

Statistics on Trends of Occupational Injury and Related Injuries in the Philippines

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ABSTRACT

Introduction. Deaths due to occupation are estimated to be around 2.3 million globally. These deaths may be accounted for as accidents and injuries related to workplaces. The latter is a common problem, especially in developing countries where manual and hazardous tasks are prevalent.

Objective. The study aimed to provide an updated and detailed information on the current statistics and trends of occupational injuries in the Philippines.

Methods. The data on occupational injuries and related injuries from 2011 to 2017 (latest data) were based on a systematic and comprehensive review of literature from different national and international sources, including scholarly journals, peer-reviewed articles, national surveys by Philippine Statistics Authority, the hospital-based recording data: Online National Electronic Injury Surveillance System (ONEISS) by the Department of Health and other reliable electronic data related to occupational injury. The latest statistics are 2017, although data were published in 2018 and 2019.

Results. This study obtained from the national statistics showed that there is generally a decreasing trend of occupation injuries from 2011 (46,655 cases) to 2017 (38,235 cases). However, the occupational injuries generally increased from 2011 (48,975 cases) to 2015 (20,961 cases). The most affected sector was the manufacturing industry consistently from 2011 to 2017. With regards to workdays lost, the most common cause from 2011 to 2017 is temporary incapacity. Superficial injuries and open wounds were the most common, resulting in workdays lost consistently from 2013 to 2017. For the hospital data, the top causes of occupational injuries were vehicular accidents. Open wound/lacerations, abrasions, and contusion were the most common types of injuries for the same year range. Moreover, the 20-59 years old, the working-age population, were the common victims of these injuries. Occupational injuries were also prevalent across all industry groups, including informal occupations such as workers engaged in transportation, construction, mining, and agriculture and fisheries industries.

Conclusion. Occupational injuries and accidents are global problems, most especially for developing countries. This study suggests that better focus should be given to workers as they are productive members of society.

Key Words: occupational injuries, occupational accidents, occupational diseases, work-days lost due to injuries

INTRODUCTION

Globally, there are around 2.3 million deaths associated with work annually (ILO, n.d.); 2 million deaths were correlated with occupational diseases, while 0.3 million were linked with occupational injuries.^{1,2} Occupational injury is “an injury which results from a work-related event or a single instantaneous exposure in the work environment.” Occupational accidents are “unexpected and unplanned occurrence, including acts of violence arising out of or in connection with work which results in one or more workers incurring a personal injury, disease, and death.” It may occur

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in or out of the usual work premises as long as it is within the course of work.³

Occupational injuries are a common problem in developing countries, especially in industrialized countries, where manual and hazardous tasks characterize the prevalent jobs.⁴⁻⁶ Laborers in developing countries are at greater risk of occupational injuries than developed countries. These are aggravated by poor nutrition, high chronic disease cases, poor health care, and lack of regulatory standards, amongst others in developing country settings.^{7,8} Underreporting work-related injuries are also common due to the lack of national surveillance systems, consequently putting a blind spot on financial costings.⁹

This study aims to provide an updated and detailed information on the current statistics and trends of occupational injuries in the Philippines.

METHODS

The study collected information and data from different national and international sources. A systematic and comprehensive approach was used in the literature review in which scholarly journals, peer-reviewed articles, nationwide surveys, hospital-based recording data, and other reliable electronic data on occupational injury were collated. In addition, data from several national regulatory and recording systems such as the Philippine Statistics Authority (PSA), a merge of former national offices including the National Statistics Office/NSO, National Statistical Coordination Board/NCSB, Bureau of Agricultural Statistics/BAS, and Bureau of Labor and Employment Statistics/BLES), Occupational Safety and Health Center (OSHC) and the Department of Health's (DOH) Online National Electronic Injury Surveillance System (ONEISS), were looked into. Data were also referenced from the World Health Information (WHO) and the International Labor Organization (ILO). Limitations are posed by the latest available data in 2017, although the data were published in 2018 and 2019.

RESULTS

Occupational Injuries: Global Context

The World Health Organization (WHO) has estimated that about 20-50% of workers are exposed to different occupational hazards; this estimate can go even higher in low- to middle-income countries (LMICs). Occupational injuries occur to almost 960,000 or more workers, leading to deaths for about 5,330 workers. The International Labor Organization (ILO) estimated that economic loss resulting from occupational injuries and deaths ranges from 1.8% to 6% of a country's GDP.¹⁰ In another study, an estimate of 2.78 million deaths related to work occur every year worldwide. The majority of these deaths were due to occupational diseases, recorded to be around 2.4 million cases (86.3%) out of the total estimated deaths. The rest of these deaths were

due to fatal accidents (13.7%) related to work.¹¹ Occupational injuries and other work-related diseases also have economic costs ranging from 1.8% to 6% - with an average of 4% loss - of a country's GDP. Most occupational diseases commonly leading to deaths are work-related cancer (32%), circulatory diseases (23%), cardiovascular diseases, stroke, and communicable diseases (17%), and work-related accidents (18%).² This is similar to a recent study that showed the top occupational diseases leading to deaths were circulatory diseases (31%), malignant neoplasms or cancer (26%), respiratory diseases including COPD (17%), occupational injuries (14%), and communicable diseases (9%). Among the countries with a high incidence of occupation morbidity and mortality were Asia, Africa, then Europe.¹¹ Given these statistics, it is necessary that preventive and control measures be implemented at work to prevent hazardous exposures. Governments should come up with policies and laws for workplace safety and health.

