its exertion.

Methods

Qualitative research provides a deep understanding of people's views and experiences and the context in which they occur. A qualitative synthesis allows a researcher to go beyond primary studies, creating a renewed interpretation or conceptualization of a phenomenon that is not merely a summation of original data (Barnett-Page & Thomas, 2009; Britten, 2011). Aggregating available qualitative studies on continuing to work with a chronic condition in a qualitative synthesis allows for a better conceptual

understanding of and new insights into self-control as experienced by workers with a chronic condition.

Search strategy

A structured approach is advised to limit the scope of the synthesis using a focused research question and for aiding in the search strategy (Daniels, 2019). In this qualitative synthesis, the research question was formulated using the SPICE (Setting, Perspective, Intervention, Comparison and Evaluation) tool (Booth, 2006). The Setting, Perspective, Intervention and Evaluation were determined: (S): working environment; (P): workers with a chronic condition; (I): self-control and related concepts; (E): experiences of successfully continuing work. SPICE assisted in building the search strategy with relevant search terms. A comprehensive search was performed in the bibliographic databases PubMed and Embase.com, PsycINFO (via EBSCO) and CINAHL (via EBSCO) from January 2007 to October 2017, in collaboration with a medical librarian (author 5). Because of our interest in the current work environment for workers with a chronic condition, the decision was made to use this timeframe of 10 years. Search terms included controlled terms (MesH in PubMed, Emtree in Embase, CINAHL headings and thesaurus terms in PsycINFO) as well as free-text terms. The search strategy included search terms related to (staying at) work, seven chronic conditions, subjective needs to continue working, and qualitative research. Duplicate articles were excluded. The full search strategies for all databases can be found in the Supplementary Information.

Due to the wide variety in chronic conditions in workers, a selection of chronic conditions was made to include in this synthesis. The choice of chronic conditions was based on both the prevalence of the condition in the working population and the impact of these condition on work ability. Additionally, the aim was to obtain heterogeneity in chronic conditions included in the study. Chronic conditions can vary from one another at different levels, e.g., symptoms, visibility, progressions, episodic or continuously present, and the way it can be managed. Therefore a selection of chronic conditions was made, related to a variety of functional systems of the body, both physically as well as mentally. Resulting from this, the following conditions were selected for the focus of this study: 1) rheumatoid arthritis (RA); 2) multiple sclerosis (MS); 3) inflammatory bowel disease (IBD); 4) asthma; 5) diabetes mellitus (DM) type 1; 6) coronary heart disease (CHD); and 7) depression. Worldwide, diabetes and cardiovascular disease (CVD) are prevalent chronic conditions (European Heart Network, 2017; World Health Organization, 2016). Chronic conditions such as RA, MS, IBD and asthma, although less prevalent as diabetes or CVD, they have an large impact on someone's work ability, even in an early phase of working life (Shafer et al., 2018; Van der Hiele et al., 2015; Verstappen, 2015; Wong, Tavakoli, Sadatsafavi, Carlsten, & FitzGerald, 2017). Common mental disorders, such as depression, seriously impact the level of work participation and are an important cause of long term sick leave (Lexis et al., 2012; Trimbos instituut, 2018). The inclusion criteria for article selection included: (1) a focus on staying at work, (2) qualitative or mixed method design, (3) perspectives and strategies of workers with one of the aforementioned chronic conditions for continuing to work, and (4) article in Dutch or English.

Study selection and quality assessment

The selection of studies was a stepwise process. The first step of the selection process was screening on titles and abstracts. Covidence, a web-based tool for conducting systematic reviews, was used during the review process to screen titles and abstracts (Covidence, 2013). A total of 6,445 studies were screened for titles and abstracts based on the inclusion criteria. Around 25% of the studies (1,725) were screened by authors 1 and 3. During this screening process, comparisons were made and discrepancies (<2% of the studies) were discussed until consensus was reached. In cases of doubt, the articles were discussed with select members of the research team (authors 1, 2, 3 and 7). Consensus was reached on the refinement of the inclusion criteria, after which the remainder of the studies (4,720) was screened by author 1. The most important reasons for excluding studies based on title or abstract were: not using a qualitative research method, focusing on other chronic conditions than selected for this study, not providing the perspective of the worker, and not focusing on (staying at) work. Other reasons for excluding studies were: not being in the English or Dutch language; no primary data; no published article; and being a book or dissertation.

The second step of the selection process was full text screening of the selected articles. All 65 selected articles were screened full text by two authors (1 and 3). The articles were read extensively and for each article the following questions were answered: (1) does it has a qualitative or mixed methods study design? (2) does it provide a clear perspective of the worker with a chronic condition? (3) does it has a focus on one of the 7 selected chronic conditions? (4) does it has a broad focus on staying at work? (5) does it provide information on strategies used to continue working? Only after all questions were answered with "yes", the decision was made to include the article. Differing views were discussed and together with author 7 a decision was made to exclude or include the article. An important discussion point was to include or exclude studies that focused on several chronic conditions, including one of the selected seven chronic conditions (e.g., studies on different types of arthritis, including rheumatoid arthritis). If 50% or more of the research participants in a study suffered from one of the selected seven chronic conditions or a distinction was made clear in the results for the different included chronic conditions in a study, the study was included.

The quality of the included articles was assessed by the same two authors (1 and 3) using the RATS qualitative research review guidelines. The RATS consists of 24 questions on the Relevance of the study question, Appropriateness of qualitative methods, Transparency of procedures and Soundness of the interpretive approach (Clark, 2003). To evaluate the quality of the article, the decision was made to rate each question on a scale from 1 point

