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Occupational Health and Safety Standards of Foreign Seasonal Farm Workers: Evaluation of Personal Protection Measures, Policies and Practices

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Abstract

Health and safety standards are paramount to all agricultural workers and more so to the foreign seasonal farm workers. European, North American and Oceanic agricultural sector heavily depends on the foreign workers migrating temporarily to carryout seasonal agricultural work that are not attractive to local citizens. The aim of this chapter is to critically analyze existing workplace health and safety measures, policies and practices of Foreign agricultural workers with a secondary focus on Canadian public health standards that applies to COVID-19 pandemic control and beyond. During the pandemic, many countries opened international labour migration as a measure of economic recovery. Recent news media reported two Caribbean workers in the Canadian Agricultural sector, had died of COVID-19 complications. The basis of this chapter is the research based evidence that the author carried out on occupational health and safety standards of the population of foreign seasonal farm workers using a multi-method data collection: a scoping review of existing standards, policies and practices and personal interviews with seasonal agricultural workers and their employers. This chapter provides a critical analysis of data from multiple sources and from multiple jurisdictions to uncover gaps and malpractices of existing occupational health and safety practice standards for illness and injury prevention of foreign seasonal farm workers.

Keywords: foreign seasonal farm workers, farmers, workers' and NGO perspectives, agriculture work related health and safety, public health measures of COVID-19, illness and injury prevention

1. Introduction

There is a decade long worldwide trend of labour migration from the developing and underdeveloped countries to the developed countries. European, North American, and Oceanic agricultural sectors heavily depend on the foreign workers, migrating temporarily to carryout seasonal agricultural work that are not attractive to local citizens. Long work hours, low pay, hard work and hazardous work environments makes the agricultural sector unattractive to local labour force. Seasonal agricultural

workers migrate to North America and Europe from developing and underdeveloped countries in the regions of South America, Caribbean, Africa, Eastern Europe and Asia with little or no prior training to gain knowledge about occupational health and safety guidelines and issues in the host country. Most of the seasonal agricultural workers to Canada and United States are from 11 Caribbean countries and Mexico [1]. There is abundance of research-based evidence merging from Europe, North America and Oceania confirming agricultural workers, in general, and foreign seasonal farm workers more specifically, as experiencing high occupational health associated health risks and injuries [2]. Focus of this chapter is to elucidate existing occupational health and safety standards and how these standards are applied to foreign seasonal farm workers, using case studies and interview data collected from Canada that offers a universal healthcare coverage to all permanent residents and citizens.

The term “foreign seasonal farm worker” refers to those temporary workers, who come under “work visa” to work in the farms, vegetation, animal husbandry, meat, or fish production facilities [1]. These foreign seasonal farm workers (FSFW) often get attracted to concentrations of agricultural facilities, where workers are paid minimal wages, work has to be carried out under hazardous conditions and workers are required to work long hours [2]. Due to those conditions and the work is only available seasonally, those jobs are unattractive to local people and often requires foreign workers to fill the essential labour shortage. It was reported in the year 2004 that of the 1.2 million farm workers in the United States, 12% of them were migrant workers [2]. In Finland 42% of the berry and vegetable picking industry relies on foreign seasonal farm workers [3]. Canadian agricultural sector heavily depends on the seasonal migrant workers and around 70,000 agricultural workforces (75% of the total agricultural labour force) during the period 2015–2017 were foreign seasonal farm workers [4].

Occupational health and workers’ safety are inseparable issues, especially with regards to FSFWs since their occupational health issues of interest in this chapter are intrinsically related to lack of safety measures. FSFWs go through pre-migration medical screening prior to obtaining work VISA to enter into the host country. Those screening would prevent, those who have communicable diseases that threaten Canadian public and those who have disabilities, to migrate as temporary workers. Recent global pandemic has added a new dimension of public health related safety issues to the population of migrant workers. A section of this chapter will provide an overview of recent experience using a scoping review of gray literature and government reports. Through an occupational health and safety lens, this chapter illustrates a wide spectrum of issues; starting from the contractual agreements that impede equitable access to health and safety measures, through micro level migration related cultural and language issues to macro level housing and safety matters.

There is under reporting of injury and illnesses of FSFW due to the temporary nature of the work, language and cultural barriers [5] and these individuals’ participation in the healthcare is minimal [6]. Underreporting of injuries and illnesses by the FSFW is partly due to fear of being deported or losing their job [5], in line with systemic structural issues. Two lists are maintained by employers who request foreign seasonal workers; a named list in which they specify the names of the workers whom they want to come back next year and then unnamed list where the liaison office from the sending country provide a list. In order to be in the named list, workers need to be the chosen ones from the previous employer and those who demand health and safety measures are unlikely to be chosen ones.

