The Process of Rehabilitation, Return and Stay at Work of Aging Workers who Suffered an Occupational Injury: A Portrait based on the Experience of Canadian Stakeholders

Abstract (150-250 words)

Purpose. This study aims to paint a picture of the factors that influence the process of rehabilitation, return, and stay at work, for aging workers who have suffered an occupational injury. *Methods*. Based on a descriptive interpretative research design, the authors conducted interviews with 23 participants (i.e., aging workers, workers' representatives, employers, insurers, and rehabilitation professionals) to gather their perspectives. Qualitative data was analyzed through thematic analysis. *Results*. Fifteen factors related to the worker, health system, workplace, or compensation system were identified. These factors prevail during rehabilitation, return to work, stay at work, or the entire process. *Conclusions*. This study contributes to the advancement of knowledge regarding three main ideas: 1) the importance of not placing the responsibility in this complex process on the worker, 2) the key role of the compensation system, and 3) the necessity of transforming work to reduce ageism.

Keywords (5)

Aging workers, qualitative research, occupational rehabilitation, return to work, stay at work

Introduction

The portrait of seniors has changed significantly in recent years. People now maintain levels of functioning that allow them to engage in their occupations longer, and work is no exception. As a reflection of this contemporary trend, Canada's employment growth occurs primarily among aging workers, i.e., those aged 55 and older [1]. This experienced workforce is an important resource, considering the current labor shortage.

Although work leads to many benefits for aging workers, such as developing a sense of belonging, maintaining social contacts, and ensuring financial security, this occupation also carries significant risks [2]. Aging workers face higher probabilities of experiencing one or more periods of disability [2]. Not only does the risk of suffering an occupational injury increase with age, but the severity of the injury escalates, as does the duration of disability [3, 4]. Moreover, many retirees decide to re-enter the labor market in a different job from the one they held in the major part of their working life, a recent phenomenon that affects aging workers. Yet, it may expose them to new risks and challenges [2], contributing to a marked increase in their use of rehabilitation services [5].

The increasing rehabilitation needs of aging workers create changes in the profile of rehabilitation services' clientele [6]. Rehabilitation professionals now work with this emerging population and its particular characteristics. Professionals are generally aware of the growing presence of aging workers among the clients receiving their services, but they are often poorly equipped to intervene with them, and most practice settings have not yet added specific services to meet their needs [6]. However, the scientific literature does suggest the adaptation of certain rehabilitation interventions to fit the reality of aging workers [7], such as offering assistance with mobility within the community or support for health self-management [6]. Other authors suggest offering targeted interventions to aging workers, such as health promotion or awareness of ageism in the workplace [8]. At this stage, it seems necessary to explore the process of rehabilitation, return, and stay at work of aging workers who have suffered an occupational injury, to offer them quality services appropriate to their reality.

State of knowledge

Portrait and specificities of aging workers

In 2016, individuals aged 55 and over accounted for more than one-third of the Canadian working-age population, 38% of whom were active in the labor market [9]. This proportion is the highest noted since work-related statistical compilations began over 40 years ago [9]. Forecasts suggest that the number of Canadians over the age of 55 and active in the labor market will continue to increase in the coming years [9]. The situation is similar in the United States, where the proportion of workers aged 55 or older is at a historic high, having jumped 124% in 20 years

[10]. In Europe, people over 55 also represent an important workforce with an employment rate of over 50% [11]. In Canada, the private sector employs nearly 75% of workers aged 55 and over; in the United States, this proportion if of 68 % [10]. According to Statistics Canada, sales and service (21%), business, finance, and administration (18%), and transportation and machinery (16%) are the main economic sectors that employ these workers [12]. American aging workers are mostly hired in health and social assistance (14%), manufacturing (11%) and education services (10%) [10].

Aging workers have unique characteristics that distinguish them from other cohorts, including their relationship to their jobs and the values they hold [7]. Compared to younger workers, this generation of employees reports greater job satisfaction and less willingness to leave their jobs [13]. The job satisfaction of this workgroup depends on specific characteristics, such as employer support or opportunities for promotion. Job security, role clarity, and available resources also motivate their commitment to the workplace [13]. These individuals appear to value the intrinsic benefits of a job (e.g., responsibilities, challenges, social contacts) more than its extrinsic benefits (e.g., prestige, salary material goods) [14].

The literature indicates that the work experience of these workers may differ from that of other cohorts because of the stereotyping that targets them. McCann and Keaton [15] suggest a general perception of aging workers as loyal colleagues who adapt less quickly to technology. Younger workers describe their 55–65-year-old colleagues as less outgoing and extroverted but more pleasant, conscientious, and emotionally stable [16].

These older workers also have more difficulty returning to employment after a period of disability. A study by Kadefors and Hanse [17] indicate that while many aging workers were optimistic about returning to the workforce, the negative attitudes of many employers toward them would demotivate them over time. Thus, generational differences may impact the factors influencing their process of rehabilitation, return, and staying at work.

