

Occupational Health and Safety Challenges Faced by Caregivers and the Respective Interventions to Improve their Wellbeing

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ABSTRACT

This research aimed to identify the occupational health and safety issues in caregivers' workplaces: physical hazards, psychological demands, and organisational dimensions. This concerned broad physical dangers for workers, including musculoskeletal diseases, infection risks, toxic materials and substances, fatigue, and extended working hours. Additionally, the existing works explored the impact of psychological factors such as emotional exhaustion, compassion stress, burnout, stress, anxiety, and even secondary traumatisation on caregivers. Furthermore, it analysed the systematic issues related to workplace violence, lack of personnel, poor training and professional development, and having fewer protective gear and safety measures. The research has illustrated various interventions and practices that might enhance occupational safety and caregivers' wellbeing. These include organisational policies and procedures, such as establishing safe operating procedures, ensuring adequate protective gear is supplied to workers, and promoting a healthy company culture with efficient support networks. Risk prevention measures in this subdivision include safe patient handling procedures recognised as necessary in reducing physical risks, ergonomic workstation and equipment design, and stretching and exercise promotion. Moreover, the study revealed that while mental support and wellbeing were deemed essential for the workforce, which includes EAP, stress control, and mental toughness, seminars, as well as support groups, were considered insufficiently developed. The study finally demonstrated the importance of policy and legal advocacy based on enhancing occupational health and wellness standards, better workers' compensation and benefits, and raising public awareness.

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LIST OF ABBREVIATIONS

ADL	:	Activity of Daily Living
AHRQ	:	Agency for Healthcare Research and Quality
EAP	:	Employee Assistance Programs
GAD	:	Generalised Anxiety Disorder
IADL	:	Instrumental Activity of Daily Living
KPI	:	Key Performance Indicator
MSD	:	Musculoskeletal Disorder
NAC	:	National Alliance for Caregiving
NIOSH	:	National Institute for Occupational Safety and Health
PHI	:	Physical Health Index
PPE	:	Personal Protective Equipment
PTSD	:	Post-traumatic Stress Disorder
SHRM	:	Society for Human Resource Management

CHAPTER ONE INTRODUCTION

A. Importance of Caregiving

With the growing ageing population around the world, the role of caregivers is now more important than ever to ensure the wellbeing and dignity of those who can not do their daily activities by themselves. Caregiving comprises a collection of tasks, from personal hygiene, medication management, and mobility, to emotional support and companionship (Juba, 2024). Although the caregivers occupation play an irreplaceable role in the community, their safety and wellbeing need more attention. Caregivers are dedicated both formally and informally, and they often face many difficulties that can affect their physical and mental health, thus affecting the quality of the care they provide (Kitko et al., 2020).

Caregivers perform a very significant task of protecting their clients' dignity and self-esteem, personal independence, and security, using principles such as confidentiality, information, and individualised care. Nevertheless, the strenuous jobs they have, along with systemic problems such as staffing shortages, insufficient training, and lack of resources, pose many occupational health and safety hazards. These hazards may include musculoskeletal disorders, contact with infectious diseases, workplace violence, emotional exhaustion, occupational compassion fatigue, and the development of trauma (Schulz et al., 2020). Hence, caregivers frequently go through emotional and physical fatigue, risking compromise of their ability to provide quality care and negatively affecting their health in general. This study evaluates the obstacles caregivers face and envisages an evidence-based intervention with the goal of contributing to the body of knowledge development about solutions that could ensure the caregivers' welfare. The figure below outlines the importance of caregivers to the society.

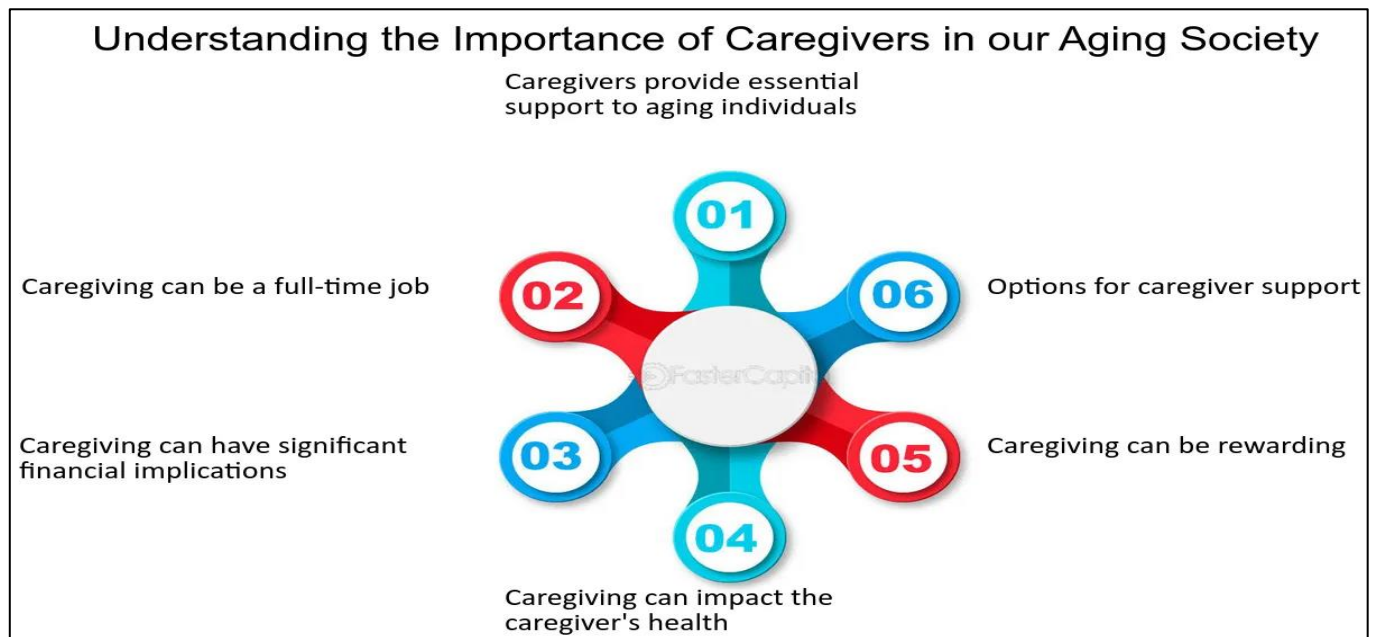


Fig 1: Importance of Caregivers to the Society. Source: nih.gov (2023)

B. Definition and Scope of Caregivers

The designation "caregiver" covers a wide range of people who give help and support to people who in no way can take care of themselves due to illnesses, injuries, or disabilities. This group can be formal or informal caregivers or a mix of both. It comprises healthcare professionals like nurses, nursing assistants, family members, friends, and volunteers (Kitko et al., 2020). With caregiving, it is not only a matter of handling the patients' physical needs but also an expression of emotional, social, and psychological support, which makes it a broad and challenging job.

The formal caregivers, who include nurses, nursing assistants, home health aides, and personal care attendants, are trained professionals. They can provide care in different settings, such as hospitals, nursing homes, assisted living facilities, and their clients' homes. The tasks of a caregiver are pretty numerous, ranging from ADLs like bathing, grooming, dressing, and mobility assistance to IADLs like meal preparation, medication management, transportation, and light housekeeping (Adashek and Subbiah, 2020). Caring for older people without being trained officially goes beyond the bounds of family, friends, and volunteers, who may also do other tasks in various conditions as Stokes and Patterson (2020) note.

C. Significance of Occupational Safety and Wellbeing for Caregivers

Providing a safe work environment and the safety of caregivers is quite critical not only for their health and safety but also for the level of care they give and the whole sustainability of healthcare systems. Caregiving is a physically, emotionally, and mentally demanding role, which is often associated with burnout, compassion fatigue, and different physical and psychological health problems (Juba, 2024). Thus, caregivers suffering from poor health are likely to develop an unhealthy work environment, which increases their susceptibility to work-related injuries, exposure to infectious diseases, and other health hazards that escalate the strain on healthcare resources.

D. Problem Statement

Caregivers face numerous occupational health and safety challenges that can adversely affect their physical and mental wellbeing and the quality of care they provide. These challenges range from physical risks such as musculoskeletal disorders and exposure to infectious diseases to psychological stressors like emotional burnout, compassion fatigue, and vicarious trauma. Additionally, systemic issues like workplace violence, staffing shortages, inadequate training and support, and insufficient PPE and safety protocols exacerbate the occupational hazards faced by caregivers (Vera San Juan et al., 2021).

E. Aim

This study aimed to examine the occupational health and safety challenges caregivers face and propose evidence-based interventions and strategies to address these challenges, thereby improving caregivers' overall wellbeing and work environment.

F. Objectives of the Research

- To examine the physical, psychological, and systemic challenges caregivers face in their occupational settings.
- To explore the impact of these challenges on caregivers' health, job satisfaction, and the quality of care they provide.
- To evaluate best practices and interventions implemented in various healthcare settings to mitigate occupational health and safety risks for caregivers.

G. Research Question

The research question guiding this study is: What are the occupational health and safety challenges caregivers face, and what evidence-based interventions and strategies can be implemented to improve their overall wellbeing and work environment?

H. Rationale and Significance of the Study

Since the level of stress and burnout of caregivers significantly depends on their health, job satisfaction, the stability of the healthcare system, and the quality of patient care in the organisation, it is essential to ensure the wellbeing of such personnel. Therefore, by bringing to attention the occupational health and safety issues affecting caregivers, healthcare institutions can institute long-term supportive working conditions, decreasing absenteeism and staff churn. This study aims to extend the current knowledge on the issue and better understand the caregivers' experiences while suggesting a solution that can be implemented in different healthcare facilities.