Two-year chart review in the United States reported 516 cases of work related injuries, over two seasons, that includes; muscle and joint strains (31%), falling (18%), object strikes (8%), and poison IV contacts (10%) [6]. There are considerable

number of female FSFWs working in agricultural sector. It was noted in the North American literature that female FSFWs are at increased risk of injuries due to improper machinery, equipment and tools use [7]. Among pregnant workers, increased incidences of pesticide and weedicide chemicals and veterinary pharmaceutical exposures had resulted in reproductive health concerns and miscarriages [7]. Studies in Canada and US among FSFWs have identified agrochemicals and heat exposure related illnesses, musculoskeletal injuries from repetitive motions, ubiquitous posture, resulting from manually lifting heavy loads, in addition to motor vehicle and machinery injuries [1]. Migrant farmers live in poor housing conditions in the host country and the researchers in Canada and US have noted unhealthy living and working environments, with the presence of mold, pesticide, weedicide residues, infested with disease carrying pests, rodents, mice and cockroaches in occupational and residential settings. Authors from a US study found a significant association between poor indoor living environments and upper respiratory symptoms among migrant farm workers [8]. Given these research-based evidence on farm workers tendency to be prone to illnesses and injuries and engagement in high risk occupations, occupational health and safety guidelines and procedures plays a critical role in this population. A section in this chapter will outline findings from a scoping review on existing guidelines lead by authors research group.

The living conditions and health and safety issues of FSFWs raise a global health and human rights issues. Stemming from research findings, many researchers share concerns on violation of human rights in access to sanitary conditions and denial of access to timely and needed healthcare. This vulnerable population shares common occupational health safety issues despite the country of origin and the host country of working. This chapter illustrates case studies and research conducted in one province in Canada, Nova Scotia, while elucidating the issues that are common to all migrant farm workers around the world that are stemming from the literature. Canada employs between 27,000 and 42,000 foreign seasonal farm workers annually and United States employs around 3 million from Caribbean countries [9]. Of these positions, 1855 were in the province of Nova Scotia, where case studies were resonated [10]. Foreign seasonal farm workers come to Canada under the Seasonal Agricultural Workers Program (SAWP) and Temporary Foreign Worker Program (TFWP). SAWP workers come to Canada from Mexico and 11 Caribbean countries and can stay and work in Canada for up to 8 months [1]. Canada has a publicly funded universal healthcare system that covers necessary primary, secondary and tertiary healthcare with an exception of coverage for prescription medications, dental and vision care, physiotherapy and ambulance services, for all citizens, permanent residents and those who are on minimum of one-year work permit [11]. Whereas refugees and refugee claimants are covered by the Interim Federal Health program which covers almost all of the basic care [11]. Students are eligible for government health insurance after 1 year of residency in Canada. FSFWs do not fall into any of those Canadian healthcare eligibility categories due to their eight-month long contract obligations even if they return year after year for nearly 15 years. FSFWs contractual obligations dictate that the need to purchase private medical insurance, a portion of the cost is paid by the employee from hourly wages and the rest is covered by the employer [12].

1.1 Health and safety insurance coverage

The SAWP workers' contract stipulates that the workers are required to have health insurance and additional workers' compensation insurance coverage and transportation to medical facilities must be provided by the employers [13]. However, the reality of the situation requires further attention. Our research

revealed contradictions to the written obligations, that are clearly stated in the contract documents. Wherein the employers' agreement states *"That according to the approved guidelines and regulations in the province/territory where the WORKER is employed the EMPLOYER shall take the WORKER to obtain health coverage in a timely manner."* [13], which never becomes a reality since provincial regulations requires minimum of 12-month residency in the province of Nova Scotia and SAWP workers who comes for an eight-month contract never becomes eligible. New provisions have been added to the contract due to COVID-19, whereby the employer is required to submit a Housing Inspection Report prior to or during the time of application to Citizenship and Immigration Canada to obtain farm permits under SAWP (12). Workplace safety insurance in Canada is provided by provincial insurance provider Workers Compensations Board of Canada and the SAWP contract indicates that the employers must ensure that the workers are covered by provincial workplace safety insurance at no cost to them and in a situation that private insurance plan is preferred employers, must ensure the coverage is the same as the provincial plan [12].

1.2 Vulnerability

Only a few studies have examined the health and safety of SAWP in Canada and how the contractual obligations were met was understudied. The limited research has revealed significant barriers for healthcare accessibility, lack of proper occupational health and safety standards and noncompliance to existing guidelines. Recent global pandemic of COVID-19 has claimed three FSFW deaths and thousands of other FSFWs have been tested positive in Canada. There is an outcry from activist groups representing FSFWs, demanding actions on justice on migrant workers' health. This population falls under vulnerable populations based on Canadian public health guidelines. According to the Public Health Agency of Canada, vulnerable communities of COVID-19 includes those with; difficulties in communication, difficulties in accessing healthcare and engaging in preventive activities such as frequent hand washing, covering coughs and sneezes, difficulties in accessing transportation, unstable employment and working conditions, living in geographically isolated remote areas and insecure and inadequate housing conditions [14]. Albeit FSFWs have all of the above conditions that categorize them as vulnerable to COVID-19, there were no proper health safety measures taken to prevent their exposure to COVID-19.

This chapter comprise findings from three studies. Author led research team carried out a scoping reviews of the documents from non-governmental and governmental agencies, specifically aiming at the health and safety of FSFWs, followed by individual interviews with FSFWs and farmers (their employers). Third scoping review was carried out on COVID-19 related public health measures and extent to which these measures were applied to FSFWs in Canada using gray literature, pertaining to pandemic related health and safety concerns of the FSFWs. In this chapter, attention will be paid to contractual obligations of FSFWs through the documents available to them and the status of implementation of occupational health and safety guidelines will be examined through. Resurrection of occupational health and safety is a joint effort of the workers and employers. I have presented an exploration of present working conditions, individual and systemic barriers and incentives that prevent/promote hazardous working environments. Finally, existing guidelines and policies and the research-based evidence on individual and systemic factors that impede or promote occupational health and safety of FSFWs will be applied and evaluated to COVID-19 pandemic case scenario using the findings from the third scoping review. Given the limited geographical scope of the authors interview data, comparisons will be made to research findings that

are stemming from other national and international research findings. This chapter will be finalized by making recommendations, on how to manage personal protective measures, implement policies and practices, focusing broadly on physical and mental health of FSFWs.