Influence of work on the health of aging workers

Increasingly, coping with the social and economic realities of aging societies requires prolonged participation in the workforce. Even more important are the associated individual benefits for aging people. In addition to allowing them to maintain their physical health and cognitive capacity [18], work can lead to feelings of recognition and contributing to society, with positive impacts on the health and quality of life of aging individuals [19]. However, work also comes with potentially negative effects for this population. Compared to a younger worker, a worker aged 55 years and older has twice the risk of suffering an occupational injury and six times the risk of developing a musculoskeletal disorder [20]. Moreover, these statistics show an upward trend. Between 2015 and 2018,

musculoskeletal disorders increased by nearly 30% among Quebec (i.e., a province in Canada) workers aged 55 and over, an increase significantly higher than that in the general population of workers, closer to 10% [21]. Older people would take longer than younger workers to return to work after an injury [4]. This increased vulnerability to occupational injuries and disability requires focusing on the factors influencing their rehabilitation, return, and stay at work.

Factors that influence rehabilitation, return, and stay at work

Scientific literature reports the main factors in promoting the process of rehabilitation, return, and stay at work after a period of disability, for the general population of workers. Among others, these include factors that relate to the individual (e.g., adaptability) [22], the workplace (e.g., accommodation opportunities) [23], the health care system (e.g., professional support) [23], or the compensation system (e.g., insurer regulation) [24] [25]. The unique characteristics of aging workers have prompted a few authors to take an interest in the factors that influence the process of their rehabilitation, return, and stay at work [7]. A brief portrait of these factors follows.

1) Occupational rehabilitation

Authors have proposed various factors in the rehabilitation of aging workers. Issues seem to surround the time that rehabilitation in this group of workers requires. Stikeleather [26] suggests that rehabilitation programs should more adequately consider the additional recovery time aging workers need to return to their original occupation. Among other factors, rehabilitation professionals should consider comorbidities that influence recovery time. Durand et al. [24] suggest that an individualized approach that considers personal characteristics and motivation to return to work could offer a promising avenue for aging workers. Other authors note the need for collaboration between the aging worker, health care professionals, and the employer, to achieve an adequate level of support [27]. In this regard, Steenstra et al. [28] show that rehabilitation in the workplace is particularly beneficial for workers aged 44 and over. Indeed, due to their extensive work experience, these workers would participate more actively and effectively in rehabilitation processes set in the workplace than in traditional clinical settings.

2) Return to work

The scientific literature enables us to identify a few factors that seem necessary to ensure a successful return to work after a period of disability. Saint-Arnaud and Saint-Jean [29] indicate that the openness of employers to improving working conditions is a major determinant of the successful return of aging workers absent from work. However, other authors [30] indicate that many employers cannot always accommodate workers after retirement age, often due to the nature of the work. For example, it would be more difficult for employers to imagine job

changes for certain fields, such as transportation [30]. These authors also cite issues of ageism and age discrimination as reasons why aging workers are sometimes granted fewer accommodations [30]. Employers are important actors in the return to work. As such, the level of support they provide to the worker is an important determinant in ensuring a smooth transition back to work [26]. Lilley et al. [31] assert that the organization of the workstation should get more attention, as it is, a favorable occasion for soliciting the collaboration of the aging worker to consider the necessary changes and adaptations to the workstation, in light of their particular needs [27]. The possibility of adjusting working hours has also proved instrumental in facilitating the return of workers aged 45 and over. Whether by modifying arrival and departure times or taking more frequent or longer breaks, the worker can adapt a schedule to his or her needs [32].

3) Stay at work

Authors highlight some factors that hinder healthy and sustainable stay at work for aging workers who have suffered an occupational injury. According to Durand et al. [24], the desire to receive or retain work-related benefits could encourage some workers to return to work early, despite their disability. However, this could increase the risk of a relapse. Although this idea may vary across legislative contexts, the rules the insurer imposes is also susceptible to encourage an early return to work, a tendency even more pronounced among aging workers since they are likely to have accumulated benefits over time [24]. Manifestly, these external incentives influencing return to work would not be conducive to a long-term, successful stay at work. Aging workers see support from their employer as facilitating stay at work after a period of disability [24]. However, this support can be difficult to obtain, particularly because it can depend on the value that the employer places on older workers [24]. Similarly, the value that these workers themselves place on work may influence their commitment to work. This will differ if workers consider their work to be the cause of their health situation or, on the contrary, as a space for fulfillment [24]. This seems to be an issue of perception on both the employer's side and the worker's. Algarni et al. [30] state that workers aged 65 and over are more likely to require a long-term change in tasks and work schedule, compared to younger workers (i.e., 13% more than the 25–54 age group). Finally, a recent research paper on sustainable return to work of workers aged 45 and over [32] considers the concept of work design a possible determinant of stay at work. In Morgeson and Humphrey's [33] conceptualization, work design encompasses four types of characteristics influencing the work experience, namely, those pertaining to task, knowledge, and social and contextual characteristics. This avenue seems promising for supporting workers who have suffered an occupational injury in stay at work.