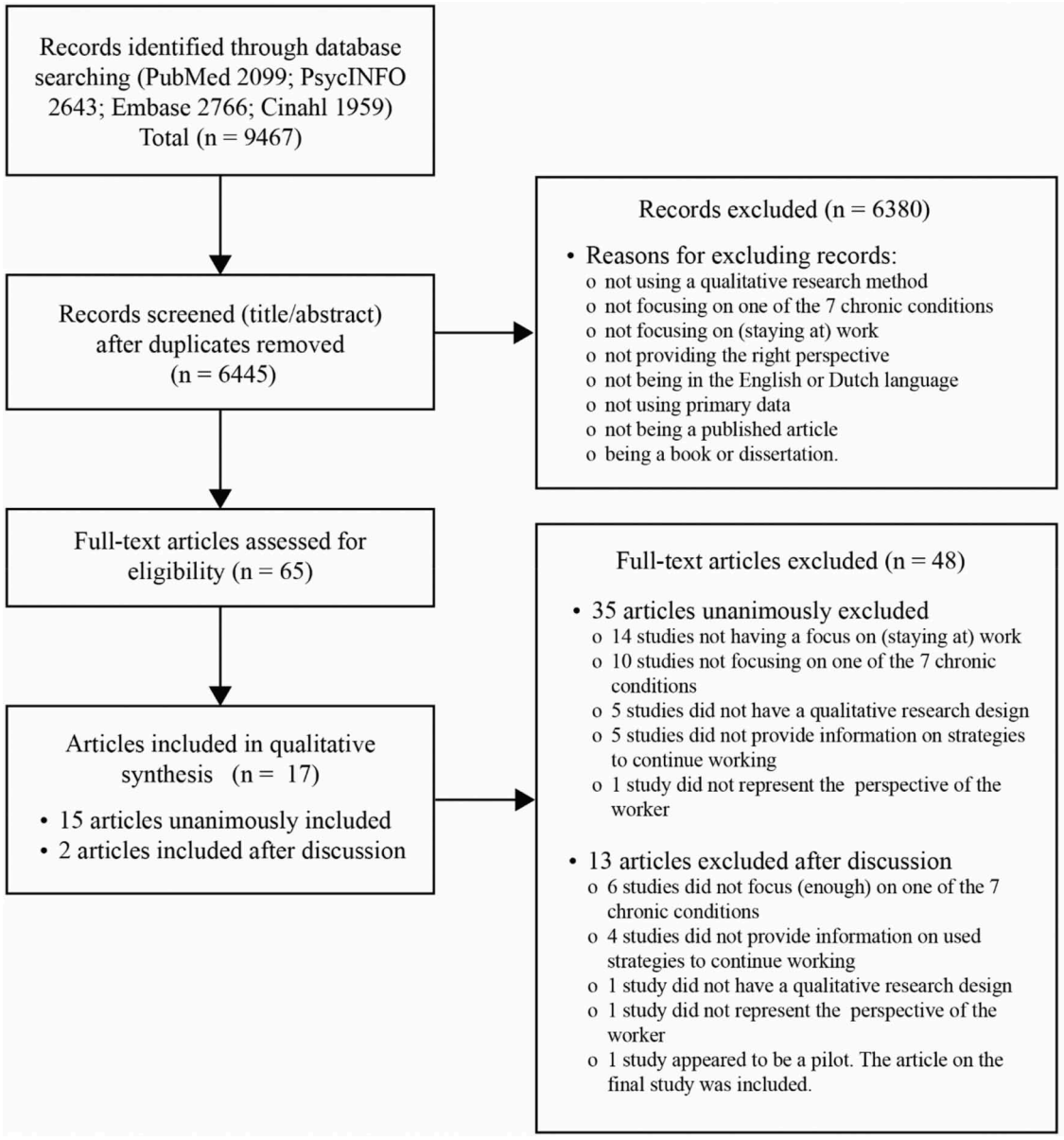

Figure 1. Flowchart of the selection process and included studies.

(poor quality) to 4 points (good quality). Therefore, the quality of each article was rated between 24–96 points. No articles were excluded based on the quality assessment.

Included articles

Sixteen qualitative and one mixed methods study were included in the synthesis (Figure 1).

Article topics by condition were as follow: five RA, four MS, three DM type 1, two depression, and one each for CHD, IBD and asthma. Three of the studies used focus groups, while the other 14 studies used individual interviews. The studies were mainly conducted in Europe (n = 10), the other seven studies originate from the United States (n = 3), Canada (n = 3) and Australia (n = 1). The participants had a wide variety of professions. In six studies, some of the participants were unemployed, retired or students. Table 1 shows an overview of the included studies and study characteristics.

Data extraction and analysis

The data that was extracted consisted of the content of "results" or "findings" sections of the included studies, more specifically this meant the original researchers' interpretations or key concepts in the primary data. Consequently, quotes delineated in the studies were not extracted for further analysis. Thematic analysis was used as qualitative synthesis methodology to analyze these results and to identify emerging themes in the qualitative studies and the qualitative part of the mixed-method study (Bearman & Dawson, 2013). As with the study selection, data analysis was also a stepwise process (Thomas & Harden, 2008). In the first step of thematic analysis the text in the "results" or "findings" sections of the included studies were coded, using line-by-line coding. Because of the many codes expected to result from this first step, ATLAS.ti was used to assist the coding process and helped

Table 1. Study characteristics of included articles.

No	Author	Year	Country	Aim of the study	Condition	Methods	Data analysis	Participants in study	RATS score
1	Bogenschutz et al.	2016	United States	To examine barriers and facilitators for employment from the point of view of adults with MS facing employment issues.	Multiple sclerosis	Focus groups	Conventional qualitative content analysis	n = 27*	83
2	Bose	2013	United States	To identify strategies, experiences, and attitudes of people managing diabetes at work.	Diabetes mellitus type 1	Interviews	Coding and memo-writing	n = 45*	82
3	Burda et al.	2012	The Netherlands	To identify successful diabetes-related behaviors for the workplace, to support people with diabetes in applying for and participating effectively in paid work.	Diabetes mellitus type 1	Interviews	Grounded theory approach	n = 47	80
4	Codd et al.	2010	Ireland	To explore how a diagnosis of RA impacts the worker role, and how adaptations may be made to facilitate the maintenance of the worker role.	Rheumatoid arthritis	Interviews	Interpretative phenomenological analysis	n = 10	83
5	Crooks et al.	2011	Canada	To identify the problem-focused coping strategies of academics with MS to remain active in teaching.	Multiple sclerosis	Interviews	Thematic analysis	n = 45*	74
6	Dickson et al.	2008	United States	To explore how attitudes, self-efficacy, cognition, and physical functioning influence self-care among employees with heart failure.	Coronary heart disease	Interviews**	Qualitative content analysis	n = 41*	77
7	Holland et al.	2016	United Kingdom	To explore how individuals' motivation to work and organizational policy and practice can lead to voluntary and involuntary forms of sickness presenteeism following onset of RA.	Rheumatoid arthritis	Interviews	Thematic analysis	n = 11*	88
8	Lacaille et al.	2007	Canada	To identify the problems and barriers to employment that persons with IA face at work because of arthritis, understand why these issues are problematic, and identify helpful strategies for maintaining employment.	Rheumatoid arthritis	Focus groups	Descriptive qualitative analysis	n = 36	81
9	Osterholm et al.	2013	Sweden	To explore how men with arthritis perceive their ability to continue working.	Rheumatoid arthritis	Interviews	Empirical Phenomenological Psychological (EPP) method	n = 9	83
10	Van der Meer et al.	2011	The Netherlands	To investigate the experiences and needs of employees with RA treated with anti-TNF therapy with respect to work participation	Rheumatoid arthritis	Interviews	Open axial and selective coding	n = 14	86
11	Van der Meide et al.	2017	The Netherlands	To examine the meaning of work in everyday life and the barriers and facilitators of continuing to work from the perspective of people with RRMS.	Multiple sclerosis	Interviews	Thematic analysis	n = 19	89
12	Restall et al.	2016	Canada	To report on people's experiences of work and work disability in the context of living with IBD, and how personal and environmental factors supported or created barriers for them to participate in paid employment.	Inflammatory bowel disease	Interviews	Phenomenologic alanalysis	n = 45*	86
13	Ruston et al.	2013	United Kingdom	To examine ways in which people with type 1 and type 2 diabetes accessed support for and managed their diabetes whilst at work, and identify factors that presented barriers to effective management	Diabetes mellitus type 1	Interviews	Constant comparative method	n = 43	78
14	Sallis et al.	2014	United Kingdom	To develop understanding (based on subjective beliefs and experiences) of the type of support individuals with depression may require to retain their employment and avoid sickness absences.	Depression	Interviews	Interpretative phenomenological analysis	n = 7	84