CHAPTER TWO

OCCUPATIONAL HEALTH AND SAFETY REQUIREMENTS AND STANDARDS

The occupational health and safety of employees is a worldwide concern. To this end, various International and National Standards and Regulatory Institutions and Bodies have been developed to safeguard the health and wellbeing of employees while at work or as a result of work. One of the most widely recognised international standards is the ISO 45001:2018, Occupational health and safety management systems (OHSMS), which comprises a set of guidelines that organisations need to use to design and enhance an OHS Management System (American Occupational Therapy Association, 2021). The ISO 45001, specifically the 2018 standard, has been developed to assist organisations in enhancing their members' safety, dealing with potential hazards, and enhancing workplace protection. OHSMS is a systematic way of enabling and ensuring the effective promotion and realisation of healthy and safe working conditions and environments for workers. The standard lays down the preconditions of leadership engagement, worker engagement, hazard and risk evaluation, and worker participation in the process of establishing preventive measures against work-related injuries and ailments.

Thus, by introducing international standards in the workplace, many countries have set their rules and regulations to protect workers and their health. In this connection, the major legislation for the protection of occupational health and safety in the United Kingdom is the Health and Safety at Work Act 1974 (HSWA). This Act allows employers to do all reasonably practicable to protect the health, safety, and wellbeing of employees and the public or any other persons who may be exposed to risks from the employer's business operations (Tolson, 2021). HSWA relies on the following regulations, such as the Management of Health and Safety at Work Regulations 1999, which make employers undertake a risk assessment as well as apply control measures for work-related risks and provide employees with necessary information and instruction besides training them on safety measures to follow at the workplace (Malinda and Soediantono, 2022). Other applicable regulations are the Workplace Regulations 1992, which address issues like the provision of fresh air, adequate temperature, good lighting, and hygienic toilet facilities, and the Personal Protective Equipment at Work Regulations 1992, which state that the employer must ensure that employees use appropriate PPE where risks are high, and the PPE is capable of reducing or controlling the risks (Karanikas et al., 2022).

A. Statistics on the Wellbeing of Caregivers

The challenges faced in caregiving are very stressful and have a negative impact on the health of the caregivers, both physically and mentally. Chakraborty et al. (2022) showed that informal caregivers in India had 28.7% of depressive symptoms and 10.8% poor self-rated health. More specifically, 46% of the caregivers who spent more than 40 hours every week caring for their loved ones exhibited early signs of depression, demonstrating how much strain is involved in such roles. Similarly, according to www.mentalhealth.org, 17 to 35% of the current family caregivers have been diagnosed with fair to poor health, with the higher-hour caregivers having a slightly worse fair to poor health rate of 22% as compared to the 17% of the lower-hour caregivers. These factors increase the probability of rating the physical strain of caregiving as 'high' (23%); being an older caregiver 65+ (23%); the burden level is higher (31%); Alzheimer's/dementia caregiver (28%); living with care recipient (25%) (National Alliance for Caregiving and AARP, 2015).

The impact of caregiving on physical health is proportional to the number of ADLs caregivers perform. While only 16% of caregivers who do not perform ADLs reported detrimental effects on health, this figure rises to 20% for those performing 1-2 ADLs, 28% for those performing 3-5 ADLs, and 41% for those performing six or more ADLs. Additionally, 23% of older caregivers caring for persons aged 65 and above report a higher degree of physical strain than 17% of younger caregivers (National Alliance for Caregiving and AARP, 2015).

CHAPTER THREE

STUDY APPROACH

This study employed a comprehensive literature review approach, to analyse and synthesise findings from previous research works, academic journals, and relevant publications to examine caregivers' occupational health and safety challenges and identify evidence-based interventions to address these challenges.

CHAPTER FOUR

OCCUPATIONAL HEALTH AND SAFETY CHALLENGES FACED BY CAREGIVERS

The challenges faced by caregivers can be broadly observed under the themes presented in the figure below.



Fig 2: Challenges Facing Caregivers. Source: mdpi.com 2022

A. Physical Challenges

➤ Musculoskeletal Disorders

Caregivers, especially those who are in direct patient care, face a variety of physical challenges that can significantly affect their occupational health and safety. The most commonly encountered concern is the risk of musculoskeletal disorders, which includes a broad spectrum of injuries and conditions that adversely affect muscles, tendons, ligaments, and nerves (Irani, Niyomyart and Hickman, 2021). Such situations can arise as a result of the physically demanding nature of caregiving, which mostly requires physical tasks such as moving, transferring, and repositioning the residents. Repetitive motions, unconventional postures, and long static positions can result in sprains, strains, and injuries to different parts of the body, with the shoulders and lower back being the most commonly affected (Gérain and Zech, 2020).

According to Vellone et al. (2020) caregivers may encounter numerous MSDs including conditions like carpal tunnel syndrome, tendinitis, rotator cuff injuries, epicondylitis, trigger finger, and muscle strains, especially in the lower back. These disorders are not only diseases that can cause acute pain and discomfort, but they may also develop into chronic ailments, functional challenges, and increased difficulty in working if they are neglected. In addition, repetitive movements, heavy lifting, and bumping, for instance, result in increased stress and the risk of MSDs worsening.

➤ Exposure to Infectious Diseases and Hazardous Substances

The exposure of caregivers to pathogens may result in the occurrence of ailments that range from the common cold as well as the flu to more severe disease conditions like hepatitis, HIV, and other blood-borne infections (Womack et al., 2020). Additionally, healthcare professionals working at healthcare facilities and in close contact with infected individuals risk becoming ill from airborne contamination and surface transmission. Caregivers may come across harmful substances present in household cleaning products; they can potentially threaten their respiratory health and overall wellbeing (Kayaalp, Page and Rospenda, 2020). Moreover, lack of knowledge, poverty, or comfortability can magnify the hazards faced by occupational caregivers.

➤ Fatigue and Exhaustion Due to Long Working Hours and Shift Work

The strenuous nature of caregiving usually implies working long hours and shifts, which results in the accumulation of fatigue and exhaustion, both physically and mentally. Healthcare providers and caregivers, especially those working in facilities or providing around-the-clock attention, may often be required to work extended shifts, night shifts, or different schedules in their day-night frameworks (Vaitheswaran et al., 2020). This never-ending sleep debt and disturbance can thus considerably affect their health, as well as their workplace safety.

Fatigue and exhaustion can be expressed in different ways, such as decreased alertness, impaired cognitive function, and reduced reaction time, which can compromise the caregiver's ability to do their job well and safely. On the one hand, there is a greater likelihood of illness and health conditions getting worse due to a low immune system because of constant fatigue. The psychological aspect of care giving, with its emotional exhaustion on top of its physical strain, can also lead to burnout, which is a state characterised by emotional depletion, depersonalisation, and a reduced sense of personal accomplishment. This can result in increased absenteeism, high turnover rates, and the degradation of the quality of care given (Kayaalp, Page, and Rospenda, 2020).

➤ *Psychological, Emotional, Burnout and Compassion Fatigue*

Although the physical burdens of care giving are hefty, the emotional tolls on caregivers are just as important and often overlooked. Among the most common occurrences is emotional exhaustion, a condition of emotional depletion and separation that can evolve after the stressful and intense nature of care has been present for some time. Caregivers, particularly those working with long-term health conditions, disabilities, and terminal cases, can feel increasing emotional depletion, which might cause different psychological states such as tiredness, apathy, or even a loss of self-fulfillment (Logan and Castañeda, 2020).

Emotional burnout is closely related to the concept of compassion fatigue, which occurs when caregivers undergo the emotional stress and trauma of those they are caring for. The emotional vicarious trauma that arises from prolonged exposure to the victims' distress can also appear as a great concentration of feelings related to the sufferings of others and can lead to intrusive thoughts, avoidance behaviours, and a reduced capacity for empathy and compassion. Indifference fatigue can have the most impact on the wellbeing of a caregiver's mental health, leading to anxiety, depression, or even PTSD in the worst scenario (Maguire and Maguire, 2020). Both emotional burnout and compassion fatigue can heavily undermine the caregivers' capacity to give the best, compassionate care and can lead to a high turnover rate in the profession.

B. Mental Challenges

➤ *Stress and Anxiety Related to Patient Care Responsibilities*

Health workers' burden of care can lead to additional stress and anxiety; thus, it can compound the mental challenges they are subjected to. While individuals already have to deal with the emotional stress of seeing their older loved ones gradually deteriorating or having to cope with challenging conditions or behaviours, caring for people with delicate medical situations, managing medications, as well as navigating through the multiple layers of the healthcare system could be something demanding altogether (Sabo and Chin, 2020). This long-term stress can be manifested in fatigue, sleep problems, changes in appetite, and physical pain, all of which can lead to a decrease in the state of physical health and exacerbation of existing medical conditions (Sabo and Chin, 2020).

Additionally, chronic nervousness and uncertainty over patient care situations can lead to anxiety disorders, which can deteriorate a caregivers' effectiveness in ensuring patient care. Care giving may also lead to GAD or panic disorder, and such anxiety disorders are likely to arise or even worsen in the process of care giving. This anxiety can also include concerns about financial stress, complicated healthcare systems, and possible conflicts in the family or within the care team. Finally, the issues of patient care, such as stress and anxiety, can pre-exist beyond the mental health of a single caregiver to the level of care provided to the patient care recipient (Bainbridge and Townsend, 2020).

➤ *Vicarious Trauma and Secondary Traumatic Stress*

Beyond the emotional exhaustion and stress due to taking care of patients, care providers might also get vicarious trauma and secondary traumatic stress induced by helping those who have experienced traumas. These are the phenomena occurring when caregivers are exposed time and again to the traumatic experiences and suffering of the people they care for, which in turn leads to a tremendous psychological impact. On the contrary, secondary traumatic stress is characterised by symptoms similar to those of PTSD, including flashbacks, and nightmares, as well as a high level of physiological arousal. One of the risk groups for a caregiver who works with people who have experienced trauma, abuse, oppression, or other life-threatening events is secondary helplessness. This is conditioned by seeing the profound suffering and the distress of the care recipient (Gerber and Anaki, 2020). A series of traumatic incidents experienced indirectly lead to a boiling point in the caregiver's capability to perform effective functioning in both personal and professional lives.