Relevance of the research and objective

Although the current literature makes it possible to understand that certain factors specifically influence the process of rehabilitation, return, and stay at work for aging workers, the picture remains incomplete. Most of the findings come from a limited number of studies, and very little information is available on the role of the compensation system in the process. A careful review of the literature also reveals that despite an identified need, the stakeholders cannot always respond, particularly when it comes to improving working conditions [29] and employer support [24, 27, 30]. This requires initiating a shared discussion, to identify viable and concrete avenues to solutions for each stakeholder. The situation includes 1) the considerable increase in the number of aging workers in the labor market, 2) their increased risk of suffering an occupational injury leading to a prolonged disability, and 3) their particularities that create needs different from the general population of workers. Therefore, the aim of this study was to paint a picture of the factors that influence the process of rehabilitation, return, and stay at work of aging workers who have suffered an occupational injury.

Theoretical framework

This study was based on the theoretical framework of work disability [25] which suggests that several levels - *individual (i.e., worker), organizational (i.e., work environment, health care and rehabilitation system, insurance and legislative system, social environment) and societal (i.e., dynamics, structures and systems)* - interact to explain work disability and influence the process of rehabilitation, return to work and stay at work [34]. In doing so, various stakeholders (e.g., aging workers, employers, rehabilitation professionals, unions, insurers) are involved and interact in this complex process [34]. The perspectives of these stakeholders must be documented to understand the process.

Method

Design. The study utilized a descriptive interpretative research design [35, 36]. This qualitative design allows an in-depth examination of a phenomenon (e.g., the process of rehabilitation, return, and stay at work of aging workers) by considering different stakeholders' perspectives. Previous work qualifies this research design as appropriate for producing a rich understanding of a phenomenon within its natural context [37-39]. This study considers the specific context of Quebec, Canada.

Participants. In accordance with the theoretical framework of this study, the main categories of stakeholders involved with injured aging workers were recruited: 1) rehabilitation professionals, 2) aging workers, 3) workers'

representatives (i.e., union or community organizations), 4) employers, and 5) insurers. The researchers targeted people in these categories as participants because of their respective roles in the process under study [e.g., 22, 23, 40]. To be included in the study, participants had to have at least two years of experience in their work in Canada. A purposive sampling method was used to recruit the participants, and their selection was based on a maximum variation sampling strategy [24]. Attention was paid to obtaining diverse profiles, in terms of the practice environment, level of training, and years of experience. The recruitment of 12 to 24 participants was initially planned [41, 42]. Indeed, the literature suggests that for qualitative studies aiming to describe the perspectives of people sharing a similar reality, interviews with a dozen participants are generally sufficient to achieve saturation. [42]. The final number of participants was adjusted during the study, and recruitment stopped when the interviews revealed redundancy in the sense of the ideas that the 23 participants who took part in the study reported [42].

Procedure. Individual phone interviews followed a validated guide, pretested on two individuals who shared participants' characteristics. The interviewer asked participants to express their views on the factors influencing the process of rehabilitation, return, and stay at work of aging workers. Based on real-life situations they may have experienced, the interviewer invited participants to discuss the factors influencing this process (e.g., obstacles and facilitators, unmet needs, required improvements). The questions focused on four themes: personal factors of workers (e.g., abilities, pain, motivation), rehabilitation interventions (e.g., strengths and challenges), actions of different stakeholders (e.g., employer, worker, insurer, union), and the characteristics of work context (e.g., type of job, work organization, support). All the interviews were conducted in French and were digitally recorded. The average time of the interviews was 45.88 ± 13.29 minutes.

Analysis. Following the transcription of verbatim interviews, the five stages of the thematic analysis strategy [43] were carried out: 1) repeated readings of the data corpus, allowing researchers to develop a sense of immersion; 2) initial coding with descriptive codes assigned to the units of significance found in the corpus; 3) units of meaning transformed into meaningful expressions of participants' experience; 4) synthesis of expressions enabling the organization of the data in a general structure (the codes [micro level] were grouped into categories [meso level] and/or themes [macro level]); 5) back and forth between the raw data and the general structure, enabling clarification and interpretation of the data while respecting participants' experience. The researcher completed the analysis using QSR NVivo software.

Two members of the research team with experience in qualitative analysis independently analyzed the first eight interviews. They met after coding each interview to compare their coding and forge a consensus on codes and structure. This procedure reduced the risk of bias by preventing the coding from reflecting the perception of a single person. One person coded subsequent interviews, and periodic discussions occurred among research team members. The research team produced several versions of the structure of the participants' experience until the team agreed on a structure that respected the data as accurately as possible.