2. Occupational health and safety standards, guidelines, and policies

Foreign workers' legal residence status is tied to their employment contractual obligations, which stipulates access to healthcare, occupational health insurance, working and living conditions. Thus, individual workers lack full control over maintaining their own health and safety conditions, even if the guidelines are stipulated by the inter-governmental authorities of sending and receiving countries. The FSFWs' legal residence status in Canada is entirely based on their employment contractual stipulations that results in lack of control in determining their own health and safe working and living circumstances, since they are fully dependent on the conditions set by their employers [15–17]. The situation of lack of policies and regulations to protect foreign worker conditions is not unique to Canada. In Norway, though they have established different regulations for foreign seasonal workers, called transitional rules, the Norwegian researchers found these state-level formal labour regulations were not sufficiently implemented at the farm level resulting in structurally disempowered Polish farm workers, who had to accept the unhealthy working conditions provided by their Norwegian employers [18]. In Thailand, the existing regulations for local farm workers' protection from; labour, health, housing and sanitary conditions and health insurance, do not apply to migrant workers [19]. More so the existing policies, regulations and standards are not translated into accessible information. Canadian researchers have identified lack of information resources as a barrier to the maintenance of FSFWs health in Ontario, British Columbia, and Nova Scotia [15–17]. The situations of lack of proper labour regulations to protect migrant farm workers and evidence of non-compliance to existing guidelines were universal and were not unique to one country.

In the first scoping review, we reviewed 27 online documents including FSFW recruitment documents, contracts, and information provided by relevant non-governmental and governmental agencies, pertaining to occupational health and safety of migrant farm workers in Canada. Inductive analysis of the text data collected from the documents revealed (a) lack of clear identification of parties responsible for implementing and monitoring health and safety guidelines and (b) there were no mechanisms of facilitating existing health and safety information dissemination to FSFWs. Upon further review, it became clear that documents were not targeted specifically towards FSFWs and several documents were written at very high reading levels, at collage level and none of the FSFWs has reached that level. This “*passing the buck*” practice of evading the responsibility to keep FSFWs occupationally healthy and free from injuries needs to be fully explored.

2.1 Parties responsible for monitoring health and safety guidelines

The scoping review of the documents revealed that the health and safety of Canadian FSFWs is the joint effort of three parties: a) workers, b) employers, and/or c) third parties including federal health agencies, Canadian police, workers' home government organizations and agents, farm owners (where not the employer), and local, provincial, and Canadian labour and social development departments. Workers are responsible for helping employers to make the workplace safe by ensuring they obtain sufficient training to safely carry out their assigned

tasks and refusing to carry out tasks they deem unsafe. Employers (farmers) are responsible for ensuring safety in the workplace by following provincial labour regulations and occupational health and safety guidelines. Third parties are responsible for monitoring the necessary guidelines and policies are followed by the two parties, workers and employers. None of the documents indicated, how the multi-partied responsibilities are imposed, implemented, monitored and assessed to ensure health and safety of FSSFWs. According to the government of Canada, Temporary Foreign workers your rights are protected document stated “*“All workers in Canada have the right to a safe workplace. Canada has laws to protect workers from unsafe working conditions. While some jobs may have more risk than others, no one should feel that the work they are doing is unsafe.”* [13]. In reality, the protection of the rights are not facilitated, and the laws of protection are not conveyed. Even when they feel that the work is unsafe, there is no way out of the situation due to the fear of losing their job and denial of rehiring again. The international literature suggests two models of responsibilities related to Occupational Safety and Health of workers: (a) introspective model, the one which directs resources to the worker’s need and (b) extrospective model is the one, which ensures safety standards prior to seeing the effect on workers [3, 4]. Given that FSFWs work in hazardous work environments, their risk of occupational injuries is high and the need to follow safety protocols should be made mandatory prior to seeing the need. Therefore, the extrospective model would be more appropriate.

2.2 Health and safety information dissemination

The shared responsible model for FSFWs workplace health and safety guidelines lack implementation strategies and therefore the level of outreach is questionable. All documents listed pertinent information about health and safety of FSFWs, the language used in each document was not necessarily targeted towards workers and there are no means to ensure the workers understand about occupational health and safety measures. Since the documents are not written at the level of their comprehension, it is unlikely the workers read them. Our research revealed that eighty-four percent of the English documents were written at a college level or greater and the two contracts that FSFWs workers are required to sign before coming to Canada are written at a college graduate level. Thus, while information and resources exist (although limited), it is questionable as to whether this information is finding its way into the hands of FSFWs. This echoes the findings of an Australian study, whereby the researchers found that there is a significant quantity of occupational health and safety resources that exist in Australia, though this information does not necessarily make it into the hands of workers, thus leaving migrant farm workers to rely on word-of-mouth information which may not be reliable [20]. Arguably, the existing health and safety regulations are there for marketing to attract FSFWs and for the purpose of branding the name of the host country in the international labour arena, not necessarily with an intention to keep the workers healthy and safe.

