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Main types of handicaps of victims of work accidents in the sectors of formal activities in the geographical area Kenitra (Morocco): Victims declared during the period 2001-2015

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Abstract

The importance of severity and the diversity of the consequences of work-related accidents is well established. These consequences are harmful for the victim, his family, his employer and the national economy. The significance of these consequences is related to the degree of incapacity suffered by the victim. In this work we have analyzed the list of victims who have been reported to have suffered a work accident in the geographical area of the city of Kenitra located in northwestern Morocco. The goal is to help determine the frequency of types and degrees of disability experienced by victims. The results show that the frequency of these types of accidents is one of the highest in the world and far exceeds those noted in the MENA region. Mortality, total disability and permanent partial disability rates are very high in three activity areas: industry, construction and service companies. Even if these three sectors are known by their important participation in the national economy, they have very negative consequences on the population of employees, their family, their company.... The causes of these accidents are not sufficiently known because the conditions of these accidents are not sufficiently detailed in the archives concerned.

Keywords: Accident at work, disabilities, diversity, Kenitra, Morocco

Introduction

Due to the diversity of their negative consequences on the victim and those around him, work-related accidents are major public health problems ^[1]. The main factors of these accidents vary according to the country and especially the sectors of activities ^[2, 3]. Depending on the circumstances of each accident, the consequences can lead the victim to different categories of disabilities: Temporary Partial Disability (PTI), Permanent Total Disability (ITP), Total Temporary Disability (ITT), Permanent Total Disability (ITP), and death. Thus, according to the degree of the consequences of the disaster on the victim, the importance of the effects on the person directly affected and on his entourage (Family, Business, Insurance...) is not the same ^[4]. Of course, the deceased victim or having a permanent total disability pays more than any other affected person. Likewise, in addition to the victim and his family circle, occupational risk is a business risk ^[5, 6]. The importance of the risk represented by workplace accidents is no longer to be demonstrated ^[7]. Thus, for the diversity of the consequences of workplace accidents, these consequences have attracted the attention of researchers since the early 1980s ^[8].

In addition, the importance of work-related injury damage varies from one country to another. Indeed, according to the statistics of the International Labor Office (ILO) ^[9], there are 120 million occupational accidents worldwide, of which 210 000 are fatal, ie more than 500 men and women of death victims of an accident at work. In Belgium, in 2003, more than 170,000 accidents occurred in the workplace in the private sector. 100 were fatal, and permanent disability was expected for approximately 12,000 victims (Workers' Compensation Fund, 2003) ^[10], and the damage is lacking in the majority of countries.

The objective of this study is to estimate the diversity and importance of certain consequences of work accidents in formal sectors of activity in the city of Kenitra (Northwestern Morocco).

Materials and Methods

The study we conducted is conducted on 1406 employees in the public and / or private sector. These cases are recorded between 2001 and 2016 by the authorities of the Ministry in the Gharb region. After filtering on Excel, we transferred the data to SPSS support (trial version). These variables are of a socio-demographic nature and in relation to the accident (place of exercise, state of gravity, etc.). The matrix is subjected to a set of descriptive and / or differential statistical analysis such as: independence chi-square test, correlation...).

Results and Discussion

During our study period (2001-2016), 1406 work accident victims were declared in the dataset recorded by the authorities of the Ministry in charge in the Gharb region..... But, these archives have reported the final consequences of the accident only for 845 victims (Table 1), that is, these final consequences are unknown for 561 victims is unknown. The reasons for this lack of information are unknown, but it seems

that these missing cases are people who have put together an amicable arrangement with their employer far from the authorities concerned. Thus, for any statistical analysis of the available data, if we take into account all the victims studied, ie 1406 cases, Table 1 shows that, in the geographical area studied, among the 1406 victims of work accidents, 2% are died, 43.24% have a total disability, 13.94% have a permanent partial disability (PPI) and 0.92% had no disability. However, we can suggest that all these percentages quoted above are a little far from the reality simply because, in calculating these percentages we have integrated in the total number of victims 561 victims in destiny, to the following the accident, is not reported. Thus, if we eliminate these 561 cases from the calculations, the percentages, that seem more real, will be as follows: among the 845 victims of a work accident with a known final destiny, 3.31% have died, 71.95% have a total disability and 23.19% had permanent partial disability (PPI), 1.58% had no disability.