Results

Description of participants

Of the 23 participants, 17 were female. The sample included a) 12 rehabilitation professionals (i.e., occupational therapists, physical therapists, psychologists, physicians); b) six aging workers who have experienced the process of rehabilitation, return, and stay at work; c) three representatives of workers (i.e., unions, community organizations defending workers' rights); d) one employer; and e) one public insurer. The average age of the participants, whose ages ranged from 27 to 75 years old, was 45.35 years old. They had held their position for an average of 17.21 years, ranging from 3 to 40 years. Table 1 shows the participants' descriptive characteristics.

Insert table 1 here

Factors influencing the process of rehabilitation, return, and stay at work of aging workers

Data analysis led to highlighting 15 factors influencing the process of rehabilitation, return, and stay at work of aging workers who had suffered an occupational injury. Depending on the context, the identified factors may have positively or negatively influenced the process for most of them. These factors relate to the worker, the health system, the workplace, or the compensation system.

Factors related to the worker

In their responses, participants identified seven worker-related factors. First, *healing speed and health condition* appeared to be a major issue in the process, as this participant said: "It can be a little longer and a little more rehabilitation. Often [aging workers] have a little less energy and all that. Since they also evolve less quickly than our younger [workers], it makes the process a little longer[1]" [RP-21] [2].

[1] Verbatim extracts from the participants' interviews exemplify the factors. The extracts are a free translation from the original French transcripts.

[2] Letters in brackets refer to the stakeholder's type: E = employer, I = insurer, RP = rehabilitation professional, W = worker, WR = worker representative. Numbers (1 to 23) refer to the participant's number.

Also, participants reported that “the deconditioning is more important [with aging workers]. If they don't have an active lifestyle, they will decondition themselves faster, which can influence [their process of rehabilitation, return and stay at work]” [RP-03]. Therefore, other health conditions and comorbidities that may occur more frequently with age, such as “high blood pressure or diabetes” [RP-11], influence the process.

The second worker-related factor is *imminent retirement*. This factor influences the process because aging workers want to regain their capacity to enjoy retirement: “[The aging workers] know that retirement is coming, and that it is [the] time to get back in shape. The aging workers want to heal to have a nice retirement” [RP-03]. Imminent retirement may also refer to the financial needs of aging workers; some must return to work to have “financial security or financial integrity” [RP-22]. On the other hand, imminent retirement may hinder the return to work because aging workers think that they “do not have many [years to work] anyway” [E-23].

Years of experience was another worker-related factor. A worker participant mentioned that his seniority enabled him to choose tasks that he wanted to do: “I am the first driver. I could have said: I drive trucks only, and I do not [drive] 12 wheels. I could have asked” [W-08]. Also, participants reported that “if [aging workers] have a lot of experience and [are considered] mentors in their workplace, they will be tempted to return even if they are still limited or in pain” [RP-20]. On the other hand, years of experience could be an obstacle, creating “more conflicts [...] because it seems that since [aging workers] have been working for their employer for so long, they are more demanding of their employer” [RP-03].

Participants noted *family situation* as a relevant factor influencing the process. Usually, family members and friends will help in the process. Conversely, “[if] all they [aging workers] have done in their life is work, if they have no wife and no children, if they don't have a lot of friends, if their circle of friends was related to work, they find themselves isolated [during work disability], so it's more difficult sometimes to have the motivation to go back to work” [WR-17]. Otherwise, data showed that having a life partner could influence the process: “If the client has a spouse who is still working, that will often be a lever for returning to work, versus when the spouse is already retired” [RP-12]. In addition, the emergence of new roles in the family that comes with age affects the process, as a participant expressed: “They are young grandparents, they have grown children with whom they are often still very involved. Sometimes, they still have their parents, if they [aging workers] are in their 50s, 60s, sometimes their parents are in their 80s. And sometimes, they are natural caregivers for their parents. So, it can become an obstacle because they have a lot to do” [RP-10].

Value of work and sense of belonging emerged from the analysis as an important component for aging workers. Participants stated that “there is a direct link with the sense of belonging. If [aging workers] do not have colleagues

and if they know that nobody will miss [them] […] it does not help [them] to come back [to work]" [E-23]. Another participant highlighted that value of work and sense of belonging could influence the person's identity: "Because people define themselves by their job, we ask, "who are you?", and [aging workers] often answer with their job title. People identify themselves through work [and, following an injury], if they are asked "who are you?", [they] are no longer able to say "I am a truck driver" because they got injured and can no longer drive a truck. They must redefine themselves, and it is not easy" [WR-19].

Value of work and sense of belonging appeared to be a key factor in a success story, as a participant expressed: "She [the injured worker] was 60, but she loved it [her job] so much and wanted [to return to work] so much. She went back [to work] and she adjusted [her workstation by herself] and she paid for the adaptations. She loved it so much and even if she was 60 years old, she was really able to have great success with [the process], precisely because of her love for work" [RP-21].

