Evidence for workplace accommodation and labour law policies: A focus on lived experiences of people with degenerative spine disease in Zambia

Mambwe Mupeta[1]
Francis Simui[2]
Simeon Mbewe[3]

[1]m.mambwe@hotmail.com
[2]francis.simui@unza.zm
[3]smbewe18@gmail.com

[1,2,3] The University of Zambia

https://doi.org/10.51867/ajernet.7.4.136

ABSTRACT

Degenerative Spine Disease (DSD) is a chronic condition characterised by deterioration of spinal tissues. Although DSD is associated with ageing, it has become increasingly common among younger populations. Despite its incidence, the condition's impact on work life remains under investigation in Zambia. The study aimed to explore the experiences of workplace accommodation for individuals living with DSD and to generate evidence to inform workplace accommodation and labour policies to improve support and social inclusion for individuals living with DSD in Zambia. The theoretical framework anchoring this research was a qualitative Interpretative Descriptive design and included 11 participants aged between 23 and 49 years. Participant selection was through purposeful sampling. Data were collected through face-to-face semi-structured interviews and analysed using inductive thematic analysis with NVivo software version 12. Findings: Key findings included narratives on the challenges faced and recommendations to improve work environments. Challenges included a lack of workplace understanding and accommodation; limited awareness and support in their work environment; inadequate labour laws, as participants described poor workplace policies and a disconnect between what labour laws supposedly are and the reality of their everyday workplaces; and stigma and cultural expectations, which also played a role, though more indirectly. Recommendations were: 1) clear policies and reasonable accommodations; 2) ergonomic safety; 3) hybrid work arrangements; 4) workplace awareness and Education on Chronic Health Conditions; and Regular monitoring, audits, and workplace health assessments. Conclusion: The study established the impact of DSD on individuals' work life and presented practical recommendations for employers and labour policies in Zambia. Future Research: Future research should aim to update Zambia's labour policies to reflect current work contexts and include accommodations for employees with chronic conditions.

Keywords: Chronic Condition, Degenerative Spine Disease, Employment, Labour Policies, Workplace Accommodation

I. INTRODUCTION

Degenerative spine disease (DSD) is a common finding on routine spinal imaging; this finding is partly attributable to physiological ageing and partly to pathology (Scarcia et al., 2022). Symptoms caused by DSD are a common manifestation that equally affects both sexes, from young to middle age, with a median incidence usually around 40 years (Scarcia et al., 2022). DSD presents with an array of structural degenerative changes that load and exacerbate both mechanical and biologic-pathologic processes (Beall et al., 2020). These structural degenerative changes to the vertebrae lead to facet joint arthritis and osteophyte formation, contributing to spine diseases such as canal stenosis, radiculopathy, myelopathy, and spondylolisthesis (Beall et al., 2020). DSD symptoms affect patients' quality of life (QOL), work productivity and impose a substantial economic burden on individuals, their families, and society (Yoshihara et al., 2023). Generally, DSD can result from the natural ageing process; however, in recent years, degenerative processes have been observed in individuals exposed to heavy physical labour involving mechanical stress, trauma, genetic predisposition, obesity, and metabolic syndrome (Yoshihara et al., 2023).

In the last few years, there has been an advance in developing DSD treatments such as biological treatments that aim to address the degenerative process and promote regeneration (Kirnaz et al., 2022); however, some of these novel therapies are still limited to in vitro and in vivo animal models (Kirnaz et al., 2022). Sufferers must cope with their symptoms, and managing them extends beyond clinical care into their home settings, social context, and work environments (Chou et al., 2018). Nonetheless, research on how DSD sufferers navigate work-environment accommodation, particularly in the Zambian context, remains limited.

Further, research establishes that degenerative spine disease negatively impacts work life due to its varied symptoms. The lumbar region of the spine is often affected and specifically, lumbar spinal stenosis is a common

Licensed Under Creative Commons Attribution (CC BY-NC)

degenerative spine disease associated with a strong impairment in various quality of life areas, particularly the ability to perform work-related activity (Ferretti et al., 2019). Thus, work participation remains challenging for people with spinal injuries, as reflected in lower employment rates compared to the general population (Karcz et al., 2022). To promote work participation for people with spinal injuries, policymakers need a better understanding of the factors associated with sustaining long-term work (Karcz et al., 2022).

1.1 Statement of the Problem

Degenerative spine disease (DSD) is an increasingly important health and occupational concern because its symptoms can affect physical functioning, mobility, productivity, participation in daily activities, and the ability to sustain employment (Ravindra et al., 2018). Although DSD is commonly considered within a clinical and rehabilitation context, the experience of living with the condition goes beyond healthcare facilities into the workplace, where people may be required to continue working while managing persistent pain, physical limitations, recurrent symptoms and treatment demands (Krzemińska et al., 2023). For people in employment, effective DSD management is not only symptom control, it is also about maintaining meaningful participation in employment and balancing health needs with work demands.

This problem may be especially important in Zambia, where the relationship between DSD, workplace accommodation and labour protection has received limited empirical attention. While labour policies and occupational health policies provide mechanisms to protect workers and regulate employment conditions (Namumba & Mushabati, 2018; Jere, 2013), evidence remains limited on how people living with chronic musculoskeletal and degenerative conditions experience and operationalise these provisions. In particular, little is known about whether individuals with DSD can negotiate adjustments to their duties, working hours, workstations, workload, or other employment conditions; how employers respond to such requests; and how workers perceive the adequacy of existing legal and institutional protections.

The literature shows that without understanding employees' pain-related work experiences, neither science nor leadership practices can offer solutions (Gulseren et al., 2022). Thus, the central problem, therefore, is not simply the presence of DSD among working people, but the limited understanding of how people living with DSD experience and navigate employment when their health needs intersect with workplace demands, available workplace adjustments and existing labour law protections in Zambia. Without evidence grounded in the lived experiences of affected individuals, workplace accommodation practices and labour policies may not reflect the real difficulties workers with DSD encounter.

This study therefore seeks to address this evidence gap by exploring the lived experiences of people with DSD in Zambia, with particular attention to workplace accommodation, the challenges they face in maintaining employment, their interactions with employers and healthcare providers, and their experiences of existing labour and workplace protections. The evidence generated may add to a more contextually informed understanding of the relationship between DSD, employment, and workplace accommodation, and provide an empirical basis for strengthening workplace practices, occupational health interventions, and relevant labour policy in Zambia.

1.2 Research Objectives

i. To explore experiences of workplace accommodation for individuals living with DSD in Zambia.
ii. To generate evidence that can inform workplace accommodation and labour policies aimed at improving support and social inclusion for individuals living with DSD in Zambia.