(*Continued*)

Table 1. (Continued).

15	Stanley et al.	2007	United Kingdom	To explore the personal experiences of social workers with depression in the workplace	Depression	Interviews	Thematic analysis	n = 50	73
16	Sweetland et al.	2007	United Kingdom	To identify what individuals with MS need from a vocational rehabilitation service so they can be supported in their work setting, and remain at work for as long as they are capable.	Multiple sclerosis	Focus groups	Constant comparative method	n = 24	75
17	Zhao et al.	2017	Australia	To investigate workplace support, experiences, attitudes and perceptions towards employees with asthma, both occupational and non-occupational, and provide recommendations for workplace asthma policies.	Asthma	Interviews	Thematic analysis	n = 25***	84

* A number of participants were unemployed, retired or students.
** Additional quantitative data was collected.
*** Participants included employees with and without asthma and Human Resource managers.

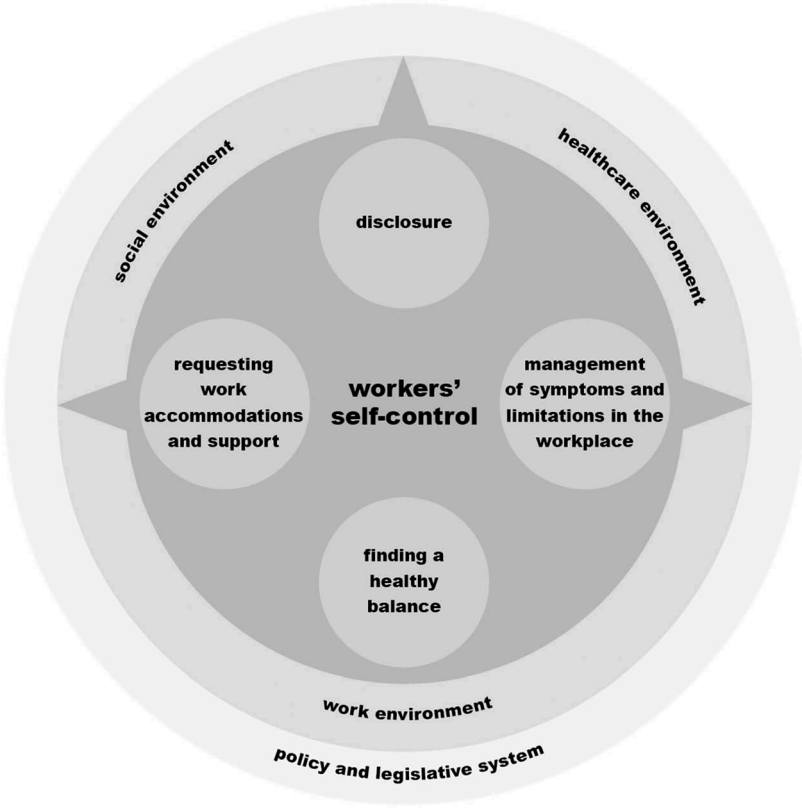

Figure 2. Self-control based on the views of workers with a chronic condition.

to produce an initial list with codes. The first ten percent of the studies were coded by two researchers (1 and 3), after which both authors discussed the codes created, until consensus was reached. The remainder 90 percent of the studies were coded by only author 1.

In the second step of thematic analysis, developing descriptive themes, the data was further analyzed in an intensive and rigorous manner. In order to proceed with the analysis manually, all codes and corresponding quotations were transferred from ATLAS.ti to a separate Word document. This document was used to read, reread and sift through the data identifying similarities and differences between the codes. Similar codes were iteratively grouped into subthemes associated with continuing work. Code grouping and developing descriptive themes were performed in consultation with four researchers (author 1, 2, 3 and 7) from the research team until consensus was reached. The end result of this step was a list with descriptive themes, which provided more or less a perspective on barriers, facilitators and needs regarding sustainable employment.

At this stage, we had not gone beyond the data yet and it was not yet clear what the elements of self-control were. In the final step of the process, analytical themes were developed, providing us with the desired answers. During this step, behaviors that workers with a chronic condition could have control over and facilitate sustainable employment were inferred from the descriptive themes of the previous step. The research team and an expert in qualitative research in the field of qualitative synthesis (author 4) discussed the descriptive themes and inferred behaviors extensively until analytical themes on self-control at work were formulated. In formulating the themes on self-control at work, attention was paid to maintaining the integrity of original data of the included studies, while at the same time not producing excessive detail (Sandelowski, 1997).

Ethics statement

Written confirmation of the Medical Ethics Review Committee was not necessary. The data used in this study was freely available information (in the public domain) and was completely anonymized. The Medical Research Involving Human Subjects Act ("Wet Medisch-wetenschappelijk Onderzoek met mensen") does not apply to this study.

Results

The analysis revealed four main themes, corresponding to four elements of self-control in a worker with a chronic condition: (1) disclosure, (2) finding a healthy balance, (3) requesting work accommodations and support, (4) management of symptoms and limitations in the workplace. In addition to these elements, the influence and interaction of the work, social and healthcare environments on the exertion of self-control were

also identified within the context of the local or national policy and legislative system (Figure 2).