Occupation other than work also appeared to influence the process. Aging workers who already have other occupations could leverage the process, as a rehabilitation professional participant stated: "I can motivate them more with their interests—gardening, for example—or with what they would like to do in retirement" [RP-4]. Another participant expressed: "Aging workers who have activities outside of their work that are varied, that are already flourishing, I think that, most of the time, [they will return] to work" [RP-20]. On the other hand, sometimes aging workers wanting to preserve themselves for their leisure instead of their work could be an obstacle to the process. This participant described this idea: "I prefer to damage my knees not at the factory, [but] in sports [and with] my children" [W-18].

Worker apprehension and adaptability constitute a relevant factor that emerged from the results. Participants raised the point that aging workers have less adaptability capacity than younger workers because "aging workers [were using] wrong [working techniques] and they have been doing it for years. There was no problem because they were not injured, but now that they are injured, they cannot work anymore the same way, and it's harder [for them to] change" [RP-16]. In addition, there is greater reluctance to change among aging workers, according to this participant: "They have always done it [this way], they can't change, it's always been like this since they were very young" [RP-12]. A participant reported that apprehension about performance at work is a big issue for aging workers: "I was wondering with my back, my leg, my hip, will I be able to redo [my work], will I be able to do as much [as before my injury]? Am I going to have the same [efficiency] that I had before?" [W-09]. These worker-related factors influence the process of rehabilitation, return, and stay at work for aging workers.

Factors related to the health care system

Participants identified three factors related to the health care system as influencing the process of rehabilitation, return, and stay at work of aging workers who have suffered an occupational injury. The first factor that emerged from the experiences of participants was the *possibility of involving relatives in rehabilitation*. According to the participants, relatives are essential in the rehabilitation of aging workers, as this participant explained: “If I hadn't had my son, I don't know how I would have done” [W-05]. Another participant described how his relative helped him in rehabilitation: “Well, she explained to me. Let's say I was doing an exercise that was not correct; she explained to me [how] to correct it, to improve myself; then [she explained to me] how long I had to do my exercises and then how to do them [properly]” [W-07].

Another participant also stated that he has “a good wife who helped [him] a lot [in the rehabilitation], and she followed [him] closely for the rehabilitation to go well” [W-15].

A *holistic-care team approach* also emerged as a factor influencing the process. A participant insisted that the professionals have to “[consider] the whole person” [I-14] and that “the intervention must be modulated with the aging worker, because there are different issues [in comparison with a younger worker]” [I-14]. These issues relate to the health conditions and capacities of the aging worker, and they imply that professionals must “adapt their interventions to the person's needs and state of health. [Rehabilitation professionals] must modulate their interventions according to the capacities [of aging workers]” [RP-11]. A rehabilitation professional participant gave an example of how this factor is important for the process of rehabilitation, return, and stay at work of aging workers: “We did rehabilitation for his [the aging worker’s] back, but [he also had] respiratory problems. Of course, we had to adapt the exercises to the whole condition” [RP-02].

The last relevant factor related to the health care system was *facilitation of change*, expressed as the importance of finding a way to help aging workers change their working method, despite their possible reluctance. For instance, a participant explained how he facilitated changes with his patients: “I'm going to take more time to explain [how to perform the work task]: why do it like this, why the technique [used before] was not bad, but why now [we need] to change it. [We talk about] the advantages [of the new technique] and [ensure the worker] understands the disadvantages. Sometimes, it takes more discussion for the person to understand” [RP-04]. Another example was “about keeping the same [working mode] and changing small details. For example, the person wants to take over the load in such a way. Sometimes we can just ensure that he/she is positioned in front of the load rather than rotated. Let him/her keep some of his/her mode and just address the [part] that is more problematic” [RP-16]. Participants also reported that facilitation of change was specific to each aging worker;

what works for one person may not work for another: “Find a motivational angle to really find what appeals to them [aging workers] so that they can really make a change in their way of doing things. I would tell you this is really on a case-by-case basis. Often you have to dig a little deeper to find the lever that will motivate them” [RP-12].

Factors related to the workplace

The data analysis led to four factors associated with the workplace. The *recognition of the worker’s expertise* influences the process of rehabilitation, return, and stay at work for aging workers because the employer who values the worker's expertise may make more efforts in the workplace. One participant gave an example: “The expertise and experience of [the worker] who had 30 years of experience [is beneficial for the process]. [The aging worker may] pass it on to young people. For example, I saw an employer who was ready to do anything to keep that expertise in the company and train young people” [RP-11].

Another participant said, [When] “the knowledge of the person [aging worker] is appreciated by the employer, the employer will organize to do the maximum to help this person to return and, therefore, easily accept return-to-work plans” [RP-01]. Data analysis also suggested that recognition of the worker’s expertise benefits the process, as this extract expressed: “The success stories are especially those where the employer has been able to use the strengths of [the aging worker] and has valued that worker” [RP-10].