II. LITERATURE REVIEW

2.1 Theoretical Review

The current study explores how people living with degenerative spine disease experience workplace accommodation and the meaning they attach to their experiences as they navigate and maintain their employment. This area of research best fits interpretivist and constructivist frameworks. Thus, the ontology of the study was that of interpretivism; that the nature of reality may be interpreted in various ways (Van Wissen, 2013), while the epistemology, how reality is known by the researcher, is constructivism (Denzin et al., 2006). Constructivism holds that meaning is constructed by the knower; in this case, patients living with degenerative spine disease, so interpretivism is epistemologically supported by constructivism (Denzin et al., 2006; Van Wissen, 2013). Interpretivist epistemology is appropriate for gaining insight into people with degenerative spine disease's experiences, interpreting experiences of work accommodation (Creswell & Clark, 2017), and understanding the complexity of this constructed knowledge in the context of degenerative spine disease.

Licensed Under Creative Commons Attribution (CC BY-NC)

2.2 Empirical Review

Degenerative spine disease is one of the leading causes of years lived with disability globally (Ferreira et al., 2023; Roberts et al., 2025). It was estimated that by 2020, more than half a billion people had prevalent cases of pain worldwide, and by 2050, more than 800 million people are projected to have low back pain globally (Ferreira et al., 2023; Roberts et al., 2025). Additionally, DSD is not only one of the leading causes of morbidity worldwide but also has significant health, economic, and social consequences (Dada et al., 2026).

In a study, Ravindra et al. (2018) reported that degenerative spine disease particularly lumbar degenerative spine disease, is a common cause of disability and about a total of 266 million individuals worldwide were found to have DSD annually; they recommended that a global effort to address degenerative conditions of the lumbar spine in regions with high demand is important to reduce disability (Ravindra et al., 2018). Similarly, Bash et al. (2025) reported that DSD was increasingly prevalent, with 92% of confirmed cases being young adults. A study by Masud et al. (2025) demonstrated that age, gender, and occupational factors significantly influence both the prevalence and clinical presentation of DSD (Masud et al., 2025).

Petit and Roquelaure (2015) reported that DSD was prevalent among workers exposed to cumulative spine load, such as manual handling, awkward trunk postures, and whole-body vibrations. Although debated, most authors accept a relationship between disc degeneration and biomechanical work exposures (Petit & Roquelaure, 2015; Machino et al., 2022). Among various working conditions, physically demanding work and low job control are potential risk factors for disability retirement. Improving the physical work environment and increasing control over one's job is likely to help prevent early retirement due to disability (Lahelma et al., 2012).

Jessiman-Perreault et al. (2024) investigated on 3068 Canadian workers on disability, job conditions, work contexts, and workplace accommodations and found that the most common unmet workplace accommodation was work modifications (Jessiman-Perreault et al., 2024). Further, Lindsay et al. (2023) found that young people with disabilities are persistently under-employed and experience concerning rates of discrimination and noted the impact of workplace ableism, which included pay discrimination, lack of job supports and social exclusion (Lindsay et al., 2023). Literature to date continues to show that accommodating people with chronic conditions often depends on the individual employer or boss, rather than being a general requirement or practice. Despite existing employment-related legislation and governmental programs, people with disabilities continue to face significant barriers to competitive employment (Lindsay et al., 2019). These obstacles are partly due to employer biases about the contributions of people with disabilities and perceptions of accommodation costs, which can affect hiring decisions (Goodman et al., 2024). However, when bosses are empathetic, employees with chronic conditions or disabilities can find a conducive work environment, as the literature shows that employers encouraged youth with disabilities to disclose their condition and emphasised the importance of building trust and rapport (Lindsay et al., 2019).

Furthermore, the literature reports the lack of supportive labour laws. Bosma et al. (2021) recommended that supporting employees with chronic conditions can prevent work-related problems and facilitate sustainable employment and that various stakeholders should be involved in providing support to these employees; understanding their current practices and experienced barriers is useful for the development of an organisational-level intervention to improve this support (Bosma et al., 2021). In a study by Harada et al. (2023) on the evaluation of the association between the type of chronic disease and receiving workplace accommodations, it was found that workplace accommodations were more likely to be provided for workers with cancer, mental illness, and benign gynaecological disorders than for workers with low back pain (Harada et al., 2023). The study also reported that workers most often receive workplace accommodations for chronic diseases for which law encourages support, such as cancer (Harada et al., 2023). However, it is essential to support employees with all types of chronic diseases; therefore, given the noted ignorance about the impact of chronic conditions on work life and life in general, workplace awareness is needed about the impact of chronic conditions and the resulting work accommodations.

Furthermore, training tools for employers, including managers and human resources staff, aimed at creating and fostering inclusive and supportive workplaces for workers with chronic conditions and to avoid absenteeism, presenteeism, and early retirement are vital (Silvaggi et al., 2019). Additionally, worksite interventions have been tested to improve worker coping and problem solving at work; for example, a worksite-based health self-management program designed to improve workplace function among workers with chronic health conditions may be a feasible and beneficial strategy to engage and retain skilled workers who are at risk of disability (Shaw et al., 2022). While extensive research has been conducted globally on healthcare system constraints in different facets of healthcare, workplace constraints, particularly for people with degenerative spine disease, remain uninvestigated specifically in Zambia. Therefore, this study aims to address this knowledge gap in the Zambian context.

Licensed Under Creative Commons Attribution (CC BY-NC)

III. METHODOLOGY

3.1. Research Design

Interpretive description is a qualitative research methodology aligned with a constructivist and naturalistic orientation to inquiry (Hunt, 2009). Interpretive description arose from a perceived lack of qualitative methodological options that could answer research questions in a clinical setting (Van Wissen, 2013). Since the late 1990s, there has been interest in developing a methodology suited to research questions in clinical settings (Thorne et al., 2014). Interpretive Descriptive (ID), advanced by Thorne and colleagues, is one such methodological development suited to the intricacies of qualitative, clinically based research (Thorne et al., 2016; Thorne et al., 2014). Interpretivism ontologically relies on methods primary to naturalism to reveal the multiple faces of reality, taking care not to efface the distinctions between these two standpoints (Thorne, 2014; Van Wissen, 2013). This ensures that contextuality, daily life, and its complexity are not lost in collecting and synthesising data (Van Wissen, 2013), thus placing the clinical setting at the forefront in terms of ID (Van Wissen, 2013).

The epistemological foundations of interpretive description are grounded in the researcher's disciplinary background to yield legitimate knowledge that can be applied in a particular clinical situation (Chala et al., 2022). ID is a methodology grounded in the epistemological theory of constructing knowledge, particularly when addressing questions from a clinical setting (Thorne, 2014). This is because clinical settings are dynamic; thus, research in such settings should evolve accordingly (Van Wissen, 2013). Therefore, the ID method is chosen over other methodological approaches because it aligns with a naturalistic orientation to inquiry and generates knowledge relevant to the clinical context of applied health disciplines (Thorne et al., 2014; Asayah, 2022).