3. Occupational health issues: tri-partied perspectives

Agriculture related health issues has been categorized into eight categories; personal, psychosocial, farm, machinery, chemical, biological, and musculoskeletal [21]. In those categorizations, personal health issues are related to injuries from machinery and farm operations and the risk of those are associated with old age (fall and traumatic injuries), young age (machine operations) and chronic health conditions that impairs mobility. Stress has been noted as a major psychological

illness and long hours and working alone in an isolated environment with less access to healthcare facilities put this population at increased risk for stress. Farm machinery related injuries are noted as resulting from old equipment and defective protective gear use as well as lack of safety labelling and protective structures on the machines [21]. Chemical and biological exposure related illnesses are primarily due to pesticide exposures and biological exposures are noted as from micro-organisms, viruses, toxins (from biological sources), spores, fungi, and bio-active substances that are a threat to human health [21]. A complete list of health issues of migrant farm workers in North America has been published and includes; musculoskeletal, ocular, dermatologic, psychological and sexual and reproductive health [22].

The author's research group conducted individual interviews using a semi-structured interview guide among three groups; FSFWs (sample size of eight), local seasonal farm workers (sample size of four) and farmers (sample size of six), who employed them in the province of Nova Scotia, Canada. This was a hard to reach population and snowball sampling method was used to find participants. Participating FSFWs were from Mexico and Jamaica and language difficulties were facilitated using both Spanish and English interviews. The age range of FSFWs was 33–52 years and the local farm workers were between 25 and 53 olds. The FSFWs all were married, and each have between 1 and 6 children, all of whom are living with their wives in their country of origin. Only 2 female local farmworkers were among the study participants. There were 25 different health conditions mentioned by the workers that can be categorized into two groups: work related physical environment issues such as allergies, asthma, sun burns, eye irritations, skin conditions and sunstrokes; whereas occupational related Injuries included were; hernia, pain and soreness, slipped disk and tendonitis. Other illnesses noted were appendicitis, arthritis, blood pressure, dental problems, diabetes, encephalitis, flu, heart murmur, stomach cancer and ulcer. No psychological issues were reported, but the discussion eluded of work related stress, loneliness and missing home. The occupational health issues noted by the study participants fall into the categories noted in the literature for all agricultural workers [21] as well as migrant farm workers in Canada and elsewhere [22].

3.1 Occupational health and safety issues: Workers perspective

One of the perspectives that we uncovered in our interview data analysis was health issues emerging from lack of proper personal protective equipment. Besides one video, there were no other instructional detailed information releases on personal protective equipment use that we were able to identify. Personal protective equipment (PPE) to be used in the farms included in a video were: work gloves to prevent cuts, bruises and to protect from animals; hearing protectors to prevent noisy equipment use (more than 85 decibels), eye protectors (safety glasses), hard hats (depending on the type of work), steel toed boots to protect from heavy construction areas, reflective clothing to ensure visibility to protect from stuck by farm machinery, respirators and face masks to protect from pesticide and dust exposures and chemical safe overalls to protect from chemical exposures [23]. The English language instructional video further instructs to use sunscreen to prevent from skin burning, sunglasses and a sun hat. We have no evidence that FSFWs have watched any videos or any other paper-based instructions on this matter. However, availability of information from different sources are evident.

Our scoping review of the documents revealed that three parties are responsible for ensuring these personal safety and health protections from a safety standpoint [23]. FSFWs are responsible to ensure that they obtained necessary training to ensure workplace safety and some places have made the videos, posters and

pamphlets available. Most of the information stand as optics to satisfy the government labour regulations but there are no assurance or mechanisms to ensure the information is actually reaching out to workers. The government of Canada seasonal agricultural worker program contract indicates that it is the responsibility of the worker to refuse to work in areas that deem unsafe. Employers are responsible for ensuring workplace safety and to follow labour regulations in their jurisdiction [12]. Our interview findings uncovered the reality.

According to one FSFW:

“And when I first got there, it was like in early May. I remember it was still really cold in Nova Scotia in May. Like it was often rainy and below like 12 degrees, so like everyone’s hands were numb and there was no, no like [to protect my hands]. I sort of got the initial vibe of like toughen up, but like I have really bad blood circulation and like I just didn’t have that problem in British Columbia [one of the warm weather provinces], because the temperature was just never that low where we were working.”

The above explanation indicates the status of protective equipment use. Even basic winter gloves to protect from frostbites were not used. One may argue that it is up to the worker to use them but if the use of protective equipment was made mandatory and monitored, the bad blood circulation would have been avoided. Another aspect that emerged from above statement was the intention of avoidance of PPE use was to be “*toughen up*”, making themselves strong to the extent to make adaptation to cope up with the environment. Additional Personal protective equipment use was seen by workers as “*getting in the way*” to carry out the assigned tasks quickly. There were also incidents of knowing the need to use PPE, but without proper inspection from the authority or appropriate guard, they miss PPE use and then become prone to serious injuries. One participant explained an injury occurred in a corn field.

According to him; “*Yeah llike when I work in the corn field, we have goggles, we always have glasses on. One day I did not have glasses and a leaf probably whacked me in the eye when I was walking through the corn. It was bad and I had to go to the doctor and take time off.*”

This clearly indicates that this shared responsibility of PPE use was not implemented appropriately.