One more factor related to the workplace that emerged from data analysis was the *possibility of specific accommodations*. Participants reported that the specific accommodations for aging workers that employers may suggest could influence their process of rehabilitation, return, and stay at work. A participant stated that “employers quickly offer [to aging workers] to change jobs, instead of trying to adapt [the pre-injury job]” [RP-16]. When no possibilities for accommodations are present, the process lengthens, as this participant said: “I had to get the worker to be able to do all the tasks 100%, […]. So that [resulted in] a very long process; it took several weeks. I would say it took at least 4 months before I could get him [the aging worker] back to work, to say he was able to do his chores. And [at the end of the process] he still had functional limitations. The combination of his job and aging was not a good fit” [RP-01].

On the other hand, when accommodations are possible, such as pre-retirement, it is positive for the process of rehabilitation, return, and stay at work, as a participant stated: “The opportunity to take a pre-retirement, so [aging workers] work fewer days per week and have time to recover their energy level [...]. Sometimes, the fact that [the worker] is in early retirement can facilitate [the process]” [RP-04]. Also, according to the participants, the

possibility of mentoring is often offered to aging workers rather than younger employees: “Take the case of a young worker who cannot do exactly [the same job] anymore. The employer assigns this person to training or mentoring. That is not really [what is expected] for a young person as career progression. However, for the aging worker, that could be the path that [she/he] would have taken anyway, so [the process] is facilitated for [him/her]” [E-23].

Participants named *ageism* as a factor affecting the process. The prejudices of the different stakeholders involved in the process may lead to injustices. A participant declared: “When we have people of 55 years old […], I don't know if the [public insurer] or the employers say to themselves, ‘We are not going to put energy into developing their capacities, we would rather redirect them toward an easier job’” [WR-06]. Another prejudice that participants reported was aging workers’ difficulty understanding the information they receive. A participant affirmed, “He [the rehabilitation professional] thought that because I was 70, I wouldn't understand his exercises or whatever” [W-05]. Additionally, ageism brought out reorientation difficulties: “Employers would not hire [an aging worker] anyway, let alone someone who has had an occupational injury” [I-13].

The last factor related to the workplace is the *employer’s apprehensions*. Data suggested that employers were reluctant to return older workers to work because “they are afraid of making [the] injury worse” [W-18], and perhaps “[the aging worker] will get hurt again and that will [be expensive], and […] the employers are going to be stuck again [with an injury]” [WR-06]. This reluctance led employers to request a return to work without any accommodation, as this participant stated: “Whether people are having difficulty doing their job or not, it seems that when workers are aging, well, the fear that [they] will get hurt again is like, more present, [especially] when they have a physical job. So, sometimes employers tend to say "Well, I really would like them to come back 100%," for fear that they will get hurt [...] during a return to work” [RP-04].

Factors related to the compensation system

Our data analysis led to proposing that one factor related to the compensation system influences the process of aging workers’ rehabilitation, return, and staying at work after suffering an occupational injury—namely, *compensation system policies*. These policies influence the process in several ways. Participants reported that policies restrict the number of interventions, adaptations, and possibilities for reorientation. “Regardless of the person's age, that's the same number of interventions [the insurer] expects. Typically, [the public insurer] expects fewer than 40 treatments. But for the older population, 40 treatments is not a lot” [RP-01]. A participant also stated: “We had a lady. She was 66 years old, so she passed the income replacement indemnity age with the

[public insurer]. It was a bit of a challenge for the occupational therapist and ergonomist to obtain certain equipment to adapt her job [because of her age]. The lady was planning to work for several more years; she had not made the choice to stop working. But because she was aging, it was more difficult to justify [the need for accommodations and equipment]. Much more justification had to be done to receive financial support, in terms of equipment facilitating the adaptation of the workstation" [RP-22].

Also, participants felt that insurers were not open to paying for the reorientation of aging workers: "Rehabilitation costs are calculated. So it is certain that for someone who is getting older, [the insurer] is not going to pay for a training measure because these are significant costs. […] So the chances of success are lower" [I-13]. On the other hand, indemnity policies do not incentivize aging workers to engage in the process this participant described: "Let's say we have an accident at 61, and we are unable to do our job anymore; well, then the [public insurer] pays us until age 65 with full compensation, [up to] age 68 [with partial compensation]. Certain people may say to themselves, "Yes, I will be paid, so much the better, I am not going back to work." Perhaps they would have returned to the labor market then if not for [those indemnity policies]" [WR-17].