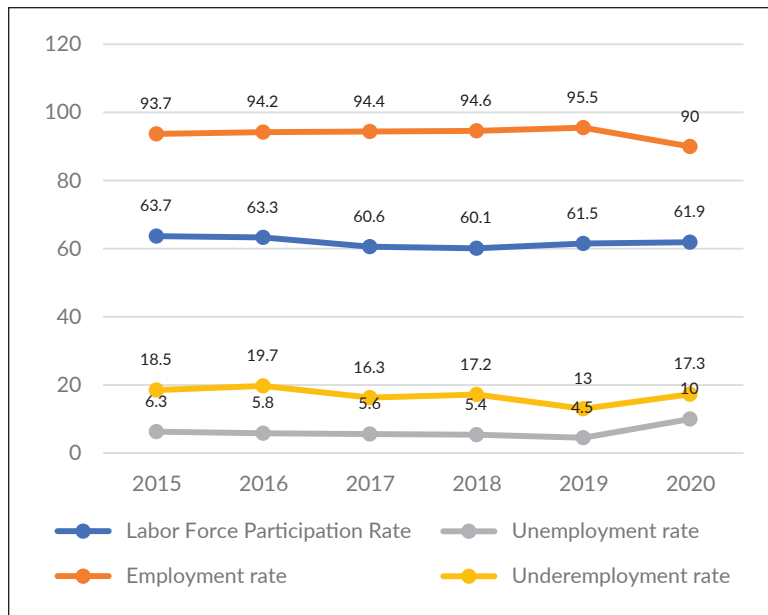
Labor and Employment in the Philippines

As of 2020, the total population of the Philippines has reached 100,981,437.¹² Out of the estimated 74.1 million people aged 15 years old and above in 2020, 45.8 million Filipinos were in the labor force, and 41.3 million Filipinos were employed. This means that as of July 2020, the labor force participation rate was 61.9%, and the employment rate was recorded to be about 90%. The most current record showed a 5.5 decrease in the country's employment rate from 95.5% to 90% as of July 2020.¹³

The labor force refers to the population 15 years old, and above who contribute to producing goods and services in the country, both employed and unemployed people included. Employment rate refers to the proportion of employed persons to the total labor force. Underemployment rate refers to the ratio of underemployed persons to total employed persons. Underemployed people are those employed people who desire additional hours of work in their current job or another job.¹⁴

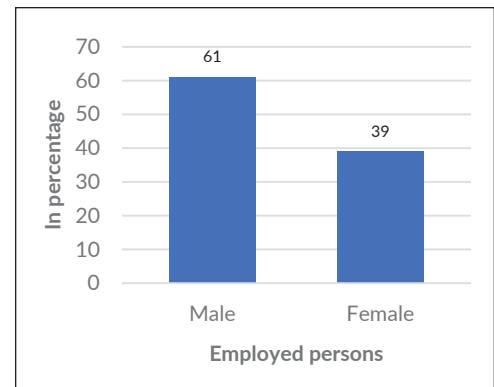
The country's labor force declined by 1.8%, from 63.7% in 2015 to 61.9% in 2020. The employment rate decreased by 3.7% from 93.7% in 2015 to 90.0% in 2020, whereas the unemployment rate increased from 6.3% (2015) to 10.0% (2020). The underemployment rate increased by 4.3% from 13% in 2019 to 17.3% in 2020, which warrants a national concern.¹³ (Figure 1)

The Philippines has a relatively young population and a young workforce. As of 2020, 26.6% of employed persons were 25-34 years old. This was followed by ages 35-44 years old at 22.9% and 45-54 years old at 18.4%. There were also more males employed than females. An estimated 41.8 million or 61.7% employed persons were males, while 38.3% were females (Figure 2). Filipino workers who work overseas were not included in the labor force of the Philippines. Hence, they were not collected and recorded for the labor force survey.



Source: Philippine Statistics Authority: 2021, 2019, 2018, 2016, and 2015.

Figure 1. Labor and Employment Status, Philippines: 2015-2020.



Source: Philippine Statistics Authority, 2020.

Figure 2. Employment ratio by gender.

Occupational Injuries: Local Situations

Occupational safety and health is critical to achieving decent work, which is one of the Sustainable Development Goals (SDG), specifically SDG 8, aiming to promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all.^{15,16}

In the Philippines, incidences of occupational diseases decreased by 40.7%, from 171,787 cases in 2013 to 101,851 in 2017. The most common occupational disease is back pain at 31.3%, although a decreasing trend of 22.8% was observed from 2015 (41,335 cases) to 2017 (31,903 cases). Back pain is prevalent among occupations that involve physical labor and prolonged sitting time. This was followed by essential hypertension (15.5%), neck and shoulder pain (11.4%), and occupational asthma (5.4%). (Figure 3)

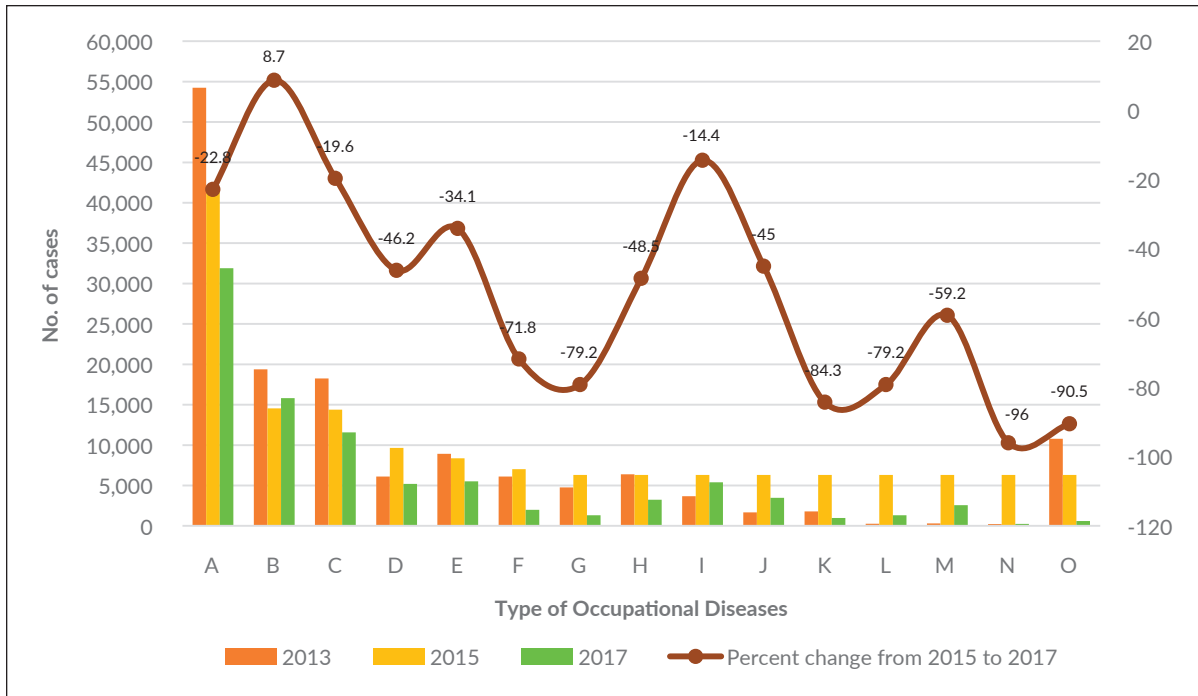
Occupational accidents in the Philippines show a decreasing trend starting from 46,655 cases in 2011 to 38,235 cases in 2017. On the other hand, occupational injuries show an increasing trend from 48,975 cases in 2011 to 50,961 cases in 2015 but decreased in 2017 with 46,283. (Figure 4)