Disclosure

Disclosure appeared to be an important element of self-control at work. In some studies, disclosing one's condition at work resulted in a better understanding of a one's situation by the employer, supervisor or co-workers, leading to more consideration and support at work (Lacaille, White, Backman, & Gignac, 2007; Meide, Gorp, van der Hiele, & Visser, 2017; Ruston, Smith, & Fernando, 2013; Stanley, Manthorpe, & White, 2007; Zhao, Smith, & Saini, 2017). As described by some studies, this understanding and support in the workplace made it much easier for the worker to request and receive work accommodations and adjust to changing work situations (Bose, 2013; Lacaille et al., 2007; Restall et al., 2016; Stanley et al., 2007; Zhao et al., 2017). Employers and co-workers' level of knowledge of the condition and its impact on productivity influenced the degree of understanding and support after disclosure, as pointed out by some studies (Bose, 2013; Holland & Collins, 2016; Lacaille et al., 2007; Meide et al., 2017; Ruston et al., 2013).

A number of studies pointed out that workers were cautious about disclosure and made a trade-off about what, when and whom to tell for several reasons (Bose, 2013; Lacaille et al., 2007; Meide et al., 2017; Stanley et al., 2007; Sweetland, Riazi, Cano, & Playford, 2007; Zhao et al., 2017). The perceived relationship with an employer, supervisor or co-worker influenced the worker's level of disclosure (Sallis & Birkin, 2014; Van der Meer et al., 2011). A relationship that included acceptance, appreciation, recognition and trust facilitated a worker's decision to disclose their condition status, as described in a number of studies (Meide et al., 2017; Restall et al., 2016; Ruston et al., 2013; Van der Meer et al., 2011). One study pointed out that having a permanent employee contract may also be a disclosure facilitator in certain European countries (Meide et al., 2017).

Several studies reported that ideas and views on the possible negative consequences of disclosure also influenced the decision to disclose a chronic condition. Reported negative consequences were job loss (in the future), being viewed as incompetent by an employer, supervisor or co-worker, promotion discrimination, stigmatization, not being taken seriously, being less appreciated, and perceived negative reactions from co-workers such as jokes (Bogenschutz, Rumrill, Seward, Inge, & Hinterlong, 2016; Bose, 2013; Lacaille et al., 2007; Restall et al., 2016; Sallis & Birkin, 2014; Stanley et al., 2007; Van der Meer et al., 2011; Zhao et al., 2017). Jokes and doubts about a worker's capabilities gave way to not feeling appreciated or accepted (Van der Meer et al., 2011). Stigmatization appears to be a particularly important aspect for IBD and chronic mental illnesses such as depression, as it was extensively discussed in the included studies focusing on these conditions (Restall et al., 2016; Sallis & Birkin, 2014; Stanley et al., 2007). Some studies indicated that discrimination and stigmatization was often based on a lack of knowledge about chronic conditions (Restall et al., 2016; Ruston et al., 2013; Sweetland et al., 2007).

Several studies mentioned that the invisibility, unpredictability and possible progressive nature of a chronic condition could further complicate disclosure since the condition may lead to a decline in work ability and performance at a certain point in time (Bogenschutz et al., 2016; Bose, 2013; Holland & Collins, 2016; Lacaille et al., 2007; Meide et al., 2017; Sallis & Birkin, 2014). Without disclosure of this invisible condition, a decline in work performance could be perceived by the work environment as an inability to do the job. While disclosure of an invisible condition could also lead to doubts about the worker's ability because of a limited understanding of the condition (Bogenschutz et al., 2016; Lacaille et al., 2007; Sallis & Birkin, 2014; Stanley et al., 2007; Zhao et al., 2017). As described in some studies, some workers with an invisible chronic condition wanted to maintain invisibility, and had even developed strategies to hide their condition at work. They tried to preserve a positive and healthy self-image, but at the expense of self-care, and sometimes even aggravating their condition (Lacaille et al., 2007; Stanley et al., 2007). Some studies pointed out that with the progression of symptoms or the need to manage the condition at work, the condition became more visible, which resulted in workers being more inclined to disclose their condition (Bose, 2013; Ruston et al., 2013; Sallis & Birkin, 2014).

Several studies indicated that in addition to the fear, uncertainty and desire for the chronic condition to remain invisible, other reasons for not disclosing the condition were not expecting support, not wanting to be seen as an exception, co-workers' unease when talking about psychological conditions and a lack of company policy (Osterholm, Bjork, & Hakansson, 2013; Ruston et al., 2013; Sallis & Birkin, 2014; Stanley et al., 2007; Zhao et al., 2017).

Finding a healthy balance

Finding a healthy balance is a second element of self-control. Decision making turned out to help workers find and maintain a healthy balance in life, thus enabling them to continue working. These decisions related to the worker's desire to continue working and the strategies that make sustainable work participation possible, such as energy management or job change.

As pointed out by a number of studies, working despite having a chronic condition showed to be of great importance; workers' decisions to continue working were fed by their desire and determination (Holland & Collins, 2016; Osterholm et al., 2013; Sallis & Birkin, 2014; Sweetland et al., 2007). Decision making was influenced by the meaning of and attitude towards work and perceptions of the worker's role (Codd, Stapleton, Veale, FitzGerald, & Bresnihan, 2010; Dickson, McCauley, & Riegel, 2008; Holland & Collins, 2016; Osterholm et al., 2013). Some studies stated that staying at work after a chronic condition was diagnosed helped shape the identity and self-image of a worker and gave a sense of normality despite having a chronic condition (Codd et al., 2010; Osterholm et al., 2013). In part, personal norms and values regarding work determined one's self-image (Restall et al., 2016). Intrinsic rewards such as having social contacts, the chance to be productive and contributing to society, the

possibility of "escaping" from home and enjoying better mental and physical wellbeing were identified by some studies as being important for a balanced decision to stay at work (Bose, 2013; Dickson et al., 2008; Holland & Collins, 2016; Lacaille et al., 2007; Meide et al., 2017; Osterholm et al., 2013).

A number of studies also referred to financial matters that also influenced a worker's decision to stay at work (Bogenschutz et al., 2016; Dickson et al., 2008; Meide et al., 2017; Restall et al., 2016). Workers with a good and suitable job would not change jobs easily because of financial security (Meide et al., 2017). Conscious decisions were made to reduce working hours or put one's desire to build a career aside to receive disability or healthcare benefits now or in the future (Bogenschutz et al., 2016; Meide et al., 2017; Restall et al., 2016). Some studies addressed cases where the financial advantages of not working exceeded the intrinsic rewards of working, which also influenced a worker's decision to continue working (Dickson et al., 2008).