In summary, this study identifies 15 factors influencing the process for aging workers who had suffered an occupational injury, as Figure 1 shows. The arrow in Figure 1 represents the process, beginning with rehabilitation, followed by the return to work and subsequent stay at work. Factors in Figure 1 appear where they are most influential in the process. Thus, factors linked with the health care system mainly influence the rehabilitation stage, while workplace-related factors influence phases of return and stay at work. As for worker and compensation-system factors, the results of this study suggest that they both influence the whole process by affecting rehabilitation, return, and stay at work. Figure 1 also exposes the idea that the process of rehabilitation, return and stay at work of aging workers is influenced by the societal context.

Insert Figure 1 here

Figure 1. Factors influencing the process of rehabilitation, return, and stay at work of aging workers who had suffered an occupational injury

Discussion

This study identifies 15 factors related to the worker, health care system, workplace, and compensation system that specifically influence the process of rehabilitation, return, and stay at work of aging workers who had suffered an occupational injury. The analysis of rich and in-depth qualitative data collected from participants representing

various stakeholder groups contributes to the advancement of knowledge regarding three main ideas: 1) the importance of not placing the responsibility on the worker in this complex process, 2) the key role of the compensation system, and 3) the necessity of transforming work.

The importance of not placing the responsibility on the worker in this complex process

The results of this study suggest that 7 out of the 15 factors influencing the process of rehabilitation, return, and stay at work of aging workers related to the worker, sending the message that the worker has a greater responsibility than other stakeholders in the success of the process. These worker-related factors where mostly named by rehabilitation professionals who have a practice centered on the worker, which may have influenced our result. Despite that, it is important to keep in mind that the worker is not the only person responsible for the process, and other stakeholders (i.e., employers, health professionals, and insurers) also have an important and crucial influence on this complex process [44]. Even more, the implication of relatives has been named as a success factor during rehabilitation by the worker participants in this study, In accordance with our result and with the theoretical framework of work disability [25, 34], other authors also reported that interactions and social exchanges between several stakeholders influence the process of rehabilitation, return, and stay at work after an occupational injury [45]. Some authors insist that rehabilitation, return, and stay at work should not be considered three isolated steps, because they are linked and subject to interacting influences resulting from the actions of all stakeholders [45, 46]. These authors suggest an even higher level of complexity, suggesting that preventive actions that stakeholders implement could influence the process, giving the example of workplace practices that aim at preventing occupational injuries, which may influence the success of staying at work after a period of disability [46]. Other authors have concurred, suggesting that rehabilitation, return, and stay at work is a dynamic process of multiple actions that several stakeholders implement [47, 48]. All stakeholders sharing the success of the process is crucial. The complex interactions between the different stakeholders make determining who owns the success (or failure) of the process difficult. Continuing research work to better understand how all stakeholders can contribute to this team effort would be wise; this study barely describes some aspects, such as the compensation system.

The key role of the compensation system

Even if we identified only one factor related to the compensation system, the interpretation of our results suggests that this system has a major influence on the entire process of rehabilitation, return, and stay at work for aging

workers. This observation testifies to the importance of the compensation system. However, the literature on the role of the compensation system regarding aging workers who suffered an occupational injury is sparse [7] and complex because of the great differences regarding compensation systems across countries and jurisdictions [34]. Nonetheless, one possible explanation concerning the role of the compensation system throughout the process could lie in its influence on the interactions between stakeholders. In accordance with the theoretical framework on work disability which stipulates the important influence of the interactions between the stakeholders coming from the different systems [25, 34],, studies show that the interactions between workers and actors in the compensation system are often complex regarding the rehabilitation process, return, and stay at work [49], and these may influence the success of the process and individuals' work function [50]. Indeed, the results of the study by Collie et al [51] suggest that negative perceptions between stakeholders regarding compensation procedures have a deleterious effect on return-to-work success, regardless of the legislative context. However, these complex interactions could be less frequent for aging workers, as aging people tend to receive a higher level of support [52] and more satisfactory responses from insurers [53] than younger workers do. Furthermore, the literature suggests that the rules and policies of the compensation system may place rehabilitation professionals in uncomfortable positions, where they say they cannot always assess and treat workers in the best way [54]. Other authors also note that these rules and policies of the compensation system would even influence the therapeutic relationship between the professional and the worker [55]. Our results also support the importance of the compensation system; participants representing each of the stakeholder groups discussed the influence of the compensation system on the success of the process, through interactions and social exchanges between stakeholders. Describing the effects of the compensation system must occur longitudinally, to better explain how they affect rehabilitation service delivery, return, stay at work, and workers' health [24].