Across different major industries, the manufacturing sector had the highest number of cases of occupational injuries starting from years 2011 (24,969; 51%) to 2013 (23,641; 48%), 2015 (25,667; 50.4%) and 2017 (23,003; 49.7%). This was followed by wholesale and retail trade and motor vehicle repair at 11.4% for the year 2017. Major industries with the least occupational injuries were computer, personal, and other household goods repair at 0.04%, with only 19 cases. Compared with 2015, a decline in occupational injuries was observed in eight industries; however, the largest decline is the repair of computers and

personal and household goods and other personal service activities, which reduced by 80.2%.¹⁷ (Figure 5)

The affected worker's incapacity may classify occupational injuries to work that may result in workdays lost. Occupational injuries are classified into two types, nonfatal or fatal cases. Nonfatal cases can cause temporary and permanent incapacity. The Philippine Labor Employment Statistics defines temporary incapacity as when an injured person was absent from work for at least a day excluding the day of the accident and 1) was able to perform again their regular job activities or 2) will be able to perform the same job given that the worker will be able to rest after the day of the accident in no more than a year. Permanent incapacity, on the other hand, is when an injured worker was absent from work for at least a day excluding the day of the accident and 1) was never able to perform normal job activities from the time of the accident or 2) will be able to perform usual job activity but expected absences or recovery time might exceed more than a year starting from the day of the accident. A fatal case is when a worker is fatally injured due to an occupational accident that may immediately or within the year of accident result in death.¹⁸

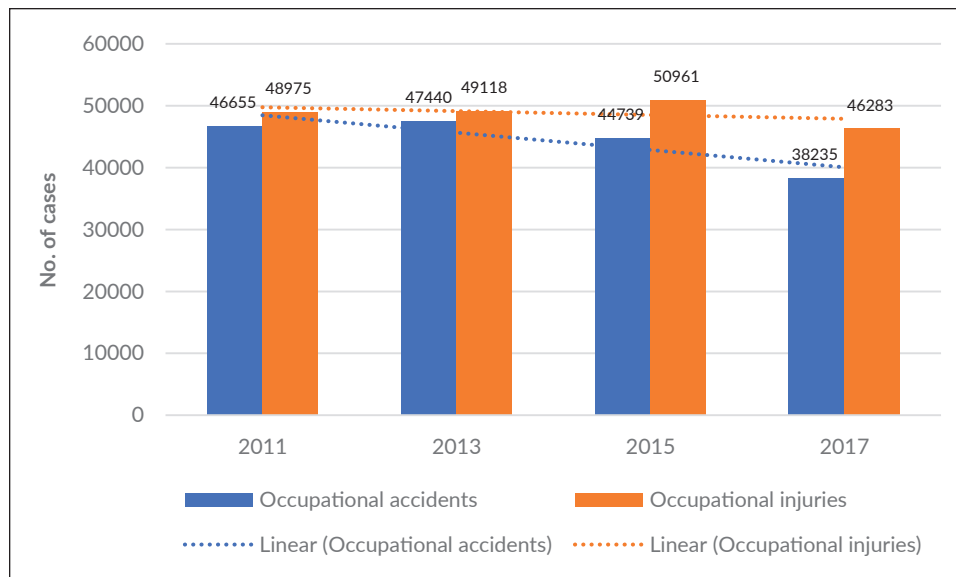
Most occupational injuries resulting to lost workdays were caused by temporary incapacity in 2011 at 97.8% (20,185), 2013 at 97.9% (20,257), 2015 at 97.1% (17,356) and 96.7% (20,105) in 2017, respectively. A slight increase of 0.7% is observed in the temporary incapacity cases in the Philippines from 2011 to 2017. On the other hand, the trend for occupational injuries leading to permanent incapacity was 1.4% (289 cases) in 2011, 0.8% (175 cases) in 2013, 2% (358 cases) in 2015, and 1.1% (223) in 2017,



Legend: A - Back Pain, B - Essential Hypertension, C - Neck and Shoulder Pain, D - Other Musculoskeletal Diseases, E - Occupational Asthma, F - Carpal Tunnel Syndrome, G - Occupational Lung Disease, H - Shoulder Tendinitis, I - Other Infections, J - Tuberculosis, K - Cardiovascular Disease, L - Heat, Stroke, Cramp, Exhaustion, M - Chemical-caused Diseases, N - Chilblain, Frostbite, Freezing, O - Deafness, P - Cataract, Q - Occupational Kidney Diseases, R - Other diseases, S - Acute Poisoning, T - Peptic Ulcer.