Finding a healthy balance also appeared to relate to energy management. Having no energy left at the end of a working day had a negative influence on quality of life (Lacaille et al., 2007). Numerous studies pointed out that reducing social activities, household chores and leisure time saved enough energy to continue working (Codd et al., 2010; Holland & Collins, 2016; Osterholm et al., 2013; Restall et al., 2016; Sallis & Birkin, 2014; Van der Meer et al., 2011). Changing work routines also saved energy and lowered the impact of a chronic condition on the job (Bogenschutz et al., 2016; Osterholm et al., 2013; Zhao et al., 2017). Making these decisions appeared to be difficult and in some cases the reduction in social activities was not voluntarily, but instead is forced on the worker because of the lack of energy at the end of the day (Lacaille et al., 2007).

As nicely described in one study, in a job, there must be a balance between the work challenges and a worker's trust that the job can be carried out (Meide et al., 2017). A number of studies pointed out that if it was not possible to fit the current job to the worker's capacities, a decision was made to change to a job that was less demanding and stressful, more protective and with fewer responsibilities (Bogenschutz et al., 2016; Bose, 2013; Burda et al., 2012; Codd et al., 2010; Holland & Collins, 2016; Stanley et al., 2007; Sweetland et al., 2007). This also meant turning down promotions, taking a job below one's level or outside one's expertise, or to start one's own business (Bogenschutz et al., 2016; Lacaille et al., 2007). Some studies made clear that this resulted in the fact that career plan expectations needed to be shifted (Meide et al., 2017; Restall et al., 2016). The unpredictability of a chronic condition also influenced this decision, since accepting new tasks in the future appeared to be difficult if the worker feared not being able to meet specific obligations (Lacaille et al., 2007). The decision to change jobs was also influenced by the worker's level of support (Bogenschutz et al., 2016; Codd et al., 2010). In addition, some studies revealed the worker's level of confidence in their ability to work and their self-esteem also influenced this decision. The uncertainty of possible progression of symptoms and negative reactions from co-workers and employers lowered confidence and raised feelings of inadequacy, which ultimately led to a job change (Bogenschutz et al., 2016; Lacaille et al., 2007).

Studies showed that changing jobs when having a chronic condition was not easy, especially if jobs with a heavy physical workload were no longer an option (Bose, 2013; Dickson et al., 2008; Restall et al., 2016). When deciding to seek for a new job, both present and future work capacity needed to be considered (Bogenschutz et al., 2016; Burda et al., 2012). Gathering information was seen as an important condition for making a balanced decision, including knowing how the condition will progress, which could prevent hasty employment decisions (Burda et al., 2012; Meide et al., 2017; Sweetland et al., 2007). An understanding and supportive employer could facilitate a worker in finding a new suitable job within the company (Meide et al., 2017).

Requesting work accommodations and support

Work accommodations and support appeared to be crucial for staying at work and being productive at the workplace. Requesting these accommodations proved to be another element of exerting self-control at work, since the job can be fitted to the worker's capacities. A number of studies listed various types of work accommodations (e.g., technological devices, working from home), which could help a worker with a chronic condition perform the job tasks while managing (or alleviating) symptoms and maintaining productivity (Bogenschutz et al., 2016; Bose, 2013; Burda et al., 2012; Codd et al., 2010; Holland & Collins, 2016; Lacaille et al., 2007; Osterholm et al., 2013; Restall et al., 2016; Sweetland et al., 2007; Zhao et al., 2017). Numerous studies showed that having job control opportunities such as working from home, starting later or alternating tasks all helped to manage fluctuations in symptoms, since work could be fitted to daily symptoms and more time was available for self-care (Bogenschutz et al., 2016; Crooks, Stone, & Owen, 2011; Dickson et al., 2008; Holland & Collins, 2016; Lacaille et al., 2007; Osterholm et al., 2013; Restall et al., 2016; Van der Meer et al., 2011).

Studies pointed out that workers were often hesitant to request work accommodations for several reasons including fear of not being granted accommodations, being seen as not capable of doing the job, feelings of guilt, the perception of being a burden, and wanting to maintain the invisibility of the condition (Bogenschutz et al., 2016; Lacaille et al., 2007; Restall et al., 2016; Sweetland et al., 2007; Van der Meer et al., 2011). Fear of resentment and jealousy among co-workers was another reason workers did not ask for accommodations (Holland & Collins, 2016; Lacaille et al., 2007). Some studies mentioned that an understanding and accepting work environment with a good relationship with employers and co-workers, acknowledgement of the need for accommodations and a worker's proactive attitude, made it easier to request and obtain accommodations (Holland & Collins, 2016; Restall et al., 2016; Sweetland et al., 2007; Zhao et al., 2017).

Knowledge of the laws and regulations for protection of workers with a chronic condition appeared to be important, and made it easier for the worker to disclose their condition and request accommodations (Restall et al., 2016; Sweetland et al., 2007). However, as some studies pointed out, many

workers lacked this knowledge and were unaware of available resources (Lacaille et al., 2007; Restall et al., 2016). In addition, employers also needed to have sufficient knowledge of these laws and regulations to be able to correctly interpret and execute those policies and be willing to facilitate accommodations (Holland & Collins, 2016; Restall et al., 2016; Ruston et al., 2013; Sallis & Birkin, 2014). Having a clear policy to facilitate accommodations appeared to be helpful and some studies recommended to promote a transparent policy to all workers, encouraging workers with chronic illnesses to express their needs (Restall et al., 2016; Zhao et al., 2017).

In addition to requesting accommodations, asking for support from employers, supervisors and co-workers was helpful in managing a chronic condition at work (Burda et al., 2012). However, studies pointed out that asking for support appeared to be difficult for some workers. Several studies showed important conditions for requesting support, which included accepting the need for support and pointing out specific needs (Bose, 2013; Burda et al., 2012; Crooks et al., 2011; Lacaille et al., 2007; Stanley et al., 2007). Condition unpredictability and symptom fluctuations made it even more difficult to ask for support. The worker's functional limitations as perceived by both the employer and co-workers, and changing support needs over time resulted in having to ask for support over and over again. Therefore, workers valued employers and co-workers enquiring about current needs on a regular basis (Van der Meer et al., 2011).

Several studies showed that support can come from several directions including work, social and healthcare environments. A number of studies pointed out that occupational health professionals could offer various forms of support to workers with chronic conditions (Burda et al., 2012; Stanley et al., 2007; Sweetland et al., 2007). Occupational physicians' support consisted of assisting in management of the chronic condition in the workplace, advising about work accommodations, explaining worker or employer responsibilities, and helping with communication about the condition at the workplace. This support helped to empower the worker and bolster their confidence (Burda et al., 2012; Stanley et al., 2007; Sweetland et al., 2007). Co-worker support appeared to be crucial for a worker who was adjusting to and managing their chronic condition at work and could consist of assuming some of their tasks (Bose, 2013; Burda et al., 2012; Codd et al., 2010; Crooks et al., 2011; Dickson et al., 2008; Osterholm et al., 2013; Van der Meer et al., 2011). Some studies showed that family and friends also help a worker to adjust to their chronic condition by performing household chores, and talking about the condition and the situation in the workplace (Codd et al., 2010; Osterholm et al., 2013; Stanley et al., 2007).