Further, interpretivism and constructivism provide the theoretical framework for the methodological operations of interpretive description. The researcher is an interpreter, preoccupied with making meaning, which is harnessed as an understanding of clinical phenomena, simultaneously constructing knowledge from understanding gleaned from interpretation (Van Wissen, 2013). Knowledge is constructed within a clinical context (those with degenerative spine disease) because participants interpret their health predicament as does the researcher (Thorne et al., 2016).

3.2 Study Area

The study was conducted in Lusaka, Zambia. Zambia is located in Central Africa. Lusaka provided a relevant setting for exploring the experiences of individuals living with degenerative spine disease (DSD), particularly regarding employment and workplace accommodation. As the capital city, it attracts employment opportunities and provides access to the population for the study. This aligned with the study's objectives of understanding workplace accommodation experiences and generating evidence to inform workplace accommodation practices, labour policies, and social inclusion for individuals living with DSD in Zambia.

3.3 Pilot Study

The study was piloted on 5 volunteers who were not included in the final study.

3.4 Participant and Recruitment Procedure

The research aimed to establish the experiences and interpretations of workplace accommodation among people with degenerative spine disease; therefore, interviews were the primary procedure to allow participants to express their thoughts and views (Reindrawati et al., 2022). The study included individuals with clinically confirmed degenerative spine disease (degenerative disc disease). This clinical diagnosis included MRI-confirmed degenerative spine disease; individuals aged 18 to 59 years were employed and consented to participate. Patients who were not clinically diagnosed with degenerative spine disease by MRI diagnosis, or who were younger than 18 years or older than 59 years, were excluded. Participants who were not willing to consent or had other pathologies such as cancer were also excluded.

3.5 Sampling Technique

Purposive sampling was used to select participants (Akhtar & Shaheen, 2024) from Hallamshire Wellness Clinic, University Teaching, Levy Mwanawasa, and Italian hospitals in Lusaka, Zambia. The study included 11 participants in full employment living with DSD who had their condition clinically diagnosed using an MRI and were 18 to 49 years of age.

3.6 Data collection

Data were collected using open-ended semi-structured face-to-face interviews (Scanlan, 2020; Chala et al., 2022), lasting between 45-60 minutes. Semi-structured, in-depth interviews are a valuable tool within qualitative descriptive approaches because they encourage depth and openness, enabling participants to express themselves freely and allowing data richness to be gathered (Bradshaw et al., 2017; Monk, 2021). A topic guide was used to support open

Licensed Under Creative Commons Attribution (CC BY-NC)

discussions around the phenomena being studied (Wilson, 2010; Chenitz & Swanson, 1986; Van Wissen, 2013); all interviews were audio-recorded, and field notes were taken to supplement each interview.

3.7 Ethical Approval

Stake (2000) advises that because qualitative researchers are guests in the privacy of their participants' spaces, they must be well-mannered and maintain a strict code of ethics (Stake, 2000). Therefore, the researcher obtained clearance to conduct the research from the Humanities and Social Sciences Research Ethics Committee (HSSREC) at the University of Zambia. The researcher sought permission from participants and obtained consent. The researcher protected participant data by coding it and securely storing it to prevent access by anyone other than supervisors. The researcher ensured confidentiality by removing participants' names and using pseudonyms instead.

3.8 Methodology Integrity

ID quality assessment criteria include epistemological integrity (the consistency and coherence of the study's ontological, epistemological, and methodological choices), representational credibility (research findings reflect the perspectives and experiences of the population under study; achieved through purposive sampling, which enabled the inclusion of people with DSD), analytic logic (the transparent and coherent linkages between data, interpretations, and findings, supporting the dependability of the research process and enabling another researcher to successfully scrutinise the study data. Using audit trails and a reflective journal allowed the researchers to track evolving interpretations, thereby illustrating the thought processes and decisions made during data analysis, and interpretive authority (achieved by the researcher's ability to ensure transparency throughout the research process) (Thorn, 2014; Tennant, 2023). Likewise, Braun and Clarke (2019a) recommend that methodological integrity in research using RTA should involve reflexivity and transparency throughout the data.

3.9 Data Analysis

The study used reflexive thematic analysis and followed the six-step analytic process outlined by Braun and Clarke (2006). Table 1 below illustrates participants' demographic information.

Table 1

Demographic Data

Gender	Age Range	Ethnicity	Pain Duration Range	Occupation
F: 7 M: 5	23 - 49 years	African: 10 European-African 2	2 - 27 years	11 Employed

Table 2 below shows the process of developing themes based on Research Question 1**:** How do individuals living with degenerative spine disease experience workplace accommodation in Zambia?

Table 2

Example of Development of Themes

Codes	Subthemes	Themes
Employer misunderstanding, difficulty negotiating workplace needs; Limited chronic illness policies; Fear of job loss; questioning illness legitimacy; inflexible working arrangements; unsuitable workstation/environment	Lack of Workplace Understanding and Accommodation Lack of supportive Labour Laws and Workplace Policies	Challenges
Fear of disclosure, fear of discrimination, Lack of employer understanding, Limited colleague understanding	Limited Awareness Leading to Misunderstanding and Lack of Support	
Experiences of ridicule; Stigma associated with chronic illness, concealing symptoms, perceived as lazy/unproductive	Stigma and Cultural Expectations	

Table 3 below shows the process of developing the themes based on research question 2: How can evidence generated from the experiences of individuals living with DSD inform workplace accommodation and labour policies aimed at improving workplace support and social inclusion in Zambia?

Licensed Under Creative Commons Attribution (CC BY-NC)

Table 3

Example of Development of Themes

Codes	Subthemes	Themes
chronic illness policies; workplace rights, occupational health legislation; employer accountability	Labour Laws and Workplace Policies	Suggestions
Provision of ergonomic equipment; assistive devices; flexible working hours; workload modification; alternative work arrangements;	Clear Policies for Equipment Provision and Reasonable Accommodations	
Ergonomic workstation design; appropriate seating; correct desk/workstation height; manual-handling safety; posture education; movement breaks; workplace exercise; ergonomic risk reduction	Ergonomic safety	
Employee health education; employer awareness; chronic disease awareness; education on degenerative spine disease; reducing stigma; improving understanding of invisible conditions;	Workplace Awareness and Education on Chronic Health Conditions	
Routine workplace assessments; occupational health screening; ergonomic audits; workplace monitoring; health surveillance; periodic employee health assessments; compliance audits	Regular Monitoring, Audits, and Workplace Health Assessments	

IV. FINDINGS & DISCUSSION

4.1 Findings

Theme 1 Challenges

The findings under the theme Challenges demonstrate how the experience of living with degenerative spine disease (DSD) and maintaining employment is shaped not only by the physical and functional effects of the condition but also by workplace relationships, organisational practices, employment policies and social attitudes. Three interrelated dimensions are particularly evident: lack of workplace understanding and accommodation; inadequate or inconsistently implemented labour policies; and limited awareness, stigma and cultural expectations surrounding chronic, often invisible, health conditions. Together, these aspects show how employees may need to manage symptoms and, at the same time, navigate environments that do not consistently recognise their needs or support their continued participation in employment.