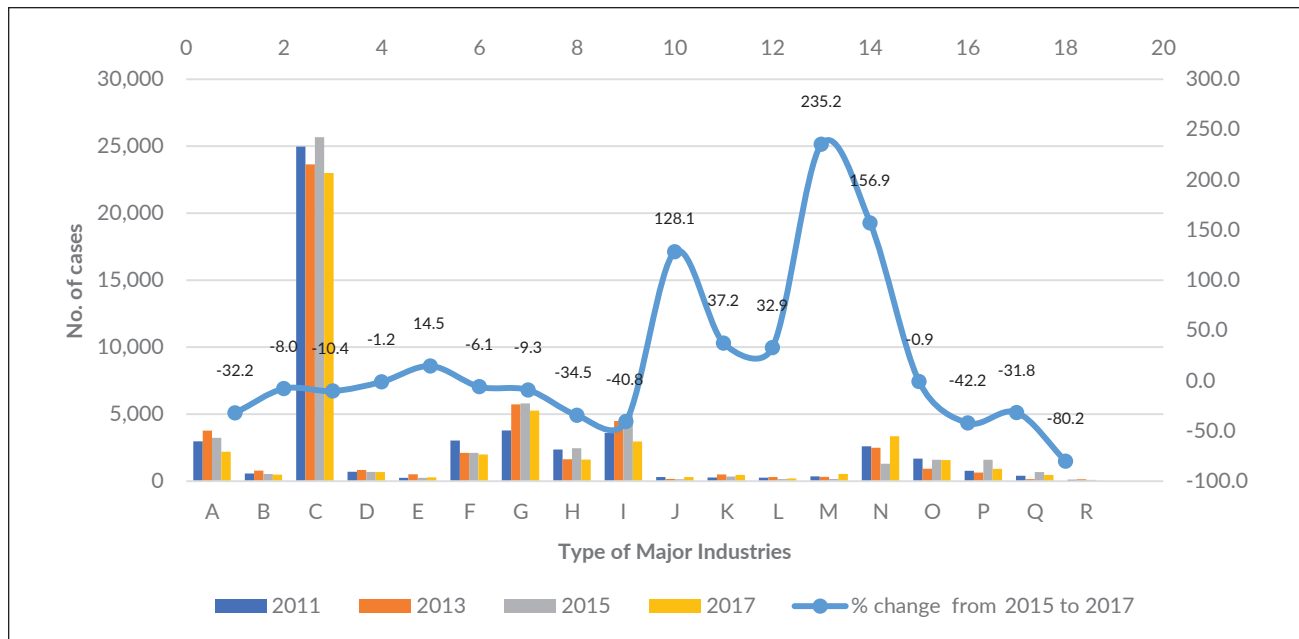
Source: Philippine Statistics Authority, 2018, 2019.

Figure 3. Cases of occupational diseases by type of disease, Philippines, 2013, 2015 and 2017.



Source: Philippine Statistics Authority, 2019.

Figure 4. Occupational accidents and injuries, Philippines, 2011, 2013, 2015 and 2017.



Legend: A – Agriculture, Forestry and Fishing, B – Mining and Quarrying, C – Manufacturing, D – Electricity, Gas, Steam and Air Conditioning Supply, E – Water Supply; Sewerage, Waste, Management and Remediation Activities, F – Construction, G – Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles, H – Transportation and Storage, I – Accommodation and Food Service Activities, J – Information and Communications, K – Financial and Insurance Activities, L – Real Estate Activities, M – Professional, Scientific, and Technical Activities, N – Administrative and Support Service Activities, O – Education except Public Education, P – Human Health and Social Work Activities except Public Health Activities, Q – Arts, Entertainment and Recreation, R – Repair of Computers and Personal and Household Goods; other Personal Service Activities.

Source: Philippine Statistics Authority, 2015, 2018 and 2019.

Figure 5. Cases of occupational injuries with and without workdays lost by major industry group, Philippines, 2011, 2013, 2015, and 2017.

respectively. The year 2015 had the highest percentage of permanent incapacity cases. Increase of fatal cases was observed from 2011 (161, 0.8%) to 2013 (270, 1.3%) while there was a decrease from 2013 (270, 1.3%) to 2015 (156, 0.9%), and an increase from 2015 (156, 0.9%) to 2017 (469, 2.3%). (Figure 6)

Among different industries, plant and machine operators and assemblers had the highest number of cases of occupational injuries with workdays lost in 2017 at 30.2% (6,278), followed by service workers and show and market sales workers at 19.3% and laborers and unskilled workers at 18.7%. In 2013, on the other hand, laborers and unskilled workers had the highest number of cases of occupational injuries, with workdays lost at 46.9% (9,719). The industry groups with the least number of cases of occupational injuries with workdays lost were from the corporate executives, managers, managing proprietors, and supervisors in 2013 (1.0%, 209 cases) 2015 (1.0%, 181 cases) and 2017 (1.3%, 262 cases). (Figure 7)

Superficial injuries and open wounds were still the most common types of occupational injuries that resulted in workdays lost in 2013 at 61.7%, 2015 at 56.2%, and 2017 at 50.8%, and a reduction by 5.4% from 2015 to

2017. The following common type of occupational injuries were dislocations, sprains, and strains at 12.0% in 2017 but decreased from 2015 to around 0.6%. The least commonly reported occupational injuries are traumatic amputations at 0.1% and others at 1.4%. (Table 1)

The top three body parts often injured during work in 2017 were the wrist and hands at 35.9%, lower extremities at 18.7%, and arm and shoulder at 17.6%. The same is observed from 2013 and 2015 for the top three injured body parts. (Table 2)

The leading causes of occupational injuries among workers were stepping on, striking against, or being struck by objects (excluding falling objects), accounting for 39.0% in 2013, 31.8% in 2015, and 36.3% in 2017. This was followed by being caught in or between objects at 21% in 2017. The least common cause was the exposure to or contact with electric current at 2.3% in 2017; however, an increase of 0.8% was observed from 2015.¹⁷ (Table 3)

The leading causes/agents for occupational injuries in 2017 were machines and equipment at 26.2%, followed by materials and objects at 24.4%, and hand tools at 18.3%. These were also the top three agents for injuries in 2015 at 26.9%, 25.7%, and 19.5%, respectively.¹⁸ (Table 4)

Table 1. Types of Occupational Injuries, Philippines, 2013, 2015, and 2017

Type of Injuries	2013		2015		2017	
	No.	%	No.	%	No.	%
Superficial Injuries and Open Wounds	12,765	61.7	10,042	56.2	10,561	50.8
Fractures	1,497	7.2	1,572	8.8	2,228	10.7
Dislocations, Sprains, and Strains	2,004	9.7	2,254	12.6	2,488	12.0
Traumatic Amputations	317	1.5	228	1.3	294	1.4
Concussion and Internal Injuries	576	2.8	880	4.9	1,442	6.9
Burns, Corrosions, Scalds, and Frostbites	1,538	7.4	1,509	8.4	1,749	8.4
Acute Poisoning and Infections	242	1.2	245	1.4	452	2.2
Foreign Body in the Eye	1,253	6.1	1,101	6.2	1,558	7.5
Others	510	2.5	28	0.2	26	0.1
Total	20,702	100	17,859	100	20,797	100