Management of symptoms and limitations in the workplace

The final element of self-control, managing symptoms and limitations, was considered important for staying productive and preventing problems at work (Burda et al., 2012; Ruston et al., 2013; Zhao et al., 2017), especially for physically demanding jobs (Bose, 2013). Several aspects ought to be considered before symptoms and limitations could be properly managed at work. First, studies showed that only after there is worker awareness and recognition of their symptoms and limitations due to their chronic condition (including boundaries) as a possible cause of work problems action could be taken, support sought and strategies developed (Bose, 2013; Burda et al., 2012; Crooks et al., 2011; Dickson et al., 2008; Lacaille et al., 2007; Osterholm et al., 2013; Sallis & Birkin, 2014; Van der Meer et al., 2011; Zhao et al., 2017). A worker's awareness of its symptoms and abilities also made it easier to accept the chronic condition and address the limitations (Osterholm et al., 2013; Van der Meer et al., 2011). This process of recognition and awareness proved to be difficult and took time to learn (Lacaille et al., 2007; Meide et al., 2017; Osterholm et al., 2013). Sometimes, reactions from co-workers were needed for workers with a chronic condition to become aware of unknown symptoms (Bogenschutz et al., 2016). A number of studies pointed out that having the proper knowledge of a chronic condition, including aggravating triggers, and listening to your body were all considered necessary for awareness and recognition of symptoms and consequent appropriate management (Bose, 2013; Burda et al., 2012; Meide et al., 2017; Sallis & Birkin, 2014; Van der Meer et al., 2011).

Second, worker acceptance of their chronic condition and limitations was needed (Codd et al., 2010; Osterholm et al., 2013). Studies revealed that this provided the worker with a sense of control, early symptom recognition (Sallis & Birkin, 2014) and insight into ways to adjust to their new situation (Codd et al., 2010). It appeared to be difficult to accept a chronic condition as the cause of problems at work, in cases where there was a lack of insight or a strong desire to be normal (Lacaille et al., 2007; Sallis & Birkin, 2014).

Finally, several studies indicated that a worker needed to take responsibility for managing their symptoms and limitations at work (Dickson et al., 2008; Ruston et al., 2013; Zhao et al., 2017). Responsibility implied an appropriate response to their symptoms and compliance with advice for symptom management in the workplace (Burda et al., 2012; Zhao et al., 2017). This was influenced by the level of worker self-efficacy with respect to work and symptom management, and a positive attitude towards work (Dickson et al., 2008; Zhao et al., 2017). Taking responsibility meant prioritizing management of the symptoms and limitations at work, which required the necessary resources in the workplace, such as time and clean spaces to manage the symptoms (Burda et al., 2012; Dickson et al., 2008). A number of studies pointed out that workers who prioritize work over managing their symptoms and limitation responsibly are at risk for a deterioration of their health (Bose, 2013; Dickson et al., 2008; Osterholm et al., 2013; Ruston et al., 2013; Sallis & Birkin, 2014). Reasons for doing this, as described in several studies, were time pressures (including pressure to serve clients), work-related self-image issues, loyalty to co-workers and employer, maintaining condition invisibility, trying to complete tasks without interruption and avoiding lower productivity due to management of symptoms and limitations (Bose, 2013; Dickson et al., 2008; Meide et al., 2017; Osterholm et al., 2013; Ruston et al., 2013).

Several studies described that workers' feelings of guilt and shame were evoked when they needed to manage their symptoms and limitations at work, especially during work

time. In contrast, spending too little time on management of symptoms and limitations at work also evoked guilt (Bose, 2013; Zhao et al., 2017). Management also included appointments at the hospital or with a care provider, which could be time consuming, making it difficult to plan these appointments (Restall et al., 2016; Ruston et al., 2013).

Discussion

In this study a qualitative synthesis was conducted to explore the elements of self-control at work for workers with a chronic condition and to gain insight in its exertion. Four elements of self-control at work for these workers emerged: disclosure, finding a healthy balance, requesting work accommodations and support, and management of symptoms and limitations in the workplace.

Disclosure of the condition at work creates understanding and support from co-workers, supervisors and employers, and facilitates management of symptoms and limitations and implementation of accommodations. However, disclosure is not an easy task, since it is influenced by the worker's personal beliefs about possible consequences, condition-related factors (e.g.,, predictability and invisibility of the condition), workplace factors (e.g.,, co-worker relationships, supervisors and employers), and workplace culture. Since disclosure is an important prerequisite for the other elements of self-control (e.g., requesting work accommodations and managing symptoms and limitations in the workplace), disclosure can be considered a major element of self-control. Disclosure is about controlling the level of information made available about a worker's chronic condition. Studies show that women are more likely to disclose their condition or symptoms, compared to men. However, both men and women point out the importance of receiving emotional support, making it a predictor for disclosure for both genders (Munir, Pryce, Haslam, Leka, & Griffiths, 2006). Although research participants of all, except for one of the included studies, represented both men and women, no separate analysis was conducted for gender differences in these studies. Despite the fact that disclosure is often promoted by society or patient organizations, workers with a chronic condition can remain reluctant to do so because of bad experiences in the past (Kirk-Brown & Van Dijk, 2014; Oldfield, MacEachen, Kirsh, & MacNeill, 2016). The question still remains of how to address the dilemma "to tell or not to tell". There is no "one size fits all" solution because of personal factors and the variety of work settings that influence disclosure.

Stigmatization is an important aspect of disclosure of chronic conditions, and this is often the result of co-worker and employer's lack of knowledge. Stigma after disclosure is a particular problem for certain conditions, such as mental illnesses, HIV/Aids and IBD (Jones, 2011; Peterson, Currey, & Collings, 2011; Wagener, van Opstal, Miedema, van Gorp, & Roelofs, 2017). The difficulty of disclosing certain chronic conditions was described in a review by Brohan et al. on factors associated with disclosure of mental health problems in the workplace (Brohan et al., 2012). Although difficult, disclosure can have a positive effect in reducing the level of stigmatization (Rohde et al., 2018). Condition invisibility and possible stigmatization further complicate the dilemma to disclose or not to disclose as shown by the theoretical framework developed by Joachim and Acorn (2001). This framework shows that workers with invisible conditions have several options (e.g., non-disclosure, preventive disclosure and protective or spontaneous disclosure) when dealing with their condition, compared to workers with visible conditions (Defenbaugh, 2013; Joachim & Acorn, 2001; Vickers, 1997), thereby making their decision to disclose more difficult.