Participants reported exacerbation of existing chronic conditions, such as high blood pressure, diabetes and ulcer, but the doctors were attempting to use disease management using a life style change approach. This was something FSFWs noted as distinct from their country. They are used to getting treatment even for slightly elevated blood pressure and ulcers. They indicated that:

“Every day if I go to a doctor, doctor in Jamaica say, I must be sick, can’t take it anymore, if I do not have blood pressure medication and my doctor will give me pills. So when I come up here and if I go to doctor here, if I don’t have medication that I took from Jamaica there, they won’t give me [prescriptions]. There [in Jamaica] for example there in there put in machine and my hand there and the blood pressure is saying one forty they give me pills. Here [in Canada] they say it is not too high.”

The author’s research revealed undesirable work and living environments. They indicted that “*Working here is different from home. Even if it is raining you still have to work. Working seven days a week in rainfall and sunshine. Sun gets really, really hot you still have to be out there.*” However, according to the FSFWs’ contract, employers are

supposed to provide suitable accommodation and workers have the right to refuse the work deem unsafe [12]. The poor conditions of bunk house they live lead to exacerbation of asthma and respiratory conditions. As one FSFW noted:

“Conditions in bunkhouses were generally poor and often overcrowded....you get put in a house, and that was disgusting, cause that’s not how we live in our country. Oh my god. Musty smelling. Like dogs, smells awful. Two to three guys in a little room, single beds. You got at least six or eight men in the bunkhouse.”

Occupational health issues are not limited to lack of PPE use and unhealthy work environments. Participants reported ergonomic conditions associated with repetitive and overuse of hands and knee problems for standing up for too long, back problems after being in the bending down posture for too long. Literature indicates the most prevalent exposure was related to repetitive movements and resulting illnesses that varied from carpal tunnel syndrome, knee, neck and shoulder issues and back problems due to spending prolonged periods of bending down [22]. A study conducted in Ontario, Canada in 2003 interviewed Mexican and Caribbean workers, in their country after returning from Canada and they have indicated that they received proper training to handle machinery and chemicals but they were not given necessary protective equipment to wear [24]. As our study participants revealed those participants also expressed fear of reprisals if they report to authorities. One in five workers they interviewed reported ailments or injuries including vertebrae and knee problems, skin diseases, respiratory tract infections, hypertension, allergies and depression was reported among older workers [24]. Those conditions were similar to problems noted by our study participants.

Irrespective of stipulated work hours in the contract seasonal workers chose to work long hours, as long as 9–12 hours a day, for 6–7 days a week and inevitably they became prone to repetitive injuries and posture related ergonomic health conditions. Our study participants added knee problems resulting from standing up for 9–10 hours a day for 6–7 days a week. Attending primary care physician ordered tests and a specialist appointment was given after 8 months of the date of diagnosis. As one worker said:

“Uh, da da da, they wanted to do a scope, last time I was talking to them and I need to wait to get down to a certain specialist in [name of town]. So I think that would’ve been back in January now. And they said it could be 8 months to a year before I can get down to see this gentleman.”

Given that the FSFWs are in the host country for 8 months only, leaving him to see the specialist is not realistic. One study participant indicated that he had to continue working, limping and no other treatment like physiotherapy nor aids such as knee pads were offered. This neglect of FSFW’s work related injuries were common issue that some of the other study participants also revealed. This brings another dimension; racism, discrimination and neglect faced by FSFWs in accessing healthcare and offering solutions that are impractical while ignoring quick fix practical solutions to help patients falls into the realm of neglect.

Mental or emotional health issues were not reported among our study participants but expressions like “missing home” and “home is a paradise” were always mentioned. Our participants’ conversations spring from missing home, family and independent lifestyles that they had in their country of origin. They often mentioned they are “living for home” or “working for home” and the living conditions, long hours and missing their family do not matter much. A study conducted among Mexican FSFWs to Canada indicated their expressions of anxiety and/

or mood disorders as “nerves” without medicalizing into a disease category [22]. Those research participants’ explanation of feelings of missing home and loneliness is similar that we have observed among our study participants. When considering occupational health of FSFWs it is vital to pay attention to the symptoms of mental and emotional health without labelling since these conditions go undiagnosed or the workers try to hide to show them as able bodied or try to be “toughen up”. There was a case of a memory loss of one of his bunk mates as reported by a study participant, presumably, due to an accident of hard object hitting his head or encephalitis. Wearing helmets was a foreign concept for these workers. He noted that his co-workers stayed in the hospital for a month and when he returned, he was unable to remember, where he was and what his friends’ names were. The employer sent the worker home (back to the country of origin) upon returning from hospital. This type of injuries can be considered as permanent damages with lifelong disabilities and impairments. Apparently, the practice of sending the workers, who are ill and unable to carry out the work as per contract, called medical repatriation is a common practice and a study conducted in Ontario found there were 4.62% respirations due to medical reasons. Of those 41.3% were surgical related and 25.5% external injuries including poisoning reported during the study period 2001–2011 [25].