Source: Philippine Statistics Authority, 2018, 2019

Table 2. Injured Parts of the Workers' Body, Philippines, 2013, 2015, and 2017

Part of the Body	2013		2015		2017	
	No.	%	No.	%	No.	%
Head	2,452	11.8	2,462	13.8	3,280	15.8
Neck	150	0.7	223	1.2	222	1.1
Back	565	2.7	518	2.9	739	3.6
Trunk or Internal Organs	713	3.4	386	2.2	610	2.9
Arm and Shoulder	3,271	15.8	2,979	16.7	3,665	17.6
Wrist and Hand	9,391	45.4	7,006	39.2	7,458	35.9
Lower Extremities	3,520	17.0	3,514	19.7	3,891	18.7
Whole Body or Multiple Sites Equally Injured	638	3.1	771	4.3	932	4.5
Total	20,702	100	17,859	100	20,797	100

Source: Philippine Statistics Authority, 2018, 2019

Table 3. Causes of Occupational Injuries with Workdays Lost, Philippines, 2013, 2015, and 2017

Causes of Injuries	2013		2015		2017	
	No.	%	No.	%	No.	%
Fall of persons	1,484	7.2	1,806	10.1	2,186	10.5
Struck by falling objects	1,717	8.3	1,658	9.3	1,619	7.8
Stepping on, striking against or struck by objects, excluding falling objects	8,077	39.0	5,687	31.8	7,539	36.3
Caught in or between objects	3,920	18.9	4,061	22.7	4,365	21
Over-exertion or strenuous movement	1,762	8.5	1,292	7.2	1,558	7.5
Exposure to or contact with extreme temperatures	1,274	6.2	1,456	8.2	1,782	8.6
Exposure to or contact with electric current	480	2.3	270	1.5	4,73	2.3
Exposure to or contact with harmful substances or radiation	1,366	6.6	1,275	7.1	1,274	6.1
Others	625	3.0	353	2.0	205	1.0
Total	20,702	100	17,859	100	20,797	100

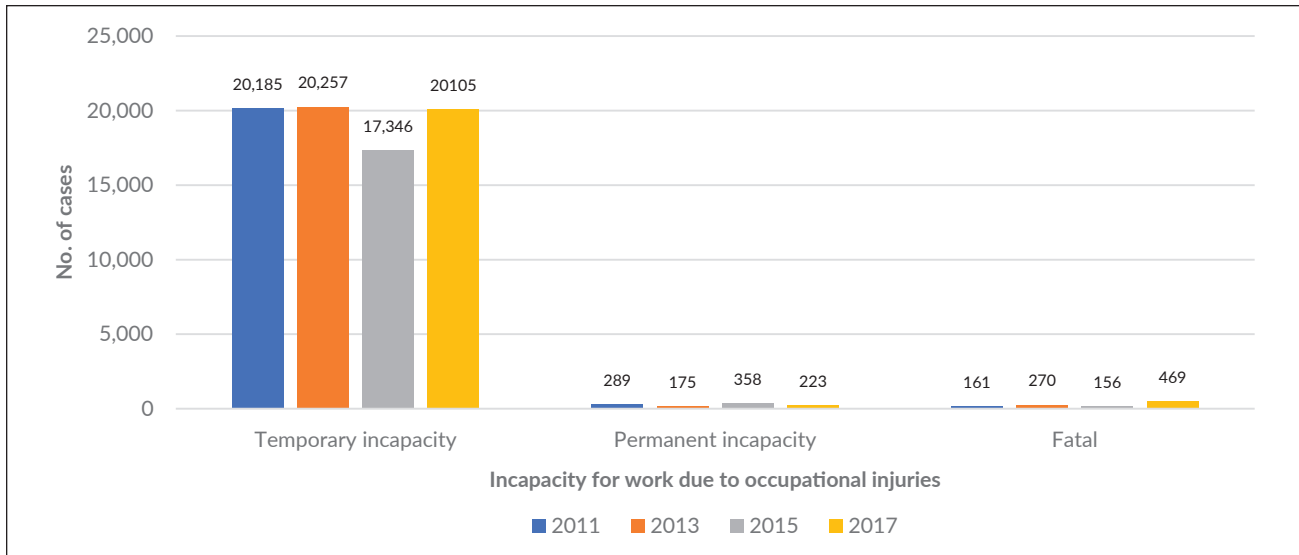
Source: Philippine Statistics Authority, 2018, 2019

Hospital-Based Records of Injuries including Vehicular Accidents

Based on hospital records through the Online National Electronic Injury Surveillance System (ONEISS) under the DOH in the Philippines, in terms of hospital records on injury, ONEISS under DOH has recorded the top causes and types of injury age groups commonly injured.

In 2013, the top 5 causes of injury were vehicular accidents (36.7%), mauling/assault (17.1%), falls (15.4%),