Finding a healthy balance is important for workers with a chronic condition to continue working. The decisions related to finding this healthy balance are based on the desire to continue working and the strategies that make sustainable work participation possible, such as energy management or a job change. This balanced decision making should also be seen in the light of self-control as discussed in the literature. Various models describe self-control as decision making related to sacrificing short-term outcomes in favor of long-term interests, which is in accordance with sacrificing social activities, leisure time or career promotions to achieve sustainable employment (de Ridder et al., 2012). This qualitative synthesis has also indicated the relevance of personal values in decision making, which is in line with the review by de Wit et al., who pointed out the importance of personal factors in work participation (de Wit, Wind, Hulshof, & Frings-Dresen, 2018). Balancing both work and a personal life is a challenge for most workers; an imbalance can result in negative health effect such as stress and burnout. These synthesis findings emphasized that having a chronic condition further complicates the matter, since the worker needs to balance their work and personal lives while continuously managing their chronic condition and symptoms. This finding is in accordance with other literature on work-life balance and chronic conditions (Bedell, 2008; Gignac et al., 2014; Kaptein et al., 2013). Grawitch et al., who studied work-life balance in light of self-regulation, control and decision making, showed that active decisions need to be made to allocate resources, such as energy which is usually a scarce resource in workers with a chronic condition (Grawitch, Barber, & Justice, 2010). This lack of resources may also be explained by a greater need for recovery during and after work (Kiss, De Meester, & Braeckman, 2008; Nachtegaal et al., 2009), which may easily lead to a work-life imbalance and thus affect the worker's quality of life in their social domain.

Requesting accommodations and support is crucial for fitting a job to the capacities of a worker with a chronic condition. A work, social or healthcare environment can be a valuable source of support. Co-workers assuming tasks and talking about living and working with the chronic condition are both valuable forms of support for a worker with a chronic condition. Much research has been done on workplace accommodations for specific conditions and chronic conditions in general including consideration of the need and use of accommodations and subsequent impact on work outcomes (Al Dhanhani, Gignac, Beaton, Su, & Fortin, 2015; Chhibba et al., 2017; Chow, Cichocki, & Croft, 2014; Gifford & Zong, 2017; Gignac, Cao, & McAlpine, 2015; Leslie, Kinyanjui, Bishop, Rumrill, & Roessler, 2015; Nevala, Pehkonen, Koskela, Ruusuvuori, & Anttila, 2015). Depending on the condition, accommodations can be permanent or temporary, as for example for conditions with an episodic course. Varekamp et al. demonstrated the importance of social support for workers with chronic conditions

(Varekamp & van Dijk, 2010). Talking about personal experiences could help a worker with a chronic condition adjust to symptoms at work, since expressing one's emotions improves psychological and physical adjustment to a condition (de Ridder, Geenen, Kuijer, & van Middendorp, 2008). Byrne et al. also demonstrated a positive association between perceived organizational support and performance in workers with chronic pain (Byrne & Hochwarter, 2006). However, the focus of this synthesis was on a worker's intention and actions related to accommodation requests. In line with the definition of self-control, "the capacity for altering one's own responses, especially to bring them into line with standards such as ideals, values, morals, and social expectations, and to support the pursuit of long-term goals" (Baumeister et al., 2007), requesting accommodations and support could be seen as a worker's response to a pursuit of the long-term goal of sustainable employment. But just as with disclosure, the difficulty lies in the influence of and interaction with the environment. Although the worker is in control of requesting accommodations and support, the worker is also dependent on the reactions and actions of the people in their work environment. Workers who are not able to adequately ask for accommodations may have unmet needs (Chhibba et al., 2017; McDowell & Fossey, 2015), which makes it harder for them to adapt to their new situation. When keeping in mind Huber's new definition of health, "having the ability to adapt and to self-manage", the ability and the possibility to adapt to a new healthy work situation are both important for a workers' wellbeing and health (Huber et al., 2011).

Management of symptoms and limitations in the workplace is an element of self-control, and enables sustainable work productivity. This requires an awareness of symptoms, acceptance of the chronic condition and limitations, and taking responsibility. Both the work and the healthcare environment influence how the condition is managed by the individual. Managing of symptoms and limitations at work can be difficult for an individual, since not everyone is equally proficient and there are disparate ways of managing or adjusting to a chronic condition and reasons for doing so. This is illustrated by the shifting perspectives model of chronic illness. Depending on the situation, the focus can be on the illness or on wellness (Paterson, 2001). Focusing too much on wellness, thereby ignoring the condition related symptoms or changes, is sometimes seen in work situations when workers prioritize work over managing symptoms and limitations. This behavior can be a sign of lower levels of self-control, whereby the worker is not able to self-manage and can cause possible negative effects on future prospects. The difficulty of managing a chronic condition in the workplace also depends on the type of the condition. In the synthesis presented here, studies on seven chronic conditions showed differences in individual management of these conditions. A condition such as DM type 1 requires a specific strategy to manage symptoms and limitations, that is distinct from MS or depression. However, for all seven chronic conditions, workers need to take responsibility and respond adequately to symptoms of the condition with long-term goals of preventing condition progression and staying productive at work.

The work, social and healthcare environment influence and interact with the elements of self-control in the workplace. Based on this synthesis here, the work environment appears to be the most important, since it influences all four elements of self-control for the worker with a chronic condition. An accepting workplace culture and an understanding and trusting relationship with co-workers, supervisors and employers facilitate self-control. The relevance of the work environment for the ability of working with a chronic condition becomes clear with the numerous reviews being performed on the relationship between a work environment and a variety of chronic conditions and disorders. All these reviews showed that a work environment with unfavorable work characteristics, such as low supervisor support, high job strain and a poor social climate at work, has a negative effect on the chronic condition and symptom progression (Lundberg, 2015; Nieuwenhuijsen, Bruinvels, & Frings-Dresen, 2010; Theorell et al., 2015, 2016). At the basis of an understanding and accepting work environment lies the employers and co-workers' knowledge of the presence of a worker's chronic condition and the impact of this condition on their work. Besides the obvious relevance of the healthcare environment, this synthesis also pointed at the social environment, e.g., family and friends, as an important source of support. However, the importance of the social environment for a worker's ability to exert self-control at work appeared limited compared to the influence of the work environment. This may have to do with the included studies' focus and the search strategy that included the work environment as a major category in the search terms. That said, the social environment is obviously of great importance for maintaining the right work-life balance.