➤ *Verbal and Physical Abuse from Patients and their Families*

One of the most disturbing occupational health and safety issues that caregivers are dealing with is the risk of workplace violence and harassment in the form of verbal and physical abuse from patients and their families. Many care giving responsibilities require the facilitation of interactions with people who may experience some physical or cognitive impairments, emotional distress, or behavioural problems that might be risky for aggressive or violent behaviour (Maguire and Maguire, 2020). Mental abuse causes the debasement of self-esteem, loss of confidence, and the aftermath of depression in the caregivers.

Physical abuse, on the contrary, is a direct threat to the caregiver's physical safety and can range from pushing, shoving, or grabbing to more severe acts of violence like hitting, kicking, or even the use of weapons. Apart from the short-lived physical harm they cause, these incidents can also cause long-term psychological trauma to caregivers, such as PTSD and anxiety disorders (Gerber and Anaki, 2020). Moreover, there is also the fear and anxiety that accompany threats of violence that may result in caregivers having stress-related diseases, low attendance, and increased turnover.

➤ *Bullying and Discrimination from Colleagues or Supervisors*

Bullying and discrimination from colleagues or supervisors, which can be another type of workplace violence and harassment, can also create a toxic and hostile environment for caregivers. Bullying can manifest in forms like verbal abuse, intimidation, malicious gossip, and isolating the caregivers further by including or excluding them from the peer groups. This conduct can cause grave distress to the emotional health of caregivers, giving rise to feelings like stress, pressure, perceived failure, and low self-esteem and even jeopardise patient safety (Unsar, Erol and Ozdemir, 2021).

Discrimination in workplaces, gender, age, race, ethnicity, or any of the protected traits makes another form of harassment that a caregiver can experience in their place of work. Discrimination can present in different ways, including unjust treatment, no career advancement chances added to training, or outright acts of prejudice or discrimination (Leung et al., 2020). Such experiences can cause a feeling of being left out and less valued by caregivers, which in turn can affect their job satisfaction, motivation, and general wellbeing.

➤ *Impact on Mental Health and Job Satisfaction*

Workplace violence and harassment are various experiences, whether patients and their families do it through verbal or physical abuse or by judgment and discrimination from colleagues and supervisors. These experiences have a significant effect on the mental health of the caregivers and satisfaction in their jobs. Being in the presence of such harmful behaviours can result in various psychological problems, such as anxiety, depression, PTSD, and other trauma-related disorders (Tough et al., 2019). Such health concerns can have multiple expressions, for example, difficulty concentrating, irritability, sleep interruptions, and the ability to cope with emotional fatigue.

Moreover, upon daily frustrations and the concern for possible violence and ensuing harassment, caregivers constantly remain in a heightened state of alertness and stress, which contribute even more to the psychological wear and tear they suffer as caregivers. This psychological distress can undermine the capacity of a caregiver to do their job well, which, in turn, reduces productivity and job satisfaction, increases absenteeism, and leads to a high turnover rate in the profession (Unsar, Erol and Ozdemir, 2021).

C. *Organisational and Systemic Challenges*

The following section presents the organisational and systemic challenges that caregivers face and curtail their occupational wellness and safety in the workplace, organised under the following themes: staffing shortages and high workloads, inadequate training and support, and insufficient PPE and safety protocols.

The figure below shows the roadmap to fixing organisational challenges for caregivers.

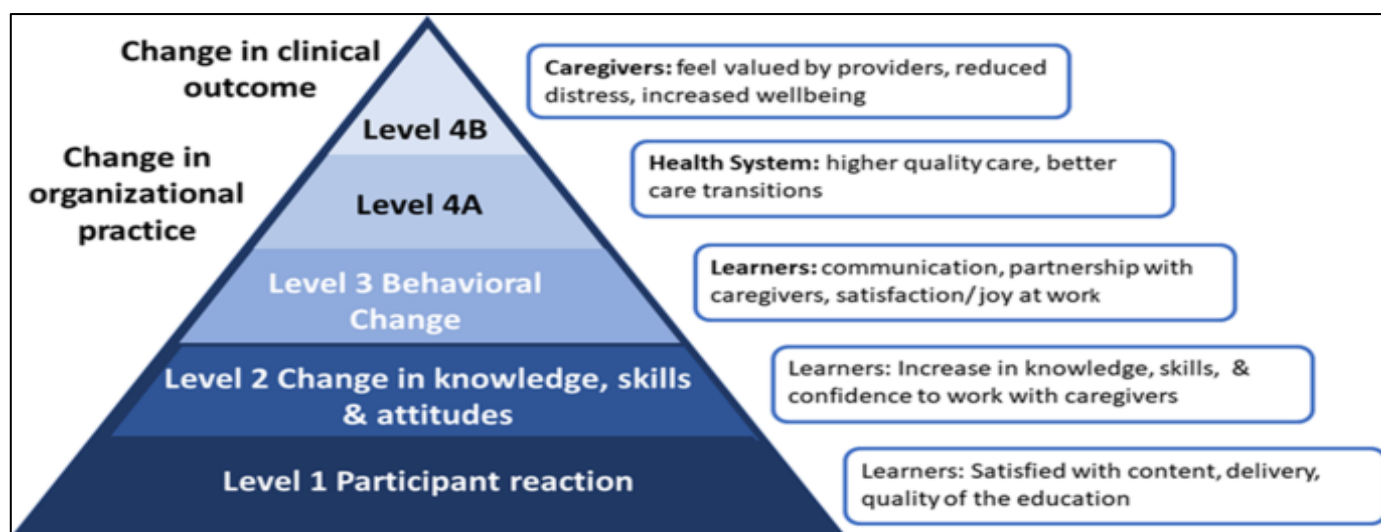


Fig 3: Ideal Changes to Fix Organisational Challenges Facing Caregivers. Source: researchgate.net (2022).

➤ *Staffing Shortages and High Workloads*

Caregivers often face organisational and systemic challenges that have negative effects on the health and safety hazards they face. Among the numerous problems is the staff being insufficient and the workload being too heavy. The healthcare industry has faced a shortage of nurses and other caregivers for several years. This is attributed to factors such as the ageing population, the inadequate supply of new nurses, and the reduced staff in healthcare facilities. According to a report by the American Nurses Association, the demand for nurses will grow by 18% between 2000 and 2030, while the population over 65, which is presumed to require higher care services due to the natural ageing process, is expected to surge by approximately 54% during the same period (American Nurses Association, 2020).

The result of a shortage of staff is the higher tasks for the rest of the caregivers as they must take up more duties and work longer hours in order to make up for the available workload. This extra workload can lead to severe consequences, for example, physical and mental tiredness, burnout, and even a higher risk of errors or accidents. Besides these, cost-cutting practices like mandatory overtime policies and limited length of stay have been adopted by healthcare organisations whereby the nurses are overworked. As a result, caregivers spend a lot of their time nursing critically ill patients who need urgent care, which further increases the already-existing stressful nature of their job (Molinaro et al., 2023).

➤ *Inadequate Training and Support*

Many healthcare organisations face the challenge of designing effective and uniform training programs because of a lack of resources, staff shortages, and other competing priorities. According to the National Association for Home Care & Hospice, the central issue reported by more than 60% of home healthcare facilities was their staff members receiving insufficient training, which they attributed to budgetary limitations and difficulty in employing staff (National Association for Home Care & Hospice, 2023). Inadequate training may have long-term consequences not only for caregivers but also for the healthcare system as a whole in the form of increased error rates, inadequate care models, and possible legal suits. Besides, caregivers may experience isolation, lack of support, and lack of skills to deal with the challenges they face without the necessary systems in place (Riffin et al., 2020). This may result in an abrupt increase in stress levels, overwork, and job dissatisfaction, and can decrease the longevity of the caregivers' profession because of high turnover rates.

➤ *Insufficient PPE and Safety Protocols*

The inadequate provision of PPE and the absence of sound safety protocols represent major occupational health and safety problems for caregivers, especially in situations where there is an outbreak of infectious disease or other hazardous situations. An excellent example of this challenge is the COVID-19 pandemic, where medical workers and caregivers throughout different countries had to cope with the severe shortages of PPE, risking their lives by catching the virus. A survey done by the International Council of Nurses has shown that more than 90% of the respondents reported PPE shortage cases, where some had to reuse disposable PPEs while others had to develop makeshift alternatives (International Council of Nurses, 2021).

The harm from the lack of PPE and poor safety procedures can be tremendous, not only for the caregivers themselves but also for the patients and community they serve. Caregivers who are not adequately protected risk contracting infectious diseases, and consequently spreading such infections to patients who are at higher risk of getting infected, thus propagating the illness (Ferrari et al., 2021). Beyond this, a lack of clear and consistent safety protocols gives rise to confusion, incorrect use of PPE, and a false sense of security, which would subvert the aim of adequate protective measures in the workplace.

CHAPTER FIVE

INTERVENTIONS TO IMPROVE OCCUPATIONAL SAFETY AND WELLBEING

A. Organisational Policies and Practices

➤ *Implementing Comprehensive Safety Protocols and Training*

Through the creation of clear guidelines, standardised practices, and continuous educational initiatives, caregivers will be better able to deal with the multiple risks and hazards they face in their everyday work. Robust safety protocols covering safe patient handling techniques, infection control measures, emergency planning, and prevention of violent impacts will significantly reduce the number of musculoskeletal injuries, infection transmission, and harmful incidents. Regular training sessions not only impart knowledge but also create a culture of safety in healthcare organisations. It is a shared understanding of risks and engagement of the caregivers in identifying and solving potential hazards is an activity worth undertaking (Casillas et al., 2020). By engaging caregivers in the process of developing and operationalising safety procedures, organisations would utilise the valuable knowledge and experience at the front line, which serves as the basis for the feeling of oneness and the pledge to safer working conditions.