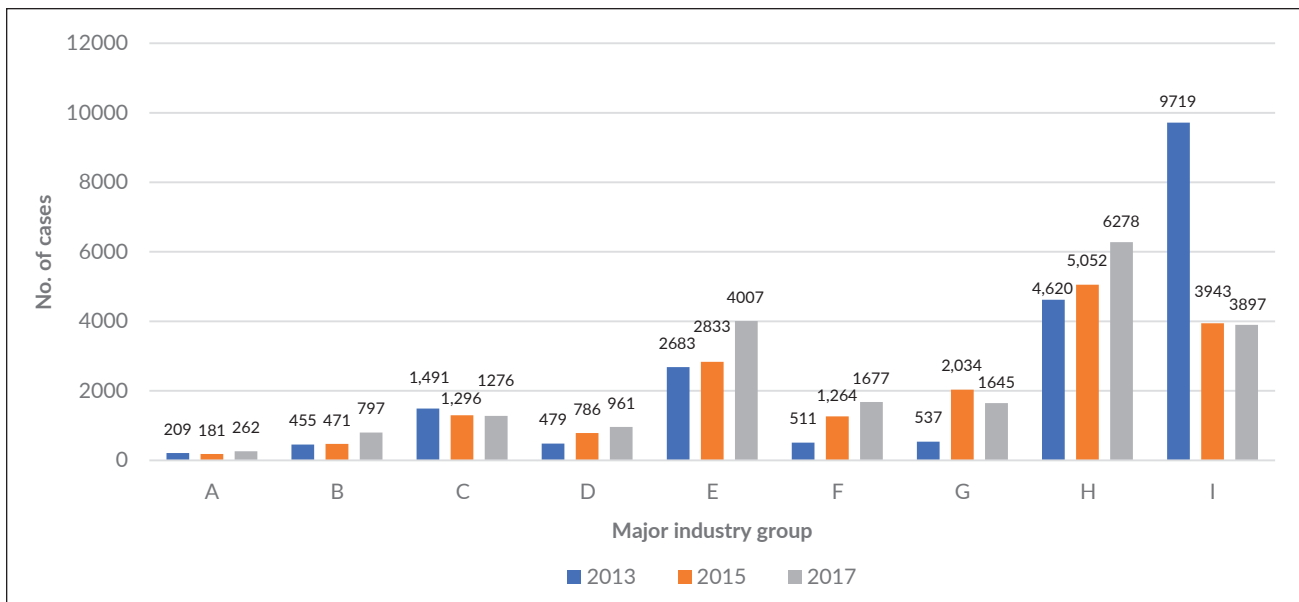
contact with a sharp object (14.5%), and bites (8.9%). The most commonly injured age group was the 20-59 years old (60%).¹⁹ In 2015, the top causes of injury were vehicular accidents (34.1%), followed by contact with a sharp object (19.2%), fall (19.1%), bites (12.4%), then mauling/assault (10.6%). Open wound/laceration remains the top type of injury (46.9%), followed by abrasion (30.7%) and contusion (13.3%).²⁰ In 2017, there were 29,416 injury cases reported by 324 out of 1,821 (17.8%) hospitals. The cause of injury



*Total cases with workdays lost: 2011 - 20,635; 2013 - 20,702; 2015 - 17,356.

Source: Philippine Statistics Authority, 2015, 2018, and 2019.

Figure 6. Cases of Occupational injuries with workdays lost by incapacity for work, Philippines, 2011, 2013, 2015 and 2017.



Legend: A - Corporate Executives, Managers, Managing Proprietors and Supervisors, B - Professionals, C - Technicians and Associate Professionals, D - Clerks, E - Service Workers, and Shop and Market Sales Workers, F - Farmers, Forestry Workers, and Fisherman, G - Craft and Related Trades Workers, H - Plant and Machine Operators and Assemblers, I - Laborers and Unskilled Workers.

Source: Philippine Statistics Authority, 2018, 2019.

Figure 7. Cases of occupational injuries with workdays lost by major occupation group, Philippines, 2013, 2015, and 2017.

mainly occurred on the road (43.1%), at home (31.1%), at the workplace (4.4 %), and school (2.3%). The leading external cause of the injury was transport/vehicular crash, accounting for 30.3% of the total injuries, followed by bites (14.8%), contact with sharp objects (13.4%), mauling or assault (13.0%), and fall (11.8%). Other external causes were burns

at 1.4% and others including exposure to forces of nature, gunshots, chemicals, hanging, firecracker, sexual abuse or assault, and drowning, each at only 1.0%.²¹

In 2015, vehicular accidents still belonged to the top cause of injury (34.1%), followed by contact with a sharp object (19.2%), fall (19.1%), bites (12.4%), then mauling/

Table 4. Agents of Occupational Injuries, Philippines, 2013, 2015, and 2017

Agents of Injuries	2013		2015		2017	
	No.	%	No.	%	No.	%
Buildings, Structures	1,211	5.8	1,178	6.6	1,843	8.9
Prime Movers	587	2.8	413	2.3	443	2.1
Distribution Systems	227	1.1	167	0.9	322	1.5
Hand Tools	4,981	24.1	3,476	19.5	3,803	18.3
Machines, Equipment	4,968	24.0	4,799	26.9	5,452	26.2
Conveying/Transport/Packaging Equipment or Vehicles	1,941	9.4	1,676	9.4	2,158	10.4
Materials, Objects	4,612	22.3	4,583	25.7	5,066	24.4
Chemical Substances	1,211	5.8	1,007	5.6	870	4.2
Humans, Animals, Plants, etc.	762	3.7	523	2.9	768	3.7
Others	200	1.0	38	0.2	72	0.3
Total	20,702	100	17,859	100	20,797	100

Source: Philippine Statistics Authority, 2018, 2019

assault (10.6%). Open wound/laceration remains the top type of injury (46.9%), followed by abrasion (30.7%) and contusion (13.3%). The working or productive age group, 20-59 years old, remains the top age group who experience injury (56.6%), and the aging population remains the least affected (7.4%).²⁰

There were 29,416 injury cases in the 1st quarter of 2017 reported by 324 out of 1,821 (17.8%) hospitals. The cause of injury mostly occurred on the road (43.1%), at home (31.1%), at the workplace (4.4%), and school (2.3%). The injuries were reported mostly during the afternoon between 12:01 pm to 7:59 pm (42.4%), followed by between 8:00 am and 12:00 pm (24.9%). Of the total injuries, the majority (99.4%) were nonfatal, while 0.6% were fatal. The leading external cause of the injuries was transport/vehicular crashes, accounting for 30.3% of the total injuries. This was followed by bites (14.8%), contact with sharp objects (13.4%), mauling or assault (13.0%), and falls (11.8%). Other external causes were burns at 1.4% and others including exposure to forces of nature, gunshots, chemicals, hanging, firecracker, sexual abuse or assault, and drowning, each at only 1.0%. In terms of gender, the male to female ratio was 21:10, with males having most injury cases at 67.8% and females with 32.2%. Meanwhile, the most common types of injuries were open wounds or lacerations (46.1%), abrasion (33.8%), and contusion (14.2%). Other types include fracture (8.0%), avulsion (3.8%), concussion (2.7%), burn (1.7%), and traumatic amputation (0.3%) (ONEISS-DOH, 2017).²¹ (Table 5)

Since road crashes are common among the working population, vehicles involved in road crashes were looked into. Motorcycles were the most common vehicle type involved among road crash patients, making up 56.4% of the total in 2013 to 57.8% in 2017. The next most common are Pedestrians (no vehicle), which make up 15% of the total in 2013, to 11% in 2017. Other vehicles were tricycles, bicycles, private cars, jeepneys, trucks, vans, buses, boats, and others.¹⁹⁻²¹ (Table 6)