Considering all the theories described in the introduction, different aspects could play a role in exerting self-control or self-control failure at work for workers with a chronic condition. Non-disclosure is an important element. Using the Integrative Self-Control Theory by Kotabe, the conflict between the higher order goal, in this study sustainable work participation, and the desire for the chronic condition to remain invisible, inhibits disclosure of the chronic condition at work. The fact that workers make a trade off what they tell, when and to whom, implies that disclosure is a deliberate decision, as part of a reflective process. Motivation also appears to play a role in exerting self-control at work, as can be deduced from the subjective value that workers add to work and the worker role and their desire and determination to continue working. Next to the capacity or motivation to exert self-control in workers with a chronic condition, our study shows the importance of the work context in exerting self-control. Characteristics of the work environment, such as the attitude and knowledge of the employer and the presence or absence of a clear policy, can act as enactment constraints for exerting self-control, making it difficult to exert self-control in specific situations. This observation has important consequences for future policy and practice, but also on interventions to be developed for workers with a chronic condition.

Strengths and limitations

The strength of this study is the systematic approach for synthesizing the literature on work participation for workers with a chronic condition in a multidisciplinary team. This synthesis increased insight and understanding of the concept of self-control for these workers, and provided valuable

information for the development of interventions aimed at enhancing these workers' self-control. One limitation of our study was the inclusion of seven selected chronic conditions. Outcomes may have differed if other or additional chronic conditions had been included. Another limitation was the ratio of studies of workers with specific chronic conditions (more studies included for RA (n = 5) and MS (n = 4) compared to the other five conditions). This may be linked to the eloquence of these specific groups, in contrast to for example workers with mental illnesses (Thorne, 2016; Thorne et al., 2002). Also, although we systematically searched four large databases for relevant articles to include in this qualitative synthesis, we did not search in all databases (e.g., Web of Science, Scopus). This may have led to selection bias of the included articles. Possibly, conducting a scoping review prior to this qualitative synthesis could have identified additional databases, which could have provided even more relevant articles. However, we do expect that for the aim of this qualitative synthesis, we managed to include the main elements of self-control at work. Some studies included participants who were on sick leave or currently unemployed, although these participants may have provided valuable information because of their previous work experiences. A final limitation was the underexposure of the interaction with the other domains (social and healthcare environment), as a consequence of including studies focusing mainly on the work context, while those focusing mainly on the social and/or healthcare environment were excluded.

Practical implications

In general, people with high self-control are able to better control their thoughts, emotions, responses and behaviors. Research has demonstrated that practice and training can increase the level of self-control on laboratory-based tasks as well as behaviors associated with good health such as diet, exercise, and alcohol consumption (Hagger & Chatzisarantis, 2013). However, a meta-analysis on the effect of training on self-control, shows only a small effect (Friese, Frankenbach, Job, & Loschelder, 2017; Milyavskaya et al., 2019). Changing the context in which self-control can be exerted, has shown to be a successful strategy in changing behavior (Marchiori, de Ridder, & Kroese, 2015).

So how about self-control at work for workers with a chronic condition? Do we expect every worker to exert self-control at work, possibly after training? What needs to change in the worker with a chronic condition or in the work environment to achieve this? It is not realistic to expect high levels of self-control at work for all workers with a chronic condition, because of the complexity of the concept and differences in work situations. Exerting self-control at work is also dependent on the influence of the environment. It is desirable that workers with a chronic condition are aware of the four elements of self-control at work identified in this study, and possibly using them as a first step in taking control over their responses. These elements could also serve as possible starting points for support in improving self-control at work for workers with a chronic condition. Having self-control allows for a better adaptation to new situations, and can lead to improved feelings of health and wellbeing, thereby enhancing the sustained employability of a vulnerable group of workers.

For optimal self-control at work to be exerted, knowledge, attitudes and policies are important aspects to consider for both the worker and his or her environment. Since the work environment plays a crucial role, efforts must be made to increase support in the workplace, so workers with a chronic condition are enabled to exert self-control. This implies that the work environment needs to change to a more supportive work environment.

Because the work environment will not change by itself, proactively educating and raising awareness among employers, supervisors and co-workers is necessary to create this supportive environment. By increasing knowledge and awareness of the impact of a chronic condition on work and work ability and the necessary resources for a working life with a chronic condition, understanding and acceptance by co-workers, supervisors and employers can be raised. Additionally, the value of workers with a chronic condition and the importance of preventing job loss must be made clear to employers and supervisors in order to make sustainable employment possible. A clear company policy aimed at facilitating all workers with a chronic condition in acquiring accommodations can also be a helpful tool. Occupational health professionals could play a key role in stimulating this supportive work environment and exerting self-control by proactive education and training, creating awareness, providing advice and information to employers as well as workers. Occupational health professionals can use the four elements influencing perceived self-control by workers to structure the information and advice needed to support work participation. Although a standardized approach for supporting workers with a chronic condition would be the optimal long-term solution, however, the question is whether this is feasible with the continuously changing work environment influencing the exertion of self-control, e.g., knowledge and attitude of employers.

Currently, the health care system in most high-income countries focuses merely on the treatment of symptoms of the condition and to a lesser extent on the overall wellbeing of workers with chronic conditions. By addressing the impact of the condition on working life, people become aware of possible work-related problems, thus enabling them to find solutions for these problems at an early point in time. Referring people with a chronic condition to an occupational health professional could be helpful, especially for unpredictable and progressive conditions. This professional could form a bridge between the medical specialists on the one side and the working environment on the other side. An improved communication between medical specialists and occupational health professionals could further aid in preventing work-related problems for these workers.

Research recommendations

Although this qualitative synthesis is a good starting point for investigating self-control at work for workers with a chronic condition, more research is needed, providing more clarity on the underlying mechanisms of successful and unsuccessful exertion of self-control at work. By further exploring

quantitatively and qualitatively self-control at work in different contexts and for different chronic conditions, more refined models for self-control at work could be developed. Additionally, more research is needed on the development of interventions that positively influence the four elements of self-control within the worker with a chronic condition as well as interventions that increase the support in the work environment. These interventions could aid workers in the exertion of self-control and employers in planning and providing optimal support for employees with different chronic conditions.

Conclusion

This qualitative synthesis contributes to the understanding of self-control at work for workers with a chronic condition. Self-control at work means making the effort to change one's life and adjust to new circumstances of working with a chronic condition. The findings indicate that four elements need to be considered: disclosure, finding a healthy balance, requesting accommodations and support, and management of symptoms and limitations in the workplace. The work environment is thereby crucial for a worker's ability to exert self-control. Exerting self-control at work can facilitate workers with a chronic condition and will lead to sustainable work participation.

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