A common finding was that participants struggled to obtain workplace accommodation despite communicating their health problem and, in some cases, even after providing medical evidence, the work adaptations were not made, "*despite engaging the employer from the beginning and also presenting to them all my medical reports"* (P10, 5 October 2025). Participant 11 also shared that *"my employers and my colleagues did not understand my condition or the impact it has on my work life"* (P11, 4 December 2025). These findings may suggest that presenting medical reports may not be sufficient, as in this case, did not translate into practical support from employers. The problem was therefore not simply whether employers knew about the condition, but whether that knowledge informed decisions about work organisation, equipment, duties and accommodation. This finding is consistent with Skamagki et al. (2023), whose metasynthesis of employees' experiences of managing chronic disorders identified the work environment and relationships between employees and managers as central influences on managing these conditions. Their analysis emphasised the importance of effective communication, trust and supportive organisational cultures in negotiating workplace assistance. The present study extends this understanding by showing that even proactive disclosure and medical reports may not secure adjustments when employers lack an adequate understanding of DSD or when appropriate accommodation procedures are absent.

Further, current study participants also discussed that acceptable accommodations at work depended on their bosses' or employers' understanding. Thus, some participants experienced support from their employers, while others reported a lack of support as described: *"you are at the mercy of your bosses; if they understand, they can make adjustments and allow you to work accordingly; otherwise, you can end up resigning if employers do not understand*" (P3, 10 October 2025). This account illustrates the unequal power relationship that can result when workplace support is based purely on the sympathy of the employers. Employees may have limited influence over the conditions under which they work, even when they recognise that particular duties aggravate their symptoms. These findings align with McIlroy et al. (2021), who found that It is important to understand employees' degree of agency, as employees' agency

Licensed Under Creative Commons Attribution (CC BY-NC)

may affect the way they interpret the lack of support, resulting in poorer outcomes. Comparably, Morgan and Davies (2026) on supporting individuals with chronic illness in the workplace found that workplace accommodations, modifications and supports provided to those living with chronic illness conditions varied between countries and while this may depend upon award conditions and stipulations, they reported that self-advocacy and employer understanding of the impacts of chronic health conditions played an important role in whether workplace accommodations, modifications and supports were offered (Morgan & Davies, 2026). This suggests that formal protections need to be accompanied by organisational practices that make continued employment feasible. For employees with DSD, such practices may include modified duties, flexible working arrangements, suitable equipment and individualised assessment of functional needs. Importantly, the evidence does not imply that all employees require the same adjustments; rather, support should reflect the interaction between symptoms, occupational demands and the employee's capacity to perform particular tasks. Further, participants described a lack of supportive labour laws and workplace policies. This dimension of the findings concerns the perceived gap between formal employment protections and the realities of everyday working life;

> "*many workplaces, in terms of workspace, furniture, and infrastructure, are appalling and affect health; we don't have policies that adequately address workplace issues, legislation reflected in policies are disconnected from our everyday lives in workplaces"* (P9, 26 October 2025).

Participants reflected that, although employee protection guidelines may exist in Zambia, their implementation and enforcement in the workplace remain inadequate. These findings are consistent with Phiri et al. (2026), who, in their discussion of labour rights and corporate accountability in Zambia, highlighted weak enforcement capacity, limited awareness of labour rights, ineffective grievance mechanisms and inadequate board-level oversight of labour issues. These concerns suggest that the existence of employee protection guidelines alone may be insufficient to safeguard workers unless employers are held accountable for their implementation. In the context of the present study, this highlights the importance of strengthening enforcement, improving employees' awareness of their rights and establishing accessible mechanisms through which workers can report workplace concerns and seek appropriate support, particularly when living with chronic conditions such as degenerative spine disease. Current study participants further shared the challenges faced due to a lack of awareness of chronic illnesses such as DSD, which resulted in misunderstanding and lack of support:

> *"since the understanding is low and there is much ignorance about the degenerative disease, it is common that people do not express empathy and instead make assumptions about those who are affected by the condition"* (P10, 05 October 2025).

while participant 2 reflected that,

> *"It's not easy to make people understand because it is internal pain; they just judge me and that's not ok"* (P2, 04 October 2025).

Similarly, participant 3 reported that

> *"people often ask unnecessary questions or criticise and accuse of pretending or seeking pity or faking hospital appointments"* (P3, 10 October 2025).

Likewise, participant 6 and participant 8 also echoed direct experiences of

> *"teasing, mocking, and bullying"* (P6, 14 October 2025; P8, 05 November 2025).

These accounts indicate that participants' difficulties extended beyond physical symptoms to include the burden of explaining and legitimising their experiences. When pain or functional limitations are not readily observable, others may interpret the need to change position, avoid certain activities or request assistance as evidence of unwillingness rather than as a response to a health condition. Similarly, the phenomenological study by Juuso et al. (2015) found that individuals with chronic pain, many of whom experienced degenerative spinal pain, reported having their symptoms questioned, minimised or denied by healthcare providers and family members (Juuso et al., 2015). Comparably, Silvaggi et al. (2019) reported that due to stigma and discriminatory attitudes from certain employers or colleagues, many people with non-specific chronic conditions face difficulties in disclosing their condition and experience a lack of support (Silvaggi et al., 2019). While Bosma et al. (2021) found that negative organisational attitudes towards employees with chronic conditions, such as unwillingness to support and retain employees, instead led to employees being laid off (Bosma et al., 2021). From employers' perspectives, however, accommodating and adjusting workstations for employees with chronic conditions entails financial considerations and fear of high costs when providing support (Bosma et al., 2021). This creates an additional burden in which employees must repeatedly justify their experiences while attempting to maintain employment. The findings therefore extend the discussion beyond individual prejudice to highlight the interaction between invisible symptoms, workplace power relations, organisational culture and the absence of reliable support mechanisms. Reducing stigma requires more than encouraging employees to disclose their conditions; it also requires environments in which disclosure does not expose them to humiliation, unfair treatment or unnecessary threats to job security. Additionally, Silvaggi et al. (2020) in their study reflected that chronic diseases among the working population affect income levels and job opportunities, and suggested that both legislation and company regulations should take into account the difficulties that workers experiencing chronic diseases may face in order to be able to

Licensed Under Creative Commons Attribution (CC BY-NC)

formulate innovative and person-centred responses to effectively manage this workforce while simultaneously ensuring employee wellbeing and continued employer productivity (Silvaggi et al., 2020).