The top types of injuries acquired by victims of vehicular crashes are abrasion, open wound/laceration, contusion, and fractures. Other types of injuries were concussion, avulsion, burn, and traumatic amputation. The most common type of injury among vehicular crash patients is abrasion sustained by 53.5% of patients in 2013 to 67.1% in 2017, for a percent increase of 25.42%. The next most common type of injury is Open Wound/Laceration, which was sustained by 29.3% in 2013 to 26.1% in 2017, for a percent decrease of 10.92%. The proportion of patients who suffered Contusion has decreased by 14%, from 20% in 2013 to 17.2% in 2017, while the proportion of patients who sustained fractures decreased by 15.28%, from 14.2% in 2013 to 12.03% in 2017. (Table 7)

DISCUSSION

Occupational injuries and accidents occur in all occupational groups and across industry types. ILO reported that the Philippine roadways have a notifiable amount of road accidents or crashes.²² The productive ages, most of which belong to the working group, are involved in occupational accidents and injuries on the roadways, which is also occupationally related since going to and coming from work is part of occupational or work activity. The majority of employees perceive the daily use of roadways to be dangerous and stressful.²³

There are several categories of transport groups. A local study also showed that one transport system, the pedicab, a combination of bicycle and sidecars as a form of informal transportation in the Philippines, puts its drivers at risk for musculoskeletal disorders. It was reported that 45.7% of pedicab drivers experienced back pain along with other adverse health symptoms such as hip pain, headache, neck pain, leg cramps, and numbness in the leg, elbow/forearm, thigh, and legs.²⁴ Meanwhile, another group of transport workers is the seafarers. A study of seafarers showed that one of the common causes of repatriation among Filipino

Table 5. Hospital-Based Records of Occupational Injuries, 2013, 2015, & 2017

Hospital-Based Records	2013 (N=9,715)		2015 (N=13,111)		2017 (N=29,416)	
	No.	%	No.	%	No.	%
Cause of Injury						
Vehicular accidents	3,568	36.7	4,475	34.1	8,924	30.3
Mauling/Assault	1,657	17.1	1,389	10.6	3,811	13.0
Fall	1,499	15.4	2,501	19.1	3,485	11.8
Contact with a sharp object	1,409	14.5	2,515	19.2	3,946	13.4
Bites	862	8.9	1,499	12.4	4,349	14.8
Others	576	5.9	514	3.9	1,398	
Burns	128	1.3	240	1.8	41	1.4
Gunshot	89	0.9	123	<1.0	158	<1.0
Chemicals/Substances	26	0.3	30	<1.0	57	<1.0
Sexual Assault/abuse/Rape (Alleged)	8	0.1	10	<0.1	12	<1.0
Firecracker	7	<0.1	1	<0.1	17	<1.0
Hanging/Strangulation	7	<0.1	16	<1.0	2	<1.0
Drowning	6	<0.1	11	<0.1	8	<1.0
Exposure to forces of nature	1	<0.1	1	<0.1	163	<1.0
Type of Injury (multi-response)						
Open Wound/Laceration	4,118	42.4	6,148	46.9	13,569	46.1
Abrasion	3,039	31.3	4,020	30.7	9,930	33.8
Contusion	1,829	18.8	1,745	13.3	4,191	14.2
Others	1,115	11.5	1,373	10.5	2,750	9.3
Fracture	964	9.9	1,119	8.5	2,357	8.0
Avulsion	313	3.2	509	3.9	1,116	3.8
Concussion	292	3.0	364	2.8	780	2.7
Burn	141	1.5	249	2.2	500	1.7
Traumatic Amputation	34	0.3	35	0.3	76	0.3
Age group						
20-59 years old	5,825	60	7,421	56.6	16,444	55.9
0-19 years old	3,380	34.8	4,720	36.0	10,796	36.7
>65 years old	582	6.0	970	7.4	2,206	7.5

Source: Online National Electronic Injury Surveillance System – Department of Health, 2013, 2015 and 2017

Table 6. Hospital-Based Records of Type of Vehicle among Vehicular-Crash Related Injuries, 2013, 2015, & 2017

Type of Vehicle among Vehicular-crash related injuries	2013 (N=3,568)		2015 (N=4,475)		2017 (N=8,924)	
	No.	%	No.	%	No.	%
Motorcycle	2,014	56.4	2,755	61.6	5,161	57.8
None (Pedestrians)	535	15	496	11.1	981	11.0
Unknown	433	12.1	594	13.3	1,478	16.6
Tricycle	211	5.9	243	5.4	481	5.4
Bicycle	106	3.0	113	2.5	292	3.3
Others	97	2.7	3	0.07	89	1.0
Jeepney	0	0	45	1.0	123	1.4
Truck	0	0	24	0.5	3	<1.0
Van	65	1.8	6	1.3	66	<1.0
Car	63	1.8	84	1.9	164	1.8
Bus	43	1.2	31	0.7	59	<1.0
Boat	1	0.03	0	0	0	0

Source: Online National Electronic Injury Surveillance System – Department of Health, 2013, 2015 and 2017

Table 7. Hospital-Based Records of Type of Injury among Vehicular-Crash Related Injuries, 2013, 2015, & 2017

Type of Injury among Vehicular-crash related injuries	2013 (N=3,568)		2015 (N=4,475)		2017 (N=8,924)		Percent Change of Proportions from 2013 to 2017
	No.	%	No.	%	No.	%	% Change
Abrasion	1,913	53.5	2,669	59.6	5,506	67.1	25.42
Open Wound/Laceration	1,045	29.3	1,294	28.9	2,332	26.1	-10.92
Contusion	0,712	20.0	693	15.5	1,535	17.2	-14.00
Fracture	0,506	14.2	457	10.2	1,068	12.03	-15.28
Others	0,376	10.5	0	0	927	10.4	-0.95
Concussion	158	4.4	172	3.8	46	5.2	18.18
Avulsion	153	4.3	235	5.3	55	6.2	44.19
Burn	9	0.3	19	0.4	53	0.6	100.00
Traumatic Amputation	5	0.1	8	0.2	16	0.2	100.00