➤ *Providing Adequate PPE*

The provision of an adequate amount of PPE is not only a practical but also a necessary measure to ensure the health and safety of caregivers in the workplace. PPE like masks, gowns, gloves, and face masks is a vital barrier against exposure to infectious agents, hazardous substances, and other occupational hazards that caregivers usually face. By enforcing stringent protocols and providing the staff with reliable supply chains for PPE, healthcare organisations can greatly minimise the chances of caregivers contacting infectious diseases or suffering from side effects of exposure to harmful pathogens. A study by Qiu et al. (2021)) affirmed that the correct use of PPEs reduced the risk of SARS-CoV-2 by more than 70% among healthcare workers. Besides, the availability of the appropriate PPE can reduce psychological stress and anxiety among caregivers, as they will perceive to be better protected and hence become more confident to do their work safely.

➤ *Promoting a Positive Workplace Culture and Support System*

Building a healthy working environment and a robust welfare system are core strategies for improving the welfare and safety of healthcare employees. Creating a workplace environment that promotes open communication, mutual respect, a teamwork spirit, and a sense of teamwork can reduce the likelihood of burnout, compassion fatigue, and other psychological issues that caregivers often experience. When caregivers are valued, supported, and considered as a team, they are more likely to cope with the emotional stress of the job and, therefore, will have higher job satisfaction and a lower turnover rate. Cultures that foster better working environments correlate to a lower incidence of stress, anxiety, and depression among healthcare workers, in addition to reduced absenteeism and enhanced patient outcomes (Ng and Indran, 2021).

Additionally, adopting encompassing support systems, including employee assistance programs, counselling services, and peer support groups, would be appropriate to give caregivers the necessary resources for their mental and emotional health. These programs not only provide a safe place for caregivers to deal with their experiences and seek professional help if they need it but also create a culture of self-care and resilience within the organisation (Law et al., 2021). A workforce that is driven, resilient and sustainable is achieved when healthcare organisations prioritise a positive workplace culture and support systems.

B. Ergonomic Interventions

➤ *Implementing Safe Patient Handling and Mobility Procedures*

Safe patient handling and mobility procedures are essential ergonomic interventions that can decrease the risk of MSDs among caregivers to a large extent. The MSDs that caregivers are prone to developing are some of the most common occupational hazards due to the strenuous nature of their work, which typically involves lifting, transferring, and repositioning patients. Through the use of proof-based safe patient lifting and mobility techniques, healthcare organisations would be able to manage the risks as well as provide a safer workspace for caregivers. These protocols usually include the use of assistive devices like mechanical lifts, slide boards, and transfer aids that help to reduce the need for manual lifting and minimise the strain on caregivers' bodies (Weir, Danilovich and Hoover, 2021). The study by Matsangidou et al. (2023) revealed that healthcare institutions that implemented complete safe lifting and moving programs reported a substantial decline in caregiver injuries, with some even as high as a 62% drop in the incidence of MSDs. By implementing such ergonomic procedures, healthcare organisations will surely reduce employees' absenteeism, workers' compensation costs, and turnover rates, as well as provide the greatest quality of care to their patients.

➤ *Designing Ergonomic Workstations and Equipment*

The ergonomic design of workstations and equipment is a critical intervention for improving the occupational safety and wellbeing of caregivers. Caregivers work typically involves constant standing and repetitive actions, as well as awkward postures. As a result, a caregiver could develop musculoskeletal disorders, fatigue, and discomfort. Adopting ergonomic principles in the making of workstations like adjustable height tables, anti-fatigue mats, or comfortable chairs helps to keep the caregivers in the correct positions and protect their muscles and joints from straining (Adiga, 2023). Moreover, equipment that is ergonomically

designed, such as adjustable bed controls, mobile computer workstations, and assistive devices, can lessen the requirement for too much reaching, bending, or twisting, thus decreasing the risk of injuries.

➤ *Promoting Regular Stretching and Exercise Routines*

Implementing regular stretching and exercise programs is one of the primary ergonomic interventions, which in turn greatly ensures the occupational safety as well as the wellbeing of the caregivers. Prolonged periods of standing, lifting, and awkward body postures, common for home caregivers, can result in the development of musculoskeletal disorders, muscle fatigue, and lower general physical condition. Through programs that encourage regular stretching and exercise, healthcare organisations can address these risks and support the physical health of their caregiving workforce (Mahmood, Shaista Habibullah and Hazrat Ullah Aurakzai, 2024). Stretching regimes, especially those that are specially designed to meet the unique demands of caregiving roles, help improve the body's flexibility, range of motion, and overall mechanics, decreasing the possibility of strains and sprains (Kim et al., 2023). In addition to alleviating caregivers stress, healthcare organisations, through the promotion of physical fitness culture and provision of resources such as onsite exercise facilities or guided stretching sessions, can develop a healthier, more resilient, and more productive caregiving workforce.

C. Psychological Support and Mental Health Resources

➤ *Employee Assistance Programs (EAPs) and Counselling Services*

Developing all-inclusive EAPs and giving caregivers a chance to access counselling services are just some of the primary interventions that would help to ensure mental health and wellness among caregivers. The emotional and psychological demands of caregiving can be so challenging to handle that it often leads to burnout, compassion fatigue, and other mental health problems (Lohrasbi et al., 2023). EAPs are a safe and quickly accessed channel for caregivers to receive professional mental counselling, support, and guidance for a broad selection of personal and work-related situations, including stress management, grief and loss, substance abuse, as well as marital issues.

Studies have shown that EAPs are usually successful in helping to achieve better job outcomes for employees and their wellbeing. A study by Raluthaga et al. (2023) published in the Open Public Health Journal found that the employees who used EAP services had a 57% decrease in absenteeism, a 50% increase in work productivity, and a 38% decrease in workplace distress. In addition to that, psychotherapy programs could be given to caregivers so they can deal emotionally with their jobs, acquire coping skills, and interrupt the onset of a worse mental health issue.

➤ *Training on Stress Management and Resilience*

Stress management and resilience training workshops are indispensable life skill set developers that give caregivers the tools to overcome the burden cases of their jobs put on their shoulders. It has always been a fact that delivering care is already a stressful kind of job because it has high-stakes situations, emotional demands, and being exposed to possibly traumatic circumstances. Without healthy coping mechanisms and resilience-building strategies, caregivers will be affected by chronic stress, burnout, and reduced wellbeing (Chi et al., 2023).

Stress management-related training can equip a caregiver with various methods, such as a medical approach, which includes practices such as mindfulness and cognitive-behavioural exercises or relaxation. Thus, such equity will maintain emotional balance. Moreover, resilience training concentrates on the development of personal qualities and the methods that help the individual deal with and overcome challenges, such as emotional regulation, problem-solving, and compensation practice.

➤ *Peer Support Groups and Debriefing Sessions*

One of the most effective mechanisms to offer peer support groups and debriefing sessions is to ensure that caregivers have a safe yet supportive place to offload what they have been through, share coping tools, and feel a sense of community. The emotional isolation that caregivers experience can be attributed to the fact that they constantly observe and feel the pain of others. Peer support groups will enable caregivers to reach out to other caregivers who are aware of the work problems that are difficult for others to comprehend and, thus, offer room for validation, empathy, and understanding (Rose et al., 2023).

Debriefing sessions, especially after tough or traumatic experiences, become a handy tool in the caregivers' toolbox for them to process their bound experiences and feelings in a structured environment. In these sessions, facilitated by mental health professionals or trained facilitators, the caregivers will be able to discuss the event, express their thoughts and feelings, and receive guidance on coping strategies and available support resources. Peer support and debriefing interventions (such as psychological counselling and support groups) can considerably improve the psychological health of caregivers (Chi et al., 2023).

D. Workforce Planning and Management

➤ *Adequate Staffing Levels and Workload Distribution*

Understaffing and long hours of work have been pinpointed as the main reasons for burnout and job dissatisfaction among employees, with a high chance of injuries and mistakes. By having an adequate number of employees, healthcare organisations can

reduce the burden on the caregiver workforce, cutting down the risk of additional working hours, tiredness, and the often occurrences of fatigue and emotional resource depletion (Simkin, Chamberland-Rowe and Bourgeault, 2024). Besides, the implementation of fair and balanced workload distribution strategies will also help to prevent burnout and will ensure that the caregivers are not consistently overburdened with disproportionate responsibilities.

Research has indicated over and over again how having sufficient staff and patient workloads impacts caregivers' condition and the results of patient care. A systematic review in the International Journal of Nursing Studies noted that higher nursing staffing levels could reduce burnout, job dissatisfaction, and the intent of leaving the job (Griffiths et al., 2023). Also, the study done by AHRQ showed that adequate nurse staffing levels were associated with improved patient outcomes, like a decrease in hospital-acquired infections and the mortality rate (Rich, 2009).

➤ *Flexible Scheduling and Work-Life Balance Initiatives*

Transitioning into shift-oriented production and work-life balance activities will largely ensure the health and productivity of the workforce. Regularly, caregiving tasks and family obligations collide, thus burdening the worker, making them exhausted, and putting at stake their personal wellbeing. Through the provision of flexible scheduling alternatives, such as the flexible work hours, compressed workweek, job sharing, or telecommuting, online working or working from home, caregivers can better balance their work and personal duties, thus reducing the pressure and possible clashes that might result from strict schedules. Similarly, implementing measures that encourage work-life balance, for instance, access to childcare onsite, wellness programs, and leisure time supported by paid medical leave, allows caregivers to be more integrated into their work and life (Kossek, Perrigino and Lautsch, 2022).