Theme 2 Suggestions

The study further explored suggestions and recommendations that would present as lived evidence to inform workplace accommodations and labour policies in order to improve and support employees with degenerative spine disease. These recommendations encompassed four interrelated areas: clear policies on accommodation and guidance to safeguard the mental well-being of chronic illness sufferers such as DSD; ergonomic safety; workplace awareness and education on chronic health conditions; and regular monitoring, audits, and workplace health assessments. Collectively, these areas highlight the need for clear and inclusive policies that protect employees' rights, guide reasonable workplace accommodations and promote fair and consistent employment practices.

Participants' recommendations on workplace policies and accommodations emphasised the need for clear, consistent and accessible organisational policies, including chronic illness provisions, protection of employment rights and flexible or hybrid working arrangements, to support people living with chronic conditions such as degenerative spine disease (DSD) in managing their health conditions while maintaining employment. Comparable studies such as Aust et al. (2024), whose systematic review identified job and task modifications, flexible working arrangements and changes to the physical work environment as potentially beneficial organisational interventions for employee mental health and well-being. Current study participants recommended hybrid work arrangements when needed. While hybrid work arrangements have been shown to assist in alleviating symptoms and improving workers' physical and mental well-being, work–life balance, and productivity, however, hybrid work also carries the risk of longer hours, blurred boundaries between work and personal life, and non-ergonomic home workstations (Cabrita et al., 2025). For the Zambian context, the findings show the importance of developing and implementing chronic illness policies that clarify employee rights and establish employer responsibilities for providing appropriate adjustments. Further, the findings show that maintaining employment while living with DSD requires a coordinated approach in which individual self-management is supported by accessible workplace policies and practical work accommodations.

Further recommendations include ergonomic safety measures such as ergonomic workstation design, appropriate seating, correct desk height, safe manual-handling practices, posture education, regular movement breaks, and workplace exercise; reduced ergonomic risks are important for everyone and, more specifically, for employees with chronic illness such as DSD. Similar studies that have investigated on workplace health reports that ergonomic practices play a crucial role in preventing and managing low back pain by addressing biomechanical, postural, and work-related risk factors, which reduces the incidence, severity, and recurrence of back pain symptoms (Kumar, 2026). Although individuals can suffer from pain due to factors outside of work such as genetic makeup and lifestyle, working conditions can also be the cause of chronic pain, especially when ergonomic safety is not addressed (Gulseren et al., 2022). Within the Zambian context, these findings support recommendations for assessing workstation suitability, providing appropriate seating and desk arrangements, improving manual-handling practices, facilitating movement breaks and promoting suitable workplace exercise programmes. Such measures should be adapted to the demands of different occupations.

Recommendations for workplace awareness and education on chronic health conditions highlight the importance of improving employees' and employers' understanding of degenerative spine disease (DSD) and the challenges of managing often invisible health conditions in the workplace. The findings suggest that limited awareness of DSD may contribute to misconceptions about the legitimacy of chronic pain, employees' functional limitations and their need for workplace adjustments, potentially resulting in stigma, misunderstanding and reluctance to disclose health conditions or seek support. Thus, participants suggested workplace health talks led by doctors, occupational therapists, and physiotherapists to educate employers and employees about chronic conditions and workplace health and safety. The work environment directly shapes employee health, safety, and health behaviours. Comparable studies show that workplace health promotion effectively enhances health-promoting behaviours, reaches a large segment of the population, and reduces chronic disease risk factors (Oosthuizen, 2024). Similarly, Bosma et al. 2021) suggested that occupational physicians and organisational representatives should initiate and secure preventive support at the organisational level and in occupational health care. These insights help develop an intervention that supports employees with chronic conditions in staying at work (Bosma et al., 2021). Collectively, this literature supports the recommendation that workplace education should target employees, supervisors and employers to improve understanding of DSD, chronic pain, fluctuating symptoms and the potential benefits of appropriate workplace adjustments. Within the Zambian context, awareness initiatives could include staff education sessions, accessible information on chronic musculoskeletal conditions, training on respectful communication and measures to challenge misconceptions about invisible illnesses. However, education alone may be insufficient to eliminate stigma unless accompanied by supportive organisational policies and consistent action to address discriminatory practices. Overall, the findings suggest that workplace awareness and education are important components of creating inclusive employment environments in which people living with DSD can seek support, manage their health conditions and participate in work with dignity and confidence.

Licensed Under Creative Commons Attribution (CC BY-NC)

Recommendations for regular monitoring, audits and workplace health assessments highlight the importance of systematically identifying workplace risks, assessing employees' health-related needs and evaluating the effectiveness of preventive measures to support people living with degenerative spine disease (DSD) to maintain employment. The findings suggest that routine workplace assessments, occupational health screening where appropriate, ergonomic audits, workplace monitoring, health surveillance, periodic employee health assessments and compliance audits are important considerations in identifying working conditions that may aggravate symptoms or create barriers to occupational participation. Regulations can be enforced through inspections carried out by government authorities. Literature-based studies indicate a protective influence of inspections on work-related injuries and compliance with occupational health and safety regulations, and also found evidence that visits reduce the number of injuries in the long term (Bondebjerg et al., 2023). Mischke et al. (2013) found evidence that focused inspections that are more targeted and concentrate on specific aspects have a protective effect on occupational safety when compared with general inspections, which are broader in scope (Mischke et al., 2013). Recently, Bondebjerg et al. (2023) used evidence mapping to compile an up-to-date overview of existing systematic reviews and primary studies that examined the effects of measures taken by government authorities on occupational health and safety. Inspections by the government inspectorate have an effect on the frequency of injuries and compliance, as well as on information, guidance and consultation (Schubert et al., 2026). Employers should also establish procedures for reviewing agreed workplace adjustments and determining whether they adequately address employees' changing functional needs. Such assessments should be proportionate to occupational risks, respect employee confidentiality and avoid interpreting a diagnosis of DSD as evidence of incapacity. Importantly, health assessments and audits are unlikely to provide meaningful benefits unless identified risks are addressed and improvements are monitored. Overall, the findings suggest that regular monitoring, workplace audits and appropriate health assessments should form part of a continuous process of risk identification, corrective action and review, enabling employers to respond to workplace hazards and changing employee needs while promoting safer working conditions and sustained employment among people living with DSD. Further research within Zambia is needed to establish the effectiveness of these measures in improving long-term employment retention and work participation.