Source: Online National Electronic Injury Surveillance System – Department of Health, 2013, 2015 and 2017

seafarers is compromised health, which is more likely to be work-related, such as musculoskeletal disorders and gastrointestinal and genitourinary illnesses.²⁵ Low back injuries were also reported among Filipino seafarers.²⁶ Another study showed that Filipino seafarers might be in danger of being captured, which places them at physical, emotional, and mental stress.²⁷

Construction work in this study in the Philippines shows between 1,986 to 3,032 cases of occupational injuries and is indeed a hazardous industry. In the Philippines, more than 2 million Filipinos are employed in the construction sector. In a study, musculoskeletal disorders comprise 30% of the occupational injuries from construction work.²⁸ All tasks in construction, including chipping, lay outting, welding, painting, demolishing, shoveling, lifting, grinding, scaffold erection, and hauling, contribute to body pains of Filipino construction workers by Domingo et al.²⁸ Likewise, construction workers are also exposed to fire hazards that may cause burn injury. Burns, especially those caused by electrical injuries, are common among construction workers in developing countries. A study in the Philippine General Hospital showed that among patients with electrical burns, 80.45% were work-related, and 75.5% were construction workers. The majority of the occupational accidents were caused by contact with overhead electrical power lines by metal poles. Moreover, 79.46% of patients had high voltage electrical injuries, 46.03% had severe electrical burns, while 11.33% had associated trauma injuries. The increasing trend of electrical burn cases, in another study, was linked with rapid urbanization.²⁹

Workers in agriculture, forestry, and fishing also experienced a wide array of occupational hazards. 49.2% of workers in this sector acquired occupational injuries due to stepping on, striking against, or being struck by objects.³⁰ Usage of hand tools (43.2%) also increases their prevalence of acquiring work-related injuries.¹⁴ In a study by Lu (2017), Filipino farmers reported their common health complaints, including headaches (69.4%) and dizziness (41.0%) post pesticide exposure.³⁰ Respiratory health is also compromised, and health symptoms reported were cough (39.4%),

difficulty breathing (15.6%), breathlessness (14.9%), and presence of pulmonary secretions (13.3%). In the agricultural sector, handling of tools was a risk factor associated with injury.³¹ Furthermore, a study among farmers showed that musculoskeletal disorders were the most common and occupational accidents such as cuts and fractures affecting their quality of life.³²

The mining industry, mainly small-scale and informal mining, is also beset with hazards, injuries, accidents, and primarily work-related deaths. The mining sector placed 2nd among the top accident-prone industry sectors.³³ Multiple accidents occur in mining that may lead to the subsequent death of miners; accidents such as cave-ins, gas explosions, and equipment failures, amongst others. Miners are also exposed to silica dust and mercury, which are highly hazardous substances.³⁴ Child labor is also common in the mining sector Human Rights Watch (2015) interviewed children involved in mining. Most of them reported work-related adverse health effects such as back pain, skin infections, and muscle spasms evident in mercury poisoning.³⁵ Underwater and underground pit mining are among the most dangerous activities in mining. On the other hand, children carrying heavy loads in artisanal mining often complain of pain in the back and lower extremities.³⁶

Musculoskeletal pain and disorders are common in many industries, based on this study in the Philippines. Other studies also showed this as a common health risk, especially in jobs characterized by strenuous manual labor, prolonged sitting, and increased psychological stress.³⁷⁻⁴⁰

The most common occupational injuries resulting from workdays lost in the Philippines were superficial injuries and open wounds. The most common body part injured during work were the wrists and hands. The same was reported in another study where cuts and lacerations in the finger were among the top injuries.⁴¹ The leading agents of occupational injuries in the Philippines in 2013 and 2015 were machines and equipment, materials and object, and hand tools. In another study, defective machinery and equipment were also included in the risk factors for work-related accidents and injuries.⁴²

Most occupational injuries resulting in lost workdays were caused by temporary incapacity from years 2011 to 2015. Vahabi et al. stated that most work-related accidents and injuries led to recovery and were temporary. In contrast, less than 5% led to fixed compensations, 2.2% led to disabilities, and less than 1% led to death.⁴³ The result showing 10% of these injuries leading to death and permanent disabilities is concerning and warrants further actions to prevent these incidents.

Occupational accidents and injuries occur in all occupational groups and across different industrial sectors. Manufacturing was the top industry for occupational injury cases in the Philippines. This is similar to other studies that showed the manufacturing and construction sectors had the highest cases of injuries.⁴⁴⁻⁴⁶

Data gathered for this review were taken from different government and non-government agencies and spans from 2011 to 2017. However, the Republic Act 11058 or “An Act Strengthening Compliance with Occupational Safety and Health Standards and Providing Penalties for Violations Thereof” was signed into law in 2018, which is a year not covered in this study. In the Philippines, occupational safety and health standards are stipulated in the OSH Reference Guidebook formulated in 1978 (DOLE, 2005-2013).⁴⁷ The OSH Standard aims to provide quality welfare and well-being to employees by preventing workplace-related accidents, deaths, injuries, and illnesses by promoting occupational safety and eliminating health hazards (BWC-DOLE, n.d.).⁴⁸ RA 11058 was signed to strengthen the OSH standards of the Department of Labor and Employment (DOLE) in compliance with the Labor Code of the Philippines. Non-compliance with this law imposes a P100,000 (USD2,086) fine per day on the employer until the “violation was corrected” (RA 11058, 2018).⁴⁹

The latest data of the PSA on workplace-related surveys is 2017 and needs updating. However, the latest data can provide information on whether RA 11058 effectively reduces occupational injuries. Moreover, missing data and incomplete recording were observed, hence the need for better collection and organization of data and better surveillance of occupational injuries.

CONCLUSION

Occupational injuries and accidents are global problems, especially for developing countries where workers are highly at risk of poor working conditions and occupational hazards. This study showed the trend and types of occupational injuries in the Philippines, organized into yearly trends showing the increase or decrease of types of injuries in the country. There is also a need for updated annual surveillance of occupational injury in the country since the latest data were still in 2017. The results of this status of occupational injury in the country can serve as evidence-based support for policy and programs on occupational safety in the country.

Preventive strategies and guidelines should be reviewed, analyzed, and remodified to the working conditions of the workers.

Statement of Authorship

The author analyzed the data, drafted and revised, and approved the final version submitted.

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