➤ *Continuing Education and Professional Development Opportunities*

Providing caregivers with continuing education and opportunities for professional development should be regarded as an intervention that can benefit both safety at the workplace and the wellness of the employees. The healthcare field is constantly changing with the new technologies, best practices, and treatment protocols that are coming up. Educating healthcare workers with the latest information in the field results in the improvement of the quality of care available not only for patients but also for themselves (Childress et al., 2021). They have higher self-esteem and self-confidence and improve their job satisfaction. Continuing education courses can cover a broad spectrum of topics, including clinical updates, interpersonal skills, and ways to avoid putting oneself at risk. The courses may also focus on specialised areas such as Aging Care, end-of-life or palliative care.

E. Regulatory and Legislative Measures

➤ *Strengthening Occupational Health and Safety Regulations*

One of the crucial ways of protecting the health conditions of caregivers and ensuring their wellbeing is to increase occupational health and safety regulations. Although many countries have already established rules and standards on workplace safety, the particular challenges that caregivers face often require more comprehensive and tailored guidelines. A robust regulatory regime coupled with effective monitoring can significantly decrease onsite injuries and illnesses (Kim et al., 2022).

➤ *Improving Worker Compensation and Benefits*

The implementation of rules and laws to increase worker compensation and benefits is a critical measure that can have a significant influence on the occupational safety and health of caregivers. Care giving is a tiring job with built-in risks to the caregivers, and it is, therefore, necessary that a financial protection scheme with support for work-related injuries or illnesses is put in place for the caregivers. Through the development of a comprehensive worker compensation program that covers the expenses of medical care, lost wages, and rehabilitation, policymakers can create a network of care that will spare the nurses' families the financial burdens (Keita Fakeye et al., 2023). Besides, the provision of attractive benefits packages such as paid sick leave, disability insurance, and mental health coverage can also promote the wellbeing of caregivers by allowing them to prioritise their health and seek the necessary treatment without the fear of financial problems. It is evidenced that having sufficient healthcare workers' compensation and benefits is tied to rising occupational satisfaction, lessening absenteeism, and improving retention (Jutkowitz et al., 2022). However, salaries and benefits must be competitive enough to hire and keep the best ones; team members who have been trained well must form a stable and experienced workforce devoted to delivering superior care.

➤ *Promoting Public Awareness and Advocacy Efforts*

A practical way of reflection at the public level is an essential intervention that helps improve the occupational health and wellbeing of caregivers at the societal level. Although the wellbeing of caregivers should be an important focus in the lives of individuals with disabilities, chronic illnesses, and ageing populations, the general public hardly notices the struggles they face. Government agencies and policymakers working together could gain more awareness by using campaigns for public education, media attention, and community initiatives, which in turn can help identify long-term and unique risks of caregivers thus paving way for appropriate help and understanding from the society (Hanson and Champeix, 2023). They can also be a powerful tool in raising the voices of caregivers themselves and allowing them to talk about their experiences and be advocates for themselves as well as those that influence the policies that are made in relation to their profession. Studies have proved that enhanced public awareness and support can result in policy changes and the allocation of resources for caregivers. By pointing out the

outrageousness of caregiver burnout, awareness campaigns can urge healthcare establishments and employers to focus on occupational safety procedures. Consequently, a caring society would emerge that would appreciate and care for caregivers (Wu, Ravinder Sarah Bains and Preston, 2023). Finally, through increasing public awareness and advocacy, which affects policymakers and stakeholders, the creation of an environment that is more inclusive and supportive for caregivers can be achieved, with their rights guaranteed to a safe and healthy workplace.

The figure below summarises the resources that can be used to improve the occupational safety and wellbeing of caregivers.

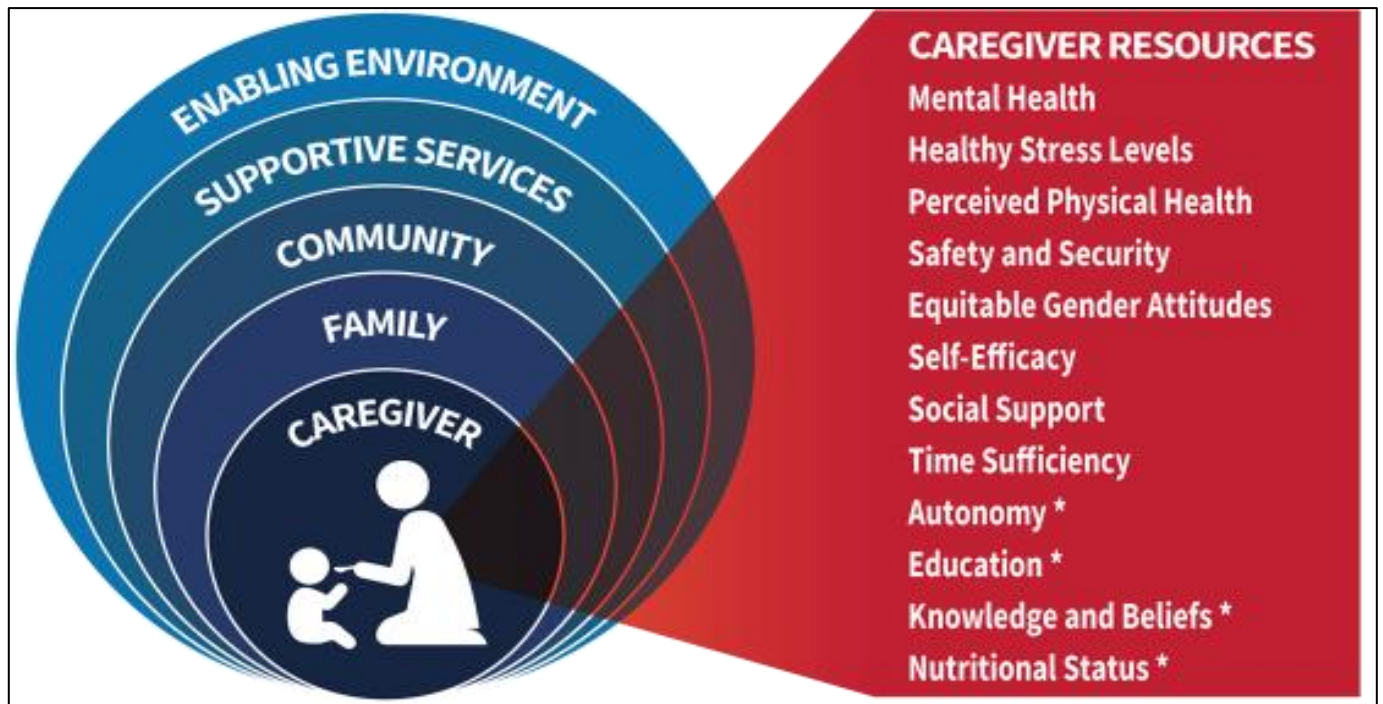


Fig 4: Improving Occupational Wellbeing of Caregivers. Source: USAID.org (2023).

CHAPTER SIX

CASE STUDIES AND BEST PRACTICES

A. John Hopkins Hospital.

A primary factor in success at John Hopkins Hospital is leadership's consistent dedication to the wellbeing of the caregiver community by advancing it as a strategic priority (McLaughlin et al., 2022). This is also represented in the massive amount of resources that are invested in evidence-based interventions and the creation of a culture of safety and respect. One of the fundamental tenets of Johns Hopkins' plan has been its introduction of a standout safe patient handling program, which has resulted in a myriad of back injuries, especially among nurses. The facility's investment in sophisticated lifting devices, raising the understanding of staff and firm adherence to safe handling protocols, has led to a significant decrease in the number of injuries caused by the fair handling of employees. Moreover, the hospital has been focusing on PPE and creating a positive work environment through various initiatives like the "Caregivers' Support Line," a confidential resource for emotional support and stress management (Golden, 2022).

The effectiveness of the programs carried out by Johns Hopkins comes into light when the KPIs show the improvement in the state of the caregivers and patients. Indeed, the leading care facility reports a sharp improvement in caregiver retention rates, plummeting from 18% in 2015 to 5% in 2021. The percentage of caregivers reporting high levels of job satisfaction and likelihood of being retained in the organisation increased from 62% in 2015 to 88% in 2021. Again, 1% of the overall respondents said that they were satisfied with their jobs and that they were likely to be retained in the organisations in 2021 (Arain, Thalapparambath and Al Ghamdi, 2020). Subsequently, this has also been showcased in patient satisfaction scores with regard to caregiver interactions and empathy, which have continuously ranked within the highest decile in the nation, further strengthening the positive outcomes associated with a well-trained and compassionate caregiving team. These measures are complemented by the efforts of Johns Hopkins to support legislation and regulations that are respectful to caregivers and to collaborate with state and federal policymakers to improve workers' compensation and occupational safety standards (Dang et al., 2021).

B. Cleveland Clinic

The Cleveland Clinic has taken a proactive approach to promoting occupational wellness among its caregivers. The established the Office of Caregiver Experience, is dedicated to designing and implementing initiatives to improve healthcare professionals' overall experience and wellbeing (Pauer and O'Donnell, 2019). The clinic provides various wellness resources, including mindfulness programs, counselling services, and access to fitness facilities. Regular burnout surveys are conducted to identify areas that require attention and intervention (Orsini et al., 2020).

C. Tenet Healthcare

Tenet Healthcare, a for-profit hospital system, has faced criticism and lawsuits regarding the occupational wellness of its caregivers. Allegations include maintaining dangerously low staffing levels, leading to high workloads and increased stress. Healthcare workers have reported a lack of support and resources, inadequate break times, and limited access to wellness programs. Cost-cutting measures have been prioritised over employee wellbeing, leading to understaffing, longer work hours, and reduced caregiver benefits (Mello, 2020).