MDCXXVIII. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

In conclusion, the discussion of the themes, challenges, and suggestions demonstrates that the experiences of people living with degenerative spine disease (DSD) while maintaining employment are shaped by the interaction between individual health needs, workplace environments, organisational practices, employment policies, and societal attitudes. The theme Challenges highlighted inadequate workplace understanding and accommodation, limited or inconsistently implemented workplace policies, insufficient awareness of chronic health conditions, and stigma associated with the invisible and fluctuating nature of symptoms. These barriers may undermine employees' ability to manage their conditions, obtain appropriate support and sustain employment. Conversely, the theme Suggestions identified the need for clear workplace policies, reasonable accommodations, ergonomic safety, employee and employer education, and greater accountability in implementing employment protections. Taken together, the findings indicate that individual self-management, although important, may be insufficient when employees operate within unsupportive working environments.

5.2 Recommendations

Participants shared in depth the challenges of maintaining a job with a chronic condition and highlighted areas that need attention to improve the work environment; thus, it was recommended that labour policies be reviewed to reflect workplace realities. Participants cited that labour policies are far removed from the actual work environment, making it difficult for employees to represent themselves and also allowing a loophole for employers to get away from their responsibilities; thus, if labour policies are reviewed and adapted with regular auditing and regular workplace inspections, a real change with regard to inclusivity and accommodation would happen.

Declaration of Interest

The authors declare that they do not have any known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Funding Declaration

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Licensed Under Creative Commons Attribution (CC BY-NC)

REFERENCES

Akhtar, Z., & Shaheen, G. (2024). A Comparative Study of Stress and Well-being among College Students. *Indian Journal of Health & Wellbeing*, *15*(2), 284. EBSCOhost Publications.

Asayah, S. A. (2022). *Exploring International Graduate Nursing Students' Experiences With, and Response to, the COVID-19 Pandemic and Public Health Measures in Canada: An Interpretive Descriptive Study.* University of Saskatchewan Publication.

Aust, B., Leduc, C., Cresswell-Smith, J., O'Brien, C., Rugulies, R., Leduc, M., Ní Dhalaigh, D., Dushaj, A., Fanaj, N., Guinart, D., Maxwell, M., Reich, H., Ross, V., Sadath, A., Schnitzspahn, K., Tóth, M. D., van Audenhove, C., van Weeghel, J., Wahlbeck, K., ... Greiner, B. A. (2024). The effects of different types of organisational workplace mental health interventions on mental health and wellbeing in healthcare workers: A systematic review. *International Archives of Occupational and Environmental Health, 97*(5), 485–522. https://doi.org/10.1007/s00420-024-02065-z

Bam, A. (2025). Invisibility, stigma and workplace support: Experiences of individuals with chronic disorders. *SA Journal of Human Resource Management/SA 23*(0), a2859. https://doi.org/10.4102/sajhrm.v23i0.2859

Bash, G., Jacob, M., & Malichewe, C. (2025). Lumbar Spine Degenerative Disease among Young Adults Referred for Lumbar Spine Magnetic Resonance Imaging at Muhimbili Orthopedic Institute. Tanzania Medical Journal, 36(1), 119-129.DOI: https://doi.org/10.4314/axvjeq63

Beall, D. P., Wilson, G. L., Bishop, R., & Tally, W. (2020). VAST clinical trial: safely supplementing tissue lost to degenerative disc disease. *International Journal of Spine Surgery*, *14*(2), 239-253; DOI: https://doi.org/10.14444/7033

Blake, H., Giannoulatou, M., & Chaplin, W. J. (2025). Employees' experiences of chronic pain in the workplace. *Occupational Medicine*, *75*(5), 250-255.https://doi.org/10.1093/occmed/kqaf052

Bondebjerg, A., Filges, T., Pejtersen, J. H., Kildemoes, M. W., Burr, H., Hasle, P., Tompa, E., & Bengtsen, E. (2023). Occupational health and safety regulatory interventions to improve the work environment: An evidence and gap map of effectiveness studies. *Campbell Systematic Reviews*, *19*, e1371. https://doi.org/10.1002/cl2.1371

Bosma, A. R., Boot, C. R. L., Schaafsma, F. G., Kok, G., & Anema, J. R. (2020). Development of an intervention to create a supportive work environment for employees with chronic conditions: an intervention mapping approach. *Journal of Occupational Rehabilitation*, *30*(4), 624-634. 30(4):624–634. doi: 10.1007/s10926-020-09885-z

Bosma, A. R., Boot, C. R. L., Snippen, N. C., Schaafsma, F. G., & Anema, J. R. (2021). Supporting employees with chronic conditions to stay at work: perspectives of occupational health professionals and organizational representatives. *BMC Public Health, 21*(1), 592. https://doi.org/10.1186/s12889-021-10633-y

Bradshaw, C., Atkinson, S., & Doody, O. (2017). Employing a qualitative description approach in health care research. *Global Qualitative Nursing Research.* Volume 4: 1–8. https://doi.org/10.1177/2333393617742282

Braun, V., & Clarke, V. (2008). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3(*2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health, 11*(4), 589–597. https://doi.org/10.1080/2159676X.2019.1628806

Cabrita, J., Demetriades, S., Eiffe, F. F., & Weber, T. (2025). *The hybrid workplace: Ensuring benefits for workers and organisations*. https://op.europa.eu/o/opportal-service/download-doi:10.2806/0009194TJ-01-25-028-EN-C

Chala, M. B., Miller, J., Ghahari, S., Wondie, Y., Abebe, A., & Donnelly, C. (2022). Health care providers' understanding of self-management support for people with chronic low back pain in Ethiopia: an interpretive description. *BMC Health Services Research*, *22*(1), 194. https://doi.org/10.1186/s12913-022-07610-5

Chenitz, W. C., & Swanson, J. M. (1986). *From practice to grounded theory: Qualitative research in nursing.* Addison-Wesley Publications.

Chou, L., Cicuttini, F. M., Urquhart, D. M., Anthony, S. N., Sullivan, K., Seneviwickrama, M., ... & Wluka, A. E. (2018). People with low back pain perceive needs for non-biomedical services in workplace, financial, social and household domains: a systematic review. *Journal of Physiotherapy*, *64*(2), 74-83. https://doi.org/10.1016/j.jphys.2018.02.011.

Creswell, J. W., & Clark, V. L. P. (2017). *Designing and conducting mixed methods research.* Sage publications.