Finally, the interpretation of the results of our study suggests avenues for improvement related to the compensation system, to better support the process. First, adapting the rules and policies to the specific reality of aging workers would be necessary, as would considering the overall health condition of aging workers in rehabilitation services. This idea of leading the compensation system to look beyond "damage" or "occupational injury", but to consider all the variables influencing work disability has been suggested by other authors [34]. For example, flexibility should be added in setting the number of authorized interventions and the duration of services. Programs should be adjusted to allow aging workers to reorient themselves if they wish. Interestingly, the insurer representative participant in this study recognized the importance of adopting an approach that considers the whole person and to adapt the interventions accordingly. It seems that this idea was not perceived the same way by other stakeholders

who did not perceive this openness from the insurer with whom they have worked. Also, it would be wise to increase training and education of aging workers with respect to the compensation system that prevails in their legislative context. Indeed, results of international studies have reported inequalities of power between workers and employers in the return-to-work process [56], notably due to a lack of knowledge of the rules on the part of workers [57]. Finally, a reflection on indemnities in relation to age should occur since the financial incentives have mixed effects on the process's success [7, 24].

The necessity of transforming work to reduce ageism

Aging workers represent essential resources for today's job market. These workers have specific qualities, including a great deal of accumulated experience [58, 59]. Although they can adapt, these workers experience changes of different kinds, especially in their physical and cognitive capacities [60]. In addition, the characteristics of their jobs may change over time [60]. Thus, the work demands are no longer always in line with the biological changes that occur with age [58]. Favoring the success of the process of rehabilitation, return, and stay at work of aging workers who have suffered an occupational injury and optimizing the contribution of these workers to the contemporary workforce requires changing the view of aging workers, to focus not on diminishing capacities but on the development of new opportunities. The results of our study made little mention of this idea; instead, participants mostly had representations related to the losses and challenges of aging and returning to work after a period of disability. However, the literature did acknowledge the transformative and adaptive capacities of aging workers [e.g., 15, 24]. Transforming stakeholder's perceptions of aging could decrease ageism and have significant benefits for the workers, their employers, and society [24]. Employers appear to be key stakeholders in fostering and implementing these changes in perceptions and valuing the contribution of aging workers [61]. Educating and encouraging employers to recognize the detrimental effects of ageist perceptions on the process of rehabilitation, return and stay at work of aging workers is a necessary first step to optimizing its long-term success. This first step would contribute to enhancing the value of job accommodation and transformation to allow aging workers to use their expertise according to their abilities. Other authors have suggested interventions to value the work of aging workers among their colleagues, particularly through intergenerational contacts and activities [62, 63]. In addition to promoting the transformation of workplace cultures, these interventions can reduce ageism and promote the support offered to aging workers when they return to work following a period of absence. This paradigm shift would increase the motivation of workers regarding return to work [24], in addition to taking greater advantage of their potential. According to Krause et al. [64], modifying work tasks to provide new

opportunities in line with the capabilities of aging workers would facilitate return to work, for workers with either temporary or permanent incapacity. Workers benefiting from these modifications would return to work twice as quickly [64]. Work-design approaches that also consider the tasks, knowledge, social characteristics, and context in the design of workstations, suggest an interesting avenue for supporting the healthy participation of aging workers [33]. Even if not perfect [65], legal provisions may also address age discrimination (e.g., Age Discrimination in Employment Act [66]) and should be considered and regularly adapted to the new work realities. Finally, the literature suggests that these transformations of work should go beyond the organizational level, advancing changes in social and government policies to better reflect the reality of aging workers who want to return to work after a period of disability [44]. This idea suggests that another, broader system, namely, the societal system, should figure in the process of rehabilitation, return, and stay at work of aging workers. Even if the theoretical postulates suggest the influence of the societal system on work disability, few studies have focused on it [34] and even less regarding its influence on the specific population of aging workers. Studies should explore this direction, responding to the call to design occupational-injury recovery with a less biomedical aim and a more societal and collaborative approach [44].

Strengths and Limits

This study helped to improve knowledge of the process of rehabilitation, return, and stay at work for aging workers, but its limits must be considered. In line with the theoretical framework on work disability [25, 34], we conducted this study by considering the perspectives of different stakeholders, which brought richness to the results by highlighting points of convergence as well as differences. However, rehabilitation professionals were overrepresented in the sample, which may have influenced the results. A sample representing the stakeholders in a more proportional way would have been desirable. Although the number of participants was appropriate to attain data saturation, transferability of the results to other contexts than Canada cannot be guaranteed. However, the results of a recent study examining the influence of insurance procedures on return to work suggest that the issues are similar despite jurisdictional differences [51]. As such, the results of our study remain relevant to the advancement of knowledge. Despite these limitations, the rigorous and detailed methodology contributes to the relevance, richness, and validity of the results. Finally, the manuscript was written to fulfill the Standards for Reporting Qualitative Research [67].

Conclusion

This study finds 15 factors influencing the process of rehabilitation, return, and stay at work of aging workers. Since these factors are part of a complex context, they can sometimes positively or negatively influence the process. In addition, we highlighted these factors influencing the process to varying degrees, depending on the stage. Improving the process of rehabilitation, return, and stay at work for aging workers, especially by recognizing the responsibility of all stakeholders, the importance of the compensation system, and the necessity of transforming work to reduce ageism, requires future work. These changes must be part of a societal and collaborative perspective.

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