D. Lessons Learned

The instrumental role played by Johns Hopkins Hospital in the dimension of nurturing the wellbeing of health professionals might be embraced by other healthcare organisations. One of the main points to make is that the leadership commitment and a strategic vision that puts the safety and wellbeing of caregivers at the top of the organisational value system are important. Through the process of earmarking unique budgets, formulating distinct policies and guidelines, and establishing a setting of caregivers that is tolerant and uplifting, healthcare organisations can achieve a workplace environment that promotes, nurtures, and honours their workforce (Miller and Wolff, 2024). Besides, the case study underscores the immense advantage of implementing evidence-based programs aimed at safety, such as safe patient handling programs, effective training initiatives, and making mental health therapy and support systems accessible.

The interventions and strategies applied by Johns Hopkins Hospital are highly generalisable and can be modified to fit the different healthcare settings, from the extensive academic medical centres to the smaller community hospitals and the long-term care facilities. The doctrine of putting first the safety of caregivers and the labour intensity facet of ergonomic engineering, depression prevention in healthcare workers, and a work environment mailing of good attitudes are all practices that can be accurately applied in the rest of the healthcare fields. By embracing an evidence-based and data-driven approach, healthcare facilities can learn how to adopt and have scale-able success from Johns Hopkins, which, in turn, will be assessed and adjusted periodically throughout the care giving workforce of the facility in order to meet the high occupational health and safety levels (Robertson et al., 2022).

The contrasting approaches of the John Hopkins, Cleveland Clinic and Tenet Healthcare highlight the importance of prioritising occupational wellness for caregivers in healthcare facilities. The Cleveland Clinic's comprehensive initiatives, including dedicated resources, leadership support, and regular assessments, have set a positive example for promoting caregivers' wellbeing. On the other hand, Tenet Healthcare's negative track record serves as a cautionary tale, emphasising the detrimental effects of prioritising cost-cutting measures over employee wellbeing. These case studies contribute to the body of knowledge by underscoring the crucial role of organisational culture, supportive policies, and dedicated resources in fostering a healthy and sustainable work environment for caregivers, which ultimately impacts patient care and overall organisational performance.

CAPTER SEVEN

CHALLENGES AND BARRIERS TO IMPLEMENTATION OF OCCUPATIONAL WELLNESS INITIATIVES

One major hindrance is the financial load that goes into purchasing new equipment and installing new programs for training and support resources. Healthcare service centres, especially those operating with minimal budgets or scant resources, may have difficulty availing funds to implement quick responsive interventions of good quality as demanded. Moreover, the organisational inertia and resistance to change can be a barrier to the adoption of new policies and practices, as the established routines and workflows are very much a part of the culture of the facility (Bourbonnais et al., 2018).

Coordination and alignment are sometimes challenging, especially when many intervention strands involve different agencies and partners. The effectiveness of caregiver wellbeing initiatives would often require a multiple-headed approach where service delivery will involve collaboration between clinical teams, human resources, occupational health and safety, and facility management. The factor of effective communication, the compatibility of the goals, and smooth working among these various stakeholders can be a challenging job, particularly in extensive, decentralised healthcare systems (Cohen, Nash and Greaney, 2021). Additionally, the possible hindrance to the plan's success can be due to the shortage of staff, heavy workload, and competing priorities. These could prevent the staff from training, implementation, and ongoing monitoring and evaluation (Larson and Stroud, 2021).

CHAPTER EIGHT

CONCLUSION

A. Summary of Findings and Recommendations

The study examined the occupational health and safety challenges faced by caregivers and proposed evidence-based interventions and strategies to address these challenges. The goal included successful identification and analysis of physical, psychological, and systemic challenges caregivers encounter, the exploration of the impact of these challenges on their health, job satisfaction, and quality of care, and the investigation of best practices and interventions implemented in various healthcare settings. The research question, "What are the occupational health and safety challenges caregivers face, and what evidence-based interventions and strategies could be implemented to improve their overall wellbeing and work environment?" was effectively answered. The study highlighted the difficulties caregivers experience, including musculoskeletal disorders, exposure to hazardous substances, emotional burnout, compassion fatigue, vicarious trauma, understaffing, insufficient training, and a lack of supportive organizational policies.

The research proposed various interventions to address these challenges, such as implementing effective safety policies, providing adequate personal protective equipment, fostering supportive workplace cultures, introducing ergonomic measures such as safe patient handling procedures and ergonomically designed workstations, increasing mental health resources and self-care initiatives, and ensuring appropriate workloads. The study's significance lies in its contribution to the existing body of knowledge on caregivers' occupational health and safety. By bringing attention to these issues, healthcare institutions can institute long-term supportive working conditions, decrease absenteeism and staff turnover, and ultimately enhance the quality of service delivery.

B. Future Research Directions and Areas for Improvement

Although this research has given a complete view of caregivers' occupational health and safety problems and has suggested different ways to deal with them, there are still many areas for future research and improvement. First, there should be more reliable longitudinal studies to check the long-term effectiveness and the possibility of the proposed interventions, especially in different healthcare settings and among different caregivers. Besides, more studies are needed to find out the particular problems and demands of specific caregiver groups, for example, those working in remote or underdeveloped areas or those caring for patients with particular medical conditions. The study of the intersection of these factors, like gender, race, socioeconomic status, and cultural backgrounds, can also explain the potential disparities and help form the support strategies that are tailored to each case.

REFERENCES

- [1]. Adashek, J.J. and Subbiah, I.M. (2020). Caring for the caregiver: a systematic review characterising the experience of caregivers of older adults with advanced cancers. *ESMO Open*, 5(5), p.e000862. doi:<https://doi.org/10.1136/esmoopen-2020-000862>.
- [2]. Adiga, U. (2023). Enhancing Occupational Health and Ergonomics for Optimal Workplace Wellbeing: A Review. *IJCBS*, [online] 24(4), p.2023. Available at: <https://www.iscientific.org/wp-content/uploads/2023/10/17-IJCBS-23-24-4-17-done.pdf>.
- [3]. American Nurses Association (2020). *Nurses in the Workforce*. [online] American Nurses Association. Available at: <https://www.nursingworld.org/practice-policy/workforce/>.
- [4]. American Occupational Therapy Association (2021). Standards of Practice for Occupational Therapy. *The American Journal of Occupational Therapy*, [online] 75(Supplement_3). doi:<https://doi.org/10.5014/ajot.2021.75s3004>.
- [5]. Arain, S., Thalappambath, R. and Al Ghamdi, F.H. (2020). COVID-19 pandemic: Response plan by the Johns Hopkins Aramco Healthcare inpatient pharmacy department. *Research in Social and Administrative Pharmacy*. doi:<https://doi.org/10.1016/j.sapharm.2020.05.016>.
- [6]. Bainbridge, H.T.J. and Townsend, K. (2020). The effects of offering flexible work practices to employees with unpaid caregiving responsibilities for elderly or disabled family members. *Human Resource Management*, 59(5). doi:<https://doi.org/10.1002/hrm.22007>.
- [7]. Blake, N. (2020). Caring for the Caregivers During the COVID-19 Pandemic. *AACN Advanced Critical Care*, pp.e1–e3. doi:<https://doi.org/10.4037/aacnacc2020612>.
- [8]. Bourbonnais, A., Ducharme, F., Landreville, P., Michaud, C., Gauthier, M.-A. and Lavallée, M.-H. (2018). An Action Research to Optimise the Wellbeing of Older People in Nursing Homes: Challenges and Strategies for Implementing a Complex Intervention. *Journal of Applied Gerontology*, 39(2), pp.119–128. doi:<https://doi.org/10.1177/0733464818762068>.
- [9]. Casillas, A., Cemballi, A.G., Abhat, A., Lemberg, M., Portz, J.D., Sadasivaiah, S., Ratanawongsa, N., Semere, W., Brown, A. and Lyles, C.R. (2020). An Untapped Potential in Primary Care: Semi-Structured Interviews with Clinicians on How Patient Portals Will Work for Caregivers in the Safety Net. *Journal of Medical Internet Research*, [online] 22(7), p.e18466. doi:<https://doi.org/10.2196/18466>.
- [10]. Chakraborty, R., Jana, A. and Vibhute, V.M. (2023). Caregiving: a risk factor of poor health and depression among informal caregivers in India- A comparative analysis. *BMC Public Health*, 23(1). doi:<https://doi.org/10.1186/s12889-022-14880-5>.
- [11]. Chi, N.-C., Han, S., Lin, S.-Y., Fu, Y.-K., Zhu, Z., Nakad, L. and Demiris, G. (2023). Resilience-enhancing interventions for family caregivers: A systematic review. *Chronic illness*, p.174239532311749-174239532311749. doi:<https://doi.org/10.1177/17423953231174928>.
- [12]. Childress, D.C., Raver, S.A., Eckhoff, A. and Gear, S.B. (2021). Technology-mediated professional development for early intervention service providers: connecting adult learning with caregiver support. *Professional Development in Education*, pp.1–15. doi:<https://doi.org/10.1080/19415257.2021.1879222>.
- [13]. Cohen, S.A., Nash, C.C. and Greaney, M.L. (2021). Informal Caregiving During the COVID-19 Pandemic in the US: Background, Challenges, and Opportunities. *American Journal of Health Promotion*, 35(7), pp.1032–1036. doi:<https://doi.org/10.1177/08901171211030142c>.
- [14]. Dang, D., Dearholt, S.L., Bissett, K., Ascenzi, J. and Whalen, M. (2021). *Johns Hopkins Evidence-Based Practice for Nurses and Healthcare Professionals: Model and Guidelines, Fourth Edition*. [online] Google Books. Sigma Theta Tau. Available at: <https://books.google.com/books?hl=en&lr=&id=m4k4EAAAQBAJ&oi=fnd&pg=PP1&dq=John+Hopkins+&ots=pVJvDJ B5x9&sig=Atpc5pBPeryNhSPeuUjgB6-0IaE> [Accessed 14 May 2024].
- [15]. Demayo, C. (2020). *The Care Burden of Millennial Family Caregivers: A Secondary Analysis of the 2015 AARP Caregiving in the U.S. Survey* - ProQuest. [online] www.proquest.com. Available at: <https://search.proquest.com/openview/a28b7cb1e800cba2d1fd7d2a222a69a7/1?pq-origsite=gscholar&cbl=18750&diss=y> [Accessed 29 Apr. 2024].
- [16]. Ferrari, G., Dobrina, R., Buchini, S., Rudan, I., Schreiber, S. and Bicego, L. (2021). The impact of personal protective equipment and social distancing on communication and relation between nurses, caregivers and children: a descriptive qualitative study in a maternal and child health hospital. *Journal of Clinical Nursing*. doi:<https://doi.org/10.1111/jocn.15857>.
- [17]. Gérain, P. and Zech, E. (2020). Do informal caregivers experience more burnout? A meta-analytic study. *Psychology, Health & Medicine*, 26(2), pp.1–17. doi:<https://doi.org/10.1080/13548506.2020.1803372>.
- [18]. Gerber, Z. and Anaki, D. (2020). The Role of Self-compassion, Concern for Others, and Basic Psychological Needs in the Reduction of Caregiving Burnout. *Mindfulness*. doi:<https://doi.org/10.1007/s12671-020-01540-1>.
- [19]. Golden, S.H. (2022). Disruptive Innovations to Achieve Health Equity Through Healthcare and Research Transformation. *Clinical Pharmacology & Therapeutics*. doi:<https://doi.org/10.1002/cpt.2812>.
- [20]. Griffiths, P., Saville, C., Ball, J., Dall'Ora, C., Meredith, P., Turner, L. and Jones, J. (2023). Costs and cost-effectiveness of improved nurse staffing levels and skill mix in acute hospitals: A systematic review. *International Journal of Nursing Studies*, [online] 147(147), p.104601. doi:<https://doi.org/10.1016/j.ijnurstu.2023.104601>.