Dada, A., Kwok, V., & DiGiorgio, A. (2026). Epidemiology and Healthcare Burden of Lumbar Degenerative Spine Disease. In *Surgery of the Lumbar Spine: Principles and Techniques (pp. 25-32).* Cham: Springer Nature Switzerland. DOIhttps://doi.org/10.1007/978-3-032-18097-1_3

Denzin, N. K., Lincoln, Y. S., & Giardina, M. D. (2006). Disciplining qualitative research. *International journal of qualitative studies in education, 19*(6), 769-782. https://doi.org/10.1080/09518390600975990

Ferreira, M. L., De Luca, K., Haile, L. M., Steinmetz, J. D., Culbreth, G. T., Cross, M., ... & Mahmoodpoor, A. (2023). Global, regional, and national burden of low back pain, 1990–2020, its attributable risk factors, and projections

Licensed Under Creative Commons Attribution (CC BY-NC)

to 2050: a systematic analysis of the Global Burden of Disease Study 2021. *The Lancet Rheumatology*, *5*(6), e316-e329. DOI: 10.1016/S2665-9913(23)00098-X

Ferretti, F., Coluccia, A., Gusinu, R., Gualtieri, G., Muzii, V. F., & Pozza, A. (2019). Quality of life and objective functional impairment in lumbar spinal stenosis: a protocol for a systematic review and meta-analysis of moderators. *BMJ open*, *9*(11), e032314. https://doi.org/10.1136/bmjopen-2019-032314

Goodman, N., Deane, S., Hyseni, F., Soffer, M., Shaheen, G., & Blanck, P. (2024). Perceptions and bias of small business leaders in employing people with different types of disabilities. J*ournal of occupational rehabilitation, 34*(2), 359-372.https://doi.org/10.1007/s10926-024-10201-2

Gulseren, D., Sayin, F. K., Turner, N., & Kelloway, E. K. (2022). Chronic pain and pain disability: The next frontier for healthy and effective organizations. *Organizational Dynamics*, *51*(4), 100926. https://doi.org/10.1016/j.orgdyn.2022.100926

Harada, A., Tateishi, S., Ishimaru, T., Nagata, M., Eguchi, H., Tsuji, M., & Fujino, Y. (2023). Association between types of chronic disease and receiving workplace accommodations: a cross-sectional study of Japanese workers. *Journal of occupational and environmental medicine, 65*(2), 93-97.*DOI:* 10.1097/JOM.0000000000002723

Hilmi, A. H., Hamid, A. R. A., & Ibrahim, W. A. R. A. W. (2024). Current trends and risk factors in low back pain: An ergonomic perspective on prevention and management. *Malaysian Journal of Ergonomics (MJEr)*, *6*, 105-118. DOI: https://doi.org/10.58915/mjer.v6.2024.1312

Hunt, M. R. (2009). Strengths and challenges in the use of interpretive description: reflections arising from a study of the moral experience of health professionals in humanitarian work. *Qualitative health research, 19*(9), 1284-1292. https://doi.org/10.1177/1049732309344612

Jere, C. (2013). *An evaluation of the law that regulates occupational health and safety in Zambia* [Research thesis, University of Zambia]. University of Zambia Institutional Repository. https://dspace.unza.zm/handle/123456789/2148

Jessiman-Perreault, G., Gignac, M. A., Thompson, A., & Smith, P. M. (2024). Understanding the unmet accommodation needs of people working with mental or cognitive conditions: the importance of gender, gendered work, and employment factors. *Journal of Occupational Rehabilitation, 34*(1), 251-264.https://doi.org/10.1007/s10926-023-10132-4

Juuso, P., Skär, L., Olsson, M., & Söderberg, S. (2015). Although unseen, chronic pain is real—A phenomenological study. *Scandinavian Journal of Pain, 6,* 33–40. https://doi.org/10.1016/j.sjpain.2014.04.004

Karcz, K., Trezzini, B., Escorpizo, R., & Finger, M. E. (2022). Factors associated with sustaining work with chronic spinal cord injury: a scoping review. *Disability and Rehabilitation*, *44*(24), 7723-7738. doi: 10.1080/09638288.2021.1988736

Kirnaz, Sertac, et al. (2022) "Innovative biological treatment methods for degenerative disc disease." *World neurosurgery 157* : 282-299. https://doi.org/10.1016/j.wneu.2021.09.068.

Krzemińska, S., Nowak, A., Borodzicz, A., Bąk, E., & Kostka, A. (2023). Selected determinants of the quality of life of patients with degenerative changes of the spine. *Pielęgniarstwo Neurologiczne i Neurochirurgiczne*, *12*(1), 44-52.https://doi.org/10.15225/PNN.2023.12.1.6

Kumar, A. (2026). Ergonomics in Office and Industrial Settings: Prevention Strategies. In: Dhatt, S.S., Kumar, V. (eds.), *Low Back Ache*. Springer, Singapore. https://doi.org/10.1007/978-981-97-4087-1_67-1

Lahelma, E., Laaksonen, M., Lallukka, T., Martikainen, P., Pietiläinen, O., Saastamoinen, P., ... & Rahkonen, O. (2012). Working conditions as risk factors for disability retirement: a longitudinal register linkage study. *BMC public health, 12*(1), 309.https://doi.org/10.1186/1471-2458-12-309

Lindsay, S., Cagliostro, E., Leck, J., Shen, W., & Stinson, J. (2019). Employers' perspectives of including young people with disabilities in the workforce, disability disclosure and providing accommodations. *Journal of Vocational Rehabilitation, 50*(2), 141-156.https://doi.org/10.3233/JVR-180996

Lindsay, S., Fuentes, K., Tomas, V., & Hsu, S. (2023). Ableism and workplace discrimination among youth and young adults with disabilities: A systematic review. *Journal of occupational rehabilitation, 33*(1), 20-36. https://doi.org/10.1007/s10926-022-10049-4

Machino, M., Nakashima, H., Ito, K., Ando, K., Ito, S., Kato, F., & Imagama, S. (2022). Association between occupation and cervical disc degeneration in 1211 asymptomatic subjects. *Journal of Clinical Medicine, 11*(12), 3301.https://doi.org/10.3390/jcm11123301

Masud, M. A., Ajayi, N. O., Shobode, M. A., Tahir, N. M., Saidu, A. M., & Lazarus, L. (2025). Epidemiological characteristics of spinal disorders in the Northwest Nigerian population. *Tanzania Journal of Health Research* https://dx.doi.org/10.4314/thrb.v26i5.11s

McIlroy, T. D., Parker, S. L., & McKimmie, B. M. (2021). The effects of unanswered supervisor support on employees' well-being, performance, and relational outcomes. *Journal of Occupational Health Psychology, 26*(1), 49–68. https://doi.org/10.1037/ocp0000270

Licensed Under Creative Commons Attribution (CC BY-NC)

Mischke, C., Verbeek, J. H., Job, J., Morata, T. C., Alvesalo-Kuusi, A., Neuvonen, K., & Pedlow, R. I. (2013). Occupational safety and health enforcement tools for preventing occupational diseases and injuries. *Cochrane database of systematic reviews*, *(8).* Art. No.: CD010183. DOI: 10.1002/14651858.CD010183.pub2