3.2 Occupational Health and safety issues of Canadian farm workers

All of the four (two females and two males) Canadian seasonal farm workers, who participated in the research lived outside of the farm and one worked part-time two days a week and the others work 6 days a week. They noted that their work hours are negotiated with the employer and they often get a 15-minute break before lunch, one-hour lunch break, another fifteen-minute break in the afternoon and “*leave home to make supper*”. They have the negotiating power with the employer since they are protected by the Canadian labour regulations. FSFWs never mentioned about taking fifteen-minute breaks but taking half an hour for lunch. FSFWs’ intention was to put as many as hours possible during their short stay in Canada with the sole aim of “working for home”, for feeding their family and for educating their children and they do not have the option of having unemployment insurance for the rest of the year that they are not working, like Canadian farm workers do. A scoping review conducted on published research among Canadian temporary foreign workers concluded that their health issues are resulting from precarious immigrant status [26]. This precarious immigrant status is a real threat to their occupational health. Though repetitive injuries, aches and pains may be common to all farm workers, inevitably Canadian farm workers are more educated on health and safety regulations and PPE use than FSFWs, who face language and accessibility barriers. It was also revealed in our research that Canadian farmers are accustomed to take over the counter medications, pain killers and personal protective gear such as sun protectors, goggles, kneecaps and gloves.

3.3 Occupational Health and safety issues of FSFWs: employers perspectives

Two different opinions about occupational health of FSFWs were uncovered, when compared with FSFWs’ ideas about issues and Canadian farmers (employers’) sentiments about their foreign employees’ health issues. Some farmers mentioned the workers as “whinny”, those who take minor illnesses, like muscle sore, cuts and bruises that general Canadians would ignore, as serious. Farmers further explained the reason for being concerned about minor illnesses as major, because “*their physical health is their bread and butter*”. Following two quotes from two farmers supports these perspectives.

“We always do incident reports. But there’s never anything serious. It just seemed like one might’ve had like uh tingling in his foot or something just really odd [minor complain]. And something that that the typical Canadian would ignore. Like they say the typical North American man acts like he’s dying when he just has a cold, but then if he’s really dying, he ignores it and then it’s always too late. But those guys would complain, where a lot of Canadian guys will just shrug that off. One of our guys, one of our local people had a stroke here at work and he ignored it and he thought he hurt his arm trimming cabbage.”

Farmers were also under the impression that “they [FSFWs] are thinking oh you know well there’s a health care system here that’s free and everything and then I want to take advantage of it. Healthcare is not free [in their country],” and when in Canada, a portion of insurance cost is deducted from their hourly wages. It is mandatory for them to have private health insurance and a portion is also paid by the employer. The notion of FSFWs as complainants of minor illness that the Canadians would shrug off was consistent with all of the farmers that we interviewed. One of the facts that sprung out of farmer’s description of workers’ occupational injuries, was farmers never paid attention to the fact that those injuries would have been avoided if the workers were wearing protective equipment or if they were given training on correct posture and maneuvering. For example, one farmers explained an eye injury that could have been avoided if the worker was wearing goggles or safety glasses as follows.

“He was picking roots and he was tugging on a root like that, and the root let go and went up here and hit him in the corner of the eye. So you know, he got some dirt in his eye and stuff and the farmer’s wife took him out patients clinic and they flushed his eye out and stuff, put a little patch over it and they [healthcare providers] told him he would he definitely gonna live and go back home fine.”

However, serious incidents such of breaking two ribs after falling from a moving wagon was reported by the farmer as the fault of the worker since he was sitting on a pole, something he was not supposed to do. There was no other safe sitting arrangement (seat with a belt to have buckled up) in the wagon. Had the worker have received proper training and safety instructions, on riding on a wagon safely, the injury would have been avoided. However, the following description indicates that the fault was always on the worker and farmer took this serious debilitating injury very lightly. Safety instructions should have been given prior to assigning the tasks.

“Another fella he was actually doing what he wasn’t supposed to be doing and he knew he wasn’t supposed to be doing it but. He was standing on the pole of the wagon when they were gathering up irrigation pipes, he slipped off the pole and hit the arm on the tractor, kind of caught him underneath the rib here, and I think it cracked two ribs or something. And they taped him all up and you know and he I think he was off a week or something.”

There were serious incidents of diagnosis of encephalitis, exacerbation of chronic conditions such as high blood pressure among FSFWs, diabetes, ulcers, and hernia that the farmers reported. Chronic conditions such as diabetes and ulcers may not have direct links farm work related occupational health issues. But work-related stress and poor eating habits can have indirect impacts on diabetes and ulcers. There is literature suggesting high prevalence of hernia in males engaged in manual labour. Encephalitis is known to be associated with tick bites and one worker, who contacted encephalitis was left with a lifetime disability of memory

loss. As one farmer indicated the worker who contacted encephalitis was young, tall healthy looking Mexican and he was confused in the first week of arrival. Upon admission to the hospital his condition deteriorated so fast he was in a medically induced coma. Mexican government flew his wife over and he was in the hospital for the whole season. The employer washed his hands off by saying *“well that as soon as he was in the accident [ward], we didn’t see him anymore and we didn’t deal with it at all. It was just it was all the governments [Mexican and Canadian] and the medical system, the ambulances and then and right away his liaison service had to get involved. We did go down to visit him a couple times and so.”* No investigation was carried out how he contacted encephalitis and how his family survived without him sending money and how they are surviving with a permanent debilitating condition afterwards.

Interview data revealed that the employers treated FSFWs seeking treatment for occupational related injuries as *“whinny”*, *“those who take advantage of the healthcare system”* and *“seeking treatment for minor ailments that Canadians would shrug off”*, within which even serious injuries were considered as the fault of the worker. There is an outcry of mass media in the past about medical repatriation, that seriously ill workers are sent back to their country without treating in Canada. Canadian researchers indicated that the employers lack of empathy lead to vision loss of a worker who sprayed pesticide accidentally on his eyes and he was not allowed to have a shower and ultimately the worker was medically repatriated. He was not given any compensation since he did not know how to maneuver the governance system [27]. Some NGO representing workers’ rights have questioned lack of bargaining power to represent FSFWs rights and privileges. A systematic review conducted among studies on Canadian temporary foreign workers in the agricultural sector included the similar health issues reported by our study participants, mental health, poor housing and sanitation and they also noted language barriers in accessing health-care all shaped by the precarious immigrant status in Canada [24].