- [21]. Hanson, E. and Champeix, C. (2023). Informal Caregivers: The Advocacy and Policy Perspective. *Springer eBooks*, pp.173–188. doi:https://doi.org/10.1007/978-3-031-16745-4_10.
- [22]. International Council of Nurses (2021). *INTERNATIONAL COUNCIL OF NURSES COVID-19 UPDATE*. [online] Available at: <https://www.icn.ch/sites/default/files/inline-files/ICN%20COVID19%20update%20report%20FINAL.pdf>.
- [23]. Irani, E., Niyomyart, A. and Hickman, R.L. (2021). Family Caregivers' Experiences and Changes in Caregiving Tasks During the COVID-19 Pandemic. *Clinical Nursing Research*, 30(7), p.105477382110142. doi:<https://doi.org/10.1177/10547738211014211>.
- [24]. Juba, O.O. (2024). Impact of Workplace Safety, Health, and Wellness Programs on Employee Engagement and Productivity. *International Journal of Health, Medicine and Nursing Practice*, [online] 6(4), pp.12–27. doi:<https://doi.org/10.47941/ijhmn.1819>.
- [25]. Jutkowitz, E., Lake, D., Shewmaker, P. and Gaugler, J.E. (2022). The Effects of Increasing State Minimum Wage on Family and Paid Caregiving. *Journal of Applied Gerontology*, p.073346482211249. doi:<https://doi.org/10.1177/07334648221124913>.
- [26]. Karanikas, N., Weber, D., Bruschi, K. and Brown, S. (2022). Identification of systems thinking aspects in ISO 45001:2018 on occupational health & safety management. *Safety Science*, 148, p.105671. doi:<https://doi.org/10.1016/j.ssci.2022.105671>.
- [27]. Kayaalp, A., Page, K.J. and Rospenda, K.M. (2020). Caregiver burden, work-family conflict, family-work conflict, and Mental Health of caregivers: a Mediation Longitudinal Study. *Work & Stress*, [online] 35(3), pp.1–24. doi:<https://doi.org/10.1080/02678373.2020.1832609>.
- [28]. Keita Fakeye, M.B., Samuel, L.J., Drabo, E.F., Bandeen-Roche, K. and Wolff, J.L. (2023). Caregiving-Related Work Productivity Loss Among Employed Family and Other Unpaid Caregivers of Older Adults. *Value in Health: The Journal of the International Society for Pharmacoeconomics and Outcomes Research*, [online] 26(5), pp.712–720. doi:<https://doi.org/10.1016/j.jval.2022.06.014>.
- [29]. Kim, J., Tak, S.H., Lee, J. and Choi, H. (2023). Effects of Physical Exercise Program for Older Family Caregivers of Persons With Dementia. 38, p.153331752311783-153331752311783. doi:<https://doi.org/10.1177/15333175231178384>.
- [30]. Kim, S., Kitzmiller, R., Baernholdt, M., Lynn, M.R. and Jones, C.B. (2022). Patient Safety Culture: The Impact on Workplace Violence and Health Worker Burnout. *Workplace Health & Safety*, 71(2), p.216507992211263. doi:<https://doi.org/10.1177/21650799221126364>.
- [31]. Kitko, L., McIlvennan, C.K., Bidwell, J.T., Dionne-Odom, J.N., Dunlay, S.M., Lewis, L.M., Meadows, G., Sattler, E.L.P., Schulz, R. and Strömberg, A. (2020). Family Caregiving for Individuals With Heart Failure: A Scientific Statement From the American Heart Association. *Circulation*, 141(22). doi:<https://doi.org/10.1161/cir.0000000000000768>.
- [32]. Kossek, E.E., Perrigino, M.B. and Lautsch, B.A. (2022). Work-Life Flexibility Policies from a Boundary Control and Implementation Perspective: a Review and Research Framework. *Journal of Management*, [online] 49(6), p.014920632211403. doi:<https://doi.org/10.1177/01492063221140354>.
- [33]. Larson, E.B. and Stroud, C. (2021). Meeting the Challenge of Caring for Persons Living With Dementia and Their Care Partners and Caregivers. *JAMA*. doi:<https://doi.org/10.1001/jama.2021.4928>.
- [34]. Law, S., Ormel, I., Babinski, S., Kuluski, K. and Quesnel-Vallée, A. (2021). 'Caregiving is like on the job training but nobody has the manual': Canadian caregivers' perceptions of their roles within the healthcare system. *BMC Geriatrics*, 21(1). doi:<https://doi.org/10.1186/s12877-021-02354-z>.
- [35]. Leung, D.Y.P., Chan, H.Y.L., Chiu, P.K.C., Lo, R.S.K. and Lee, L.L.Y. (2020). Source of Social Support and Caregiving Self-Efficacy on Caregiver Burden and Patient's Quality of Life: A Path Analysis on Patients with Palliative Care Needs and Their Caregivers. *International Journal of Environmental Research and Public Health*, 17(15), p.5457. doi:<https://doi.org/10.3390/ijerph17155457>.
- [36]. Logan, R.I. and Castañeda, H. (2020). Addressing Health Disparities in the Rural United States: Advocacy as Caregiving among Community Health Workers and Promotores de Salud. *International Journal of Environmental Research and Public Health*, 17(24), p.9223. doi:<https://doi.org/10.3390/ijerph17249223>.
- [37]. Lohrasbi, F., Alavi, M., Akbari, M. and Maghsoudi, J. (2023). Promoting Psychosocial Health of Family Caregivers of Patients with Chronic Mental Disorders: A Review of Challenges and Strategies. *Chonnam Medical Journal*, 59(1), p.31. doi:<https://doi.org/10.4068/cmj.2023.59.1.31>.
- [38]. Maguire, R. and Maguire, P. (2020). Caregiver Burden in Multiple Sclerosis: Recent Trends and Future Directions. *Current Neurology and Neuroscience Reports*, 20(7). doi:<https://doi.org/10.1007/s11910-020-01043-5>.
- [39]. Mahmood, Q., Shaista Habibullah and Hazrat Ullah Aurakzai (2024). Effectiveness of simple and basic home-based exercise programs including pediatric massage executed by caregivers at their homes in the management of children with spastic cerebral palsy: A randomised controlled trial. *Journal of pediatric rehabilitation medicine*, pp.1–10. doi:<https://doi.org/10.3233/prm-220135>.
- [40]. Malinda, A. and Soediantono, D. (2022). Benefits of Implementing ISO 45001 Occupational Health and Safety Management Systems and Implementation Suggestion in the Defense Industry: A Literature Review. *Journal of Industrial Engineering & Management Research*, [online] 3(2), pp.35–47. doi:<https://doi.org/10.7777/jiemar.v3i2.274>.
- [41]. Matsangidou, M., Theodoros Solomou, Cecilie Høegh Langvad, Katerina Xynari, Ersi Papayianni and Pattichis, C.S. (2023). Virtual Reality Health Education to Prevent Musculoskeletal Disorders and Chronic Low Back Pain in Formal and Informal Caregivers. doi:<https://doi.org/10.1145/3563359.3596991>.