Monk, C. (2021). *Physiotherapists' Attitudes and Beliefs Towards Supporting Self-Management for People with Low Back Pain* (Doctoral dissertation, University of Otago). https://hdl.handle.net/10523/12442

Morgan, S., & Davies, A. (2026). Supporting individuals with chronic health conditions in the workplace: a scoping review. *Disability and Rehabilitation*, *48*(12), 3607-3622. https://doi.org/10.1080/09638288.2025.2578992

Namumba, E., & Mushabati, F. (2018). *The impact of occupational health hazards and injuries on livelihoods of affected workers: A case of Kitwe District.* Mulungushi University Medical Library. https://dspace.unza.zm/handle/123456789/5402

Oosthuizen, E. (2024). P-166 Workplace health promotion for chronic diseases' in the workplace: A scoping review. *Occupational Medicine, 74*(Supplement_1), Article kqae023.0683. https://doi.org/10.1093/occmed/kqae023.0683

Petit, A., & Roquelaure, Y. (2015). Low back pain, intervertebral disc and occupational diseases. *International Journal of Occupational Safety and Ergonomics, 21*(1), 15-19.https://doi.org/10.1080/10803548.2015.1017940

Phiri, M., Yohane, R., & Mwanza, J. (2026). Labour rights and corporate accountability in Zambia: Evidence from corporate governance practices. *African Quarterly Social Science Review, 3*(1), 177–192. https://doi.org/10.51867/AQSSR.3.1.17

Ravindra, V. M., Senglaub, S. S., Rattani, A., Dewan, M. C., Härtl, R., Bisson, E., Park, K. B., & Shrime, M. G. (2018). Degenerative lumbar spine disease: Estimating global incidence and worldwide volume. *Global Spine Journal, 8*(8), 784–794. https://doi.org/10.1177/2192568218770769

Reindrawati, D. Y., Noviyanti, U. D., & Young, T. (2022). Tourism experiences of people with disabilities: Voices from Indonesia. *Sustainability*, *14*(20), 13310.https://doi.org/10.3390/su142013310

Roberts, K. E., Ferreira, M. L., Beckenkamp, P. R., Nicholson, S., March, L., & Ferreira, P. H. (2025). Global trends in risk factors for low back pain: an analysis of the global burden of disease study data from 1990 to 2021. *Arthritis Care & Research, 77*(7), 837-847.https://doi.org/10.1002/acr.25520

Scanlan, C., (2020). Preparing for the unanticipated: Challenges in conducting semi-structured, in-depth interviews. In *Sage Research Methods Cases: Medicine and Health*. SAGE Publications. https://doi.org/10.4135/9781529719208

Scarcia, L., Pileggi, M., Camilli, A., Romi, A., Bartolo, A., Giubbolini, F., & Alexandre, A. M. (2022). Degenerative disc disease of the spine: from anatomy to pathophysiology and radiological appearance, with morphological and functional considerations. *Journal of personalized medicine*, *12*(11):1810. doi: 10.3390/jpm12111810

Schubert, M., Bolm-Audorff, U., Andersen, J. H., Petereit-Haack, G., Reissig, D., & Seidler, A. (2026). Scoping review on the effect of labour inspections on occupational health and safety: a meta-analytic update. *Journal of Occupational Medicine and Toxicology*, *21*(1), 5.https://doi.org/10.1186/s12995-026-00497-6

Shaw, W. S., McLellan, R. K., Besen, E., Namazi, S., Nicholas, M. K., Dugan, A. G., & Tveito, T. H. (2022). A worksite self-management program for workers with chronic health conditions improves worker engagement and retention, but not workplace function. *Journal of Occupational Rehabilitation, 32*(1), 77-86.https://doi.org/10.1007/s10926-021-09983-6

Silvaggi, F., Eigenmann, M., Scaratti, C., Guastafierro, E., Toppo, C., Lindstrom, J., & Leonardi, M. (2020). Employment and chronic diseases: suggested actions for the implementation of inclusive policies for the participation of people with chronic diseases in the labour market. *International Journal of Environmental Research and Public Health, 17*(3), 820.https://doi.org/10.3390/ijerph17030820

Silvaggi, F., Leonardi, M., Guastafierro, E., Quintas, R., Toppo, C., Foucaud, J., & Scaratti, C. (2019). Chronic diseases & employment: an overview of existing training tools for employers. *International Journal of Environmental Research and Public Health, 16*(5), 718.https://doi.org/10.3390/ijerph16050718

Skamagki, G., Carpenter, C., King, A., & Wåhlin, C. (2023). How do employees with chronic musculoskeletal disorders experience the management of their condition in the workplace? A metasynthesis. *Journal of Occupational Rehabilitation, 33*(4), 702–712. https://doi.org/10.1007/s10926-023-10099-2

Stake, R. E. (2000). Case studies. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed., pp. 435–454). Sage Publications.

Tennant, K. (2023). *Holistic recognition: the path to satisfaction an interpretive descriptive study of student nurses' experiences of the clinical learning environment* (Doctoral dissertation, Staffordshire University). https://eprints.staffs.ac.uk/id/eprint/8112

Thorne, S. (2014). Applied interpretive approaches. *The Oxford handbook of qualitative research*, *99*, 115. Oxford University Press Publication.

Licensed Under Creative Commons Attribution (CC BY-NC)

Thorne, S. E., Reimer Kirkham, S., & O'Flynn-Magee, K. (2004). Interpretive description: A noncategorical qualitative alternative for developing nursing knowledge. *Research in Nursing & Health, 27*(6), 411–419. https://doi.org/10.1002/nur.20007

Thorne, S., Stephens, J., & Truant, T. (2016). Building qualitative study design using nursing's disciplinary epistemology. *Journal of Advanced Nursing*, *72*(2), 451-460. https://doi.org/10.1111/jan.12822

Van Wissen, K. (2013). *Living with acute coronary syndrome and prediabetes: an interpretive description of complex illness*: Massey University Publication.

Wilson, J. H. (2010). *Self-management and self-efficacy across the multiple sclerosis journey.* University of Northumbria at Newcastle. ProQuest Publication.

Yoshihara, T., Morimoto, T., Hirata, H., Murayama, M., Nonaka, T., Tsukamoto, M., ... & Mawatari, M. (2023). Mechanisms of tissue degeneration mediated by periostin in spinal degenerative diseases and their implications for pathology and diagnosis: A review. *Frontiers in medicine*, *10*, 1276900.https://doi.org/10.3389/fmed.2023.1276900

Licensed Under Creative Commons Attribution (CC BY-NC)