Our research revealed one farm that is out of ordinary, farmers cared about the occupational health and safety of workers. This farm is run by a young university educated couple. According to the male owner as a rule, the workers break off around lunch time and then rest until the sun set, at 4:00 pm, to avoid sun burns and heat strokes. He mentioned about two people dying of heat stroke in the past. Another farmer said if a FSFW is sick he tried to give them time off or assign light duties to him and *“if they can’t work there is no expectation from the farmer they should work.”* He further iterated they have developed a culture that they do not want anybody to get hurt. The second farmer further iterated that the FSFWs are well experienced and some of them come for many years to the same farm and they do understand what is safe and what is unsafe.

4. COVID-19 public health measures – testing, isolation, social distancing and contract tracing

The primary focus of this section of the chapter is on the provision of evaluation of barriers and challenges to meet the government regulated public health standards-personal protective measures of infection control for COVID-19, focusing on living and working conditions of FSFWs that uncovered in aforementioned research findings. I was unable to find published scientific research findings on this population on the topic of COVID-19. This section covers findings from a scoping review of gray literature and government documents, as a starting point for further scientific explorations. According to the advocacy group Justice for Migrant Workers more than 1000 Canadian migrant agricultural workers have been diagnosed with COVID-19 and three deaths were reported among them [28]. Canadian government opened

boarders for FSFWs as a response to an outcry from farmers across Canada indicating billions of dollars will be lost in the food production sector due to labour shortage. The Canadian government has developed regulatory conditions that included a safety measures of mandatory house inspection and a report obtained within the past three years has to be submitted by the employer at the time of application or else with an agreement to submit an updated inspection report within the duration of FSFWs employment [29]. There was a link in the document to the letter provided by the minister of health that gives other mandatory public health measures such as 14-day quarantine requirement, with self-isolation, accommodation allowing social distancing of 2 meters apart, providing materials for adequate sanitation and cleaning and disinfecting surfaces regularly [29]. Our previous research indicated that pre-COVID health and safety measures never reached the workers, not written at a format and a linguistic level of comprehension of the workers. We have evidence from the scoping review of COVID-19 incidents reports that the new public health measures were also limited to inaccessible printed materials and never reached a state of full capacity implementation. No monitoring was provided in some cases and when complains were launched about farmers the government lead inquiries were not independent and unbiased. The following description were revealed from the brief scoping review.

The scoping review revealed reports of non-compliance to public health measures. It was said that *“upon the worker’s arrival, the government has gone on to take little responsibility for the health and safety of migrant workers. This has allowed for an increase in migrant worker abuse and the spread of several outbreaks within migrant populations.”*

The form of abuse and neglect that dated few years back had continued throughout up to the pandemic taking different forms. It was reported that *“Between 2009 and 2018, 3100 complaints were submitted by Mexican workers to the Mexican Ministry of Labour on the issues they faced on Canadian farms, reporting frequent instances of worker abuse, rat-infested dormitories, sewage issues, and gas leaks.”* [30], all of which had happened within the last 3-year period. It is unclear that if the housing inspection report was submitted within the three-year period that granted migrant workers to be employed and if so how those critical public health threats were not detected during the inspection. Perhaps the answer is related to the following report. Workers who were in quarantine in un-health living environments had complained through migrant right activists and the “government agent” informed the supervisor of the farm about an upcoming inspection and they said *“that a supervisor on the farm chose four employees to speak to the agent. The supervisor told the workers to say they were being treated well, that they were being paid OK, even though they weren’t, and that if they don’t communicate these things to the government agent, that they’re going to be deported and they’ll never work here (as part of) the program again.”* [31]. Many researchers had pointed out the precarious immigrant status had created diminished power for change and demand for rights for FSFWs. There were also reports of non-compliance to social distancing, when quarantined up to 40 migrant workers in a large bunk house and they had to share the same bathroom [30]. According to work the living conditions had made it impossible not to spread the virus.

Pandemic brought new dimensions of abuse and neglect due to mandatory confinement regulated by the government. As one document (30) reported a statement of a FSFW:

Some farm owners have threatened to fire workers for leaving bunkhouses during quarantine while others have refused to allow migrant workers to leave or to allow visitors to come onto the farm property throughout the pandemic. One worker recounts a farmer telling him, “If you set one foot off the farm, I’ll be the first one to call the cops.”

International Labour Organization has given very limited attention to migrant farm workers working conditions, in terms of enforcing legislature to safeguard temporary foreign workers' occupational health and safety, in addition, the host country legislature is poorly applicable to this vulnerable population of workers due to their nature of temporariness and precariousness [32]. My scoping review findings supports that existing situations of neglect and abuse of FSFWs occupational health issues has further exacerbated due to COVID-19 related public health control measures as one NGO participant summed up “*Because we do not have proper rights, they step on our necks,*” [28].