- [42]. McLaughlin, K.H., Friedman, M., Hoyer, E.H., Kudchadkar, S., Flanagan, E., Klein, L., Daley, K., Lavezza, A., Schechter, N., Young, D. and Group, J.-A. (2022). The Johns Hopkins Activity and Mobility Promotion Program: A framework to increase activity and mobility among hospitalised patients. *Journal of Nursing Care Quality*, [online] 38(2), p.10.1097/NCQ.0000000000000678. doi:<https://doi.org/10.1097/NCQ.0000000000000678>.
- [43]. Mello, K. (2020). An Official Publication of the Society of Hospital Medicine PERSPECTIVES IN HOSPITAL MEDICINE. *Journal of Hospital Medicine* @, [online] 15(5). Available at: <https://cdn.mdedge.com/files/s3fs-public/issues/articles/jhm01505318.pdf>.
- [44]. Miller, K.E.M. and Wolff, J.L. (2024). Shining a Spotlight on Youth and Young Adult Caregivers in a Global Aging Population. *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine*, [online] 74(5), pp.863–864. doi:<https://doi.org/10.1016/j.jadohealth.2024.01.023>.
- [45]. Molinaro, M.L., Polzer, J., Rudman, D.L. and Savundranayagam, M. (2023). 'I can't be the nurse I want to be': Counterstories of moral distress in nurses' narratives of pediatric oncology caregiving. *Social Science & Medicine*, [online] 320, p.115677. doi:<https://doi.org/10.1016/j.socscimed.2023.115677>.
- [46]. National Association for Home Care & Hospice. (2023). *National Association for Home Care & Hospice*. [online] Available at: <https://nahc.org/>.
- [47]. Ng, R. and Indran, N. (2021). Societal Narratives on Caregivers in Asia. *International Journal of Environmental Research and Public Health*, 18(21), p.11241. doi:<https://doi.org/10.3390/ijerph182111241>.
- [48]. Orsini, E., Mireles-Cabodevila, E., Ashton, R., Khouli, H. and Chaisson, N. (2020). Lessons on Outbreak Preparedness From the Cleveland Clinic. *Chest*, [online] 158(5), pp.2090–2096. doi:<https://doi.org/10.1016/j.chest.2020.06.009>.
- [49]. Pauer, D. and O'Donnell, M.P. (2019). What Factors Were Most Important to the Success of the Cleveland Clinic Employee Wellness Program? *American Journal of Health Promotion*, 34(1), pp.106–112. doi:<https://doi.org/10.1177/0890117119887857b>.
- [50]. Qiu, X., Miller, J.C., MacFadden, D.R. and Hanage, W.P. (2021). Evaluating the contributions of strategies to prevent SARS-CoV-2 transmission in the healthcare setting: a modelling study. *BMJ Open*, 11(3), p.e044644. doi:<https://doi.org/10.1136/bmjopen-2020-044644>.
- [51]. Raluthaga, N., Shilubane, H.N., Mulondo, S.A. and Khoza, L.B. (2023). What Support do family Caregivers For Mental Health Care Users Receive From Healthcare Professionals And Family Members? A Qualitative Study. *The Open Public Health Journal*, 16(1). doi:<https://doi.org/10.2174/18749445-v16-e230124-2022-179>.
- [52]. Rich, V. (2009). Nurse Staffing Ratios: The Crucible of Money, Policy, Research, and Patient Care. *psnet.ahrq.gov*. [online] Available at: <https://psnet.ahrq.gov/web-mm/nurse-staffing-ratios-crucible-money-policy-research-and-patient-care#:~:text=The%20standard%20rule%20of%20thumb>.
- [53]. Riffin, C., Wolff, J.L., Estill, M., Prabhu, S. and Pillemer, K.A. (2020). Caregiver Needs Assessment in Primary Care: Views of Clinicians, Staff, Patients, and Caregivers. *Journal of the American Geriatrics Society*, 68(6), pp.1262–1270. doi:<https://doi.org/10.1111/jgs.16401>.
- [54]. Robertson, M.L., Phung, A., Bhatnagar, S., Li, L., Schuchman, M., Wolff, J.L., Ritchie, C.S., Leff, B. and Sheehan, O.C. (2022). Assessing the wellbeing of family caregivers of multimorbid and homebound older adults—A scoping literature review. 71(1), pp.268–275. doi:<https://doi.org/10.1111/jgs.18077>.
- [55]. Rose, L., Thaventhiran, T., Hobson, E., Rogers, R., James, K., Chu, P., Carter, B., Faull, C., Saha, S., Lee, J.S., Kaltsakas, G., McDermott, C. and Ramsay, M. (2023). Digital peer-to-peer support programme for informal caregivers of people living with motor neuron disease: study protocol for a multi-centre parallel group, single-blinded (outcome assessor) randomised controlled superiority trial. *Trials*, 24(1). doi:<https://doi.org/10.1186/s13063-023-07124-3>.
- [56]. Sabo, K. and Chin, E. (2020). Self-care needs and practices for the older adult caregiver: An integrative review. *Geriatric Nursing*, 42(2). doi:<https://doi.org/10.1016/j.gerinurse.2020.10.013>.
- [57]. Schulz, R., Beach, S.R., Czaja, S.J., Martire, L.M. and Monin, J.K. (2020). Family Caregiving for Older Adults. *Annual Review of Psychology*, [online] 71(1), pp.635–659. doi:<https://doi.org/10.1146/annurev-psych-010419-050754>.
- [58]. Simkin, S., Chamberland-Rowe, C. and Bourgeault, I.L. (2024). *Key considerations in health workforce planning*. [online] www.elgaronline.com. Available at: <https://www.elgaronline.com/edcollchap-oa/book/9781802205718/book-part-9781802205718-20.xml>.
- [59]. Stokes, J.E. and Patterson, S.E. (2020). Intergenerational Relationships, Family Caregiving Policy, and COVID-19 in the United States. *Journal of Aging & Social Policy*, 32(4-5), pp.416–424. doi:<https://doi.org/10.1080/08959420.2020.1770031>.
- [60]. Tolson, S. (2021). Health and Safety law affecting architects. *Routledge eBooks*, pp.159–172. doi:<https://doi.org/10.4324/9780429279546-17>.
- [61]. Tough, H., Brinkhof, M.W.G., Siegrist, J. and Fekete, C. (2019). Social inequalities in the burden of care: a dyadic analysis in the caregiving partners of persons with a physical disability. *International Journal for Equity in Health*, 19(1). doi:<https://doi.org/10.1186/s12939-019-1112-1>.
- [62]. Unsar, S., Erol, O. and Ozdemir, O. (2021). Caregiving burden, depression, and anxiety in family caregivers of patients with cancer. *European Journal of Oncology Nursing*, 50, p.101882. doi:<https://doi.org/10.1016/j.ejon.2020.101882>.
- [63]. Vaitheswaran, S., Lakshminarayanan, M., Ramanujam, V., Sargunan, S. and Venkatesan, S. (2020). Experiences and Needs of Caregivers of Persons With Dementia in India During the COVID-19 Pandemic—A Qualitative Study. *The American Journal of Geriatric Psychiatry*, 28(11). doi:<https://doi.org/10.1016/j.jagp.2020.06.026>.

- [64]. Vellone, E., Biagioli, V., Durante, A., Buck, H.G., Iovino, P., Tomietto, M., Colaceci, S., Alvaro, R. and Petruzzo, A. (2020). The Influence of Caregiver Preparedness on Caregiver Contributions to Self-care in Heart Failure and the Mediating Role of Caregiver Confidence. *The Journal of Cardiovascular Nursing*, p.1. doi:<https://doi.org/10.1097/jcn.0000000000000632>.
- [65]. Vera San Juan, N., Gronholm, P.C., Heslin, M., Lawrence, V., Bain, M., Okuma, A. and Evans-Lacko, S. (2021). Recovery From Severe Mental Health Problems: A Systematic Review of Service User and Informal Caregiver Perspectives. *Frontiers in Psychiatry*, 12. doi:<https://doi.org/10.3389/fpsyt.2021.712026>.
- [66]. Weir, R.L., Danilovich, M.K. and Hoover, D.L. (2021). Systematic review of the effectiveness of caregiver training with functional mobility tasks for informal caregivers assisting patients with neurological diagnoses. *Disability and Rehabilitation*, pp.1–8. doi:<https://doi.org/10.1080/09638288.2021.1923073>.
- [67]. Womack, K.N., Alvord, T.W., Trullinger-Dwyer, C.F., Rice, SPM and Olson, R. (2020). Challenging Aggressive Behaviors Experienced by Personal Support Workers in Comparison to Home Care Workers: Relationships between Caregiver Experiences and Psychological Health. *International Journal of Environmental Research and Public Health*, 17(15), p.5486. doi:<https://doi.org/10.3390/ijerph17155486>.
- [68]. Wu, H., Ravinder Sarah Bains and Preston, C. (2023). Physical health caregiver, mental wellness supporter, and overall wellbeing advocate: Women's roles towards animal welfare during the COVID-19 emergency response. 92, pp.103719–103719. doi:<https://doi.org/10.1016/j.ijdr.2023.103719>.
- [69]. www.mentalhealth.org.uk. (2019). *Carers statistics: Mental Health Foundation*. [online] Available at: <https://www.mentalhealth.org.uk/explore-mental-health/statistics/carers-statistics>.

APPENDICES

Appendix 1: Cleveland Clinic's Occupational Wellness Strategy

 <p>OCCUPATIONAL HEALTH</p> <ul style="list-style-type: none"> ▪ Work related injury/Illness evaluation ▪ Clinical case management ▪ Substance abuse testing <ul style="list-style-type: none"> ▪ Urine drug screens ▪ Breath alcohol test ▪ Physical examination <ul style="list-style-type: none"> ▪ Pre-placement ▪ Dpt. of transportation (DOT) ▪ Return to work (RTW) ▪ Fitness for duty (FFD) ▪ Travel medicine ▪ Ergonomics evaluations ▪ Emergency response & support 	 <p>ACUTE & EPISODIC CARE</p> <ul style="list-style-type: none"> ▪ Minor illness and injuries ▪ Annual physical exams ▪ Vaccines/Immunizations ▪ Allergy shots ▪ Influenza vaccines ▪ Health screenings ▪ Laboratory Services ▪ PCP & specialist referrals ▪ OTC Medications 	 <p>HEALTH PROMOTION</p> <ul style="list-style-type: none"> ▪ Company sponsored screening programs ▪ Annual health fairs ▪ Lunch and learns ▪ Managing Cancer at Work ▪ Referrals to company sponsored programs ▪ Walking groups 	 <p>LIFESTYLE MODIFICATION</p> <ul style="list-style-type: none"> ▪ Individual/Group counseling ▪ Smoking cessation programs ▪ Stress management programs ▪ Weight loss programs ▪ Educational programs ▪ Referrals to company sponsored specialty programs
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