5. Limitations for generalizability

This chapter consisted of findings from three different types of analytical studies, one of which consisted of analysis of online resources available to farmers and workers, the second study brought forward farmers' perspectives, obtained from personal interviews with them; both were conducted according tri-council guidelines after approving by the Dalhousie University Health Sciences ethics review board. Our interview data collection and analysis assured scientific rigor and the research team included three university professors: an experienced qualitative researcher, Canadian occupational health expert researcher and an immigrant health research expert. Findings from the third study, a scoping review of COVID-19 associated health risks for FSFWs were analyzed using online government documents and reports from media investigations. It is customary that media tend to draw attention to negative incidents to raise awareness among authorities. Without carrying out national inventory of all farm related occupational illnesses and injury, generalizability of findings is not warranted. There were common health and justice issues that came from published research on migrant farm workers in Canada and in other geographies that warrant further attention. Even barriers related PPE use and lack of knowledge and training on safe working practices were common across different geographies, nationally and globally.

6. Recommendations for improvement: farmers and workers suggestions

Farmers were under the impression that there is always room for improvement. One of the suggestions made was having physiotherapist and massage therapist to train the workers. One farmer put this as:

“Well one thing I’ve been thinking about on our own farm and maybe in other farms it might apply, or the program in general but give given that a lot of the work the guys do is kind of repetitive motions and things like that. And I was thinking like the physiotherapists or [ergonomist] who can train people you know on good posture and showing them certain exercises you can do every hour or so to sort of you know do minimize carpal tunnel and you know things [repetitive motion injuries] like that.”

Another farmer suggested rotating workers on the same task, within one work shift to avoid repetitive injuries and also to reduce stress of engaging in the task. Another obvious recommendation was to provide training to avoid ergonomic and posture related injuries. According to one farmer:

“I’d like to try to get some of that in place, ‘cause they you know they, a lot of the work is repetitive physical work and I mean rotating if there’s a crew and there’s

different functions, so the guys kind of rotate through the day to the different positions so the, whatever the motions are they're doing, kind of changes to give the body a chance to recuperate and not get in to repetitive stress, tight syndromes uh muscle stress or whatever. So that that that's one thing there, I'd like to see."

Another farmer suggested to have a fact sheet written in simple language. Farmers felt the need to support the workers to be healthy and to avoid occupational related injuries.

FSFWs also made suggestions for improvements. One suggestion was to have easy to understand safety training materials to be developed. For example, cartoon like characters to get the messages across to carry out tasks safely and provided an example of Mickey mouse using the rake and also to train them how to safely sharpen the tools and proper ways to kneel and stretch. A study conducted in Canada in the year 2003 interviewed FSFWs in their country of origin, after returning from their work term in Canada. They recommended to continue health insurance that they purchased while working in Canada, after they returned home enabling them to get the necessary treatments for the ailments and injuries that occurred while working in Canada [24].

7. Conclusions

In summary, this chapter provided an overview of foreign seasonal farmworkers occupational health and safety standards, incidences, and caveats to implementation of policies and regulations. While each author provided compelling and empirically rich observations based on local fields of study, generally lacking are broader global connections and policy discussions about how the problems raised can be meaningfully addressed. Following is a summary of findings.

- Occupational health and safety of this population is regulated as a tri-partied responsibility; of workers, of employers (farmers) and of non-governmental agencies and therefore none takes the full responsibility to implement existing guidelines and policies.
- There are no mechanisms to ensure the information is reaching out to the workers, albeit to the fact that the readability of the available information is written in a language at a level higher than workers level of education.
- In comparison with the limited data collected from Canadian farm workers, made it clear that FSFWs lack negotiating power to shape systemic changes to curb barriers to occupational health due to their precarious immigrant status of "working for home" and thus by putting long hours and days.
- Foreign seasonal farm workers arrive in Canada healthy, due to the pre migration screening procedures that allows only healthy immigrants to migrate, a well documented notion called "Health immigrant effect" [26]. This research revealed incidence of exacerbation of existing chronic conditions related poor work and eating habits that they continued after migrating to Canada.
- We have noted several forms of neglect and abuse, in accessing and promoting healthcare when needed, ignoring hazardous work environments and not providing proper training and safety equipment and neglecting basic public health and sanitary conditions. The forms of neglect of health issues resonated

from farmers' (employer's) opinion about their workers in general as "whinny" and seeking treatments for minor ailments that a typical Canadian would ignore as well as their idea of FSFWs trying to take advantage of the healthcare that are "free", after buying private insurance. Neglect and abuse are interconnected. The form of abuse varies from minor issues such as allowing them to work without taking breaks in harsh weather conditions to serious actions of not allowing the worker to take a shower when toxic materials are sprayed on his eyes by an accident, an incident noted in the literature. COVID-19 related public health controlling measures were imposed in a manner that violated fundamental rights and privileges of this population of workers.

- **It is recommended** that there should be monitoring of tri-partied contract obligations, policies and practices are implemented appropriately and reaching to the workers in a manner (language and mode of dissemination) that is reachable to the foreign seasonal farm workers.
- **It is recommended** that farmers should be educated to change their attitude towards workers health related complains to consider them seriously enough to bring to medical attention.
- **It is recommended** there should policies and legislature in place to investigate serious incidents that requires medical repatriation to serve justice to the parties responsible.
- **It is recommended** to investigate medical repatriation by a third party and compensation scheme should be set up for life long debilitating injuries and occupational illnesses.
- **It is recommended** to establish a third party responsible for investigating neglect and abuse related complains.

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