Table 1: Distribution of victims according to the total number of victims declared and according to the number of victims whose final state is known

Activity areas	Total reported of victims by sector category		Victims of the Files not bearing final phase of the consequences of the TA. (DSS)		Total des victimes à conséquence connue de l'AT déclaré par catégorie de secteurs	
	Effective	%	Effective	%	Effective	%
Agriculture	29	2.06	8	0.49	24	2.84
BTP	182	12.94	36	2.48	147	18.03
Trade	48	3.41	24	1.70	22	2.60
Industry	786	55.90	367	65.65	415	49.11
Services	360	25.60	126	22.54	234	27.70
Other	1	0.07%	0	0	3	0.36
TOTAL	1406	100	561	100	845	100

Similarly, results calculated on the basis of 845 victims at known final destination (Table 2).

- By the dead parties 35.71% are employees of the sector "Industry" and 35.71% are part of the sector "BTP" a total of 71.42% for these two sectors.
- Of victims of a total disability (IT), 54.43% are in the industry sector, 27.37% in the service sector and 13.11% in the construction sector, for a total of 97.36% for these three sectors.
- Of the victims with partial permanent disability (PPI),

36.22% are in the "Industry" sector, 31.63% in the "Service" sector and 25.51% in the "Construction" service, for a total of 97.36% for these three sectors.

- For the category rated "SI" that is to say victims who fortunately no serious incident as a result of their accident at work, the percentage is very low and often zero.

The category "DSS" that is which victims having final health status not shown in the archives, 65.65% are part of the sector "Service" and 22.54% are part of the sector "BTP".

Table 2: Distribution of victims by severity and industry; D: Death, IPP: Total Permanent Disability, IT: Total Disability, SI: No Incident, DSS: Unknown End-State Victim.

Activity areas	Death		IT		IPP		SI	
	Effective	%	Effective	%	Effective	%	Effective	%
Agriculture	1	3.57	11	0.16	10	5.10	2	15.38
BTP	10	35.71	80	13.11	50	25.51	7	53.84
Trade	2	7.14	18	2.96	2	1.01	0	0
Industry	10	35.71	332	54.43	71	36.22	2	15.38
Service	5	17.86	167	27.37	62	31.63	0	0
Other	0	0	0	0	1	0.50	2	15.38
Staff by category of incidence	28	-	608	-	196	-	13	-
Percentage according to Total Victims Reported (1406)	2%	-	43.24%	-	13.94%	-	0.92%	-
Percentage according to the number of victims with known final fate (851)	3.31%	-	71.95%	-	23.19%	-	1.53%	-

In addition, in the documents of the studied archive we noted 5 main types of activity sectors (Agriculture, Building, Trade, Industry, and Service) and a sector that we entitled "Other" and which groups various small activities. Regarding the numerical size of the victims declared in each sector, it is the sector "Industry" which comes first with 55.90% of the victims, followed the sector of "Services (25.60%) and the" BTP "(12.94%). It is in the sector "Industry" where there is more work accidents. In addition, the results show that two

sectors which are the most deadly in being responsible for more than 70% of deaths: industry and construction. In addition Industry is responsible for more than 50% of total disability victims, and 36.22% of permanent partial disability victims. It should be noted that these values of handicaps could be lower values than the real values because 35.35% of the victims having suffered an accident in the sector 'Industry are without a known health status after their accident. In other words, for only 65.65% of the reported cases having an

accident in the "Industry" sector, the final state of the victim is noted in the studied archive perhaps because there was an arrangement between the victim and the employer away from the authorities concerned.

The second most deadly sector with a high risk of accidents at work is "construction". In fact, without taking into account the victims whose final state of the victims is not reported (12.94% of the total number), 35.71% of the reported cases lost their lives as a result of the accident 13.11% lived the rest of their lives with total disability, and 25.51% with partial disability.

For the "Service" sector, with its 17.85% share of reported cases in this sector who lost their lives and 31.63% who had permanent partial disability can be classified as a high risk business line. Recall that a service company is a service sector company. Its purpose is to add value to a product or to provide the necessary work for a company or an individual against a price. It is one of the main agents of the production of market services in our economy.

Similarly, in most industrialized countries, the sector of the industry is one of the most important sectors in terms of contribution to the domestic product Gross Domestic Product (GDP) in the country. So, the construction industry is both economically and socially important [11]. But, despite their economic interests, the sectors of activity mentioned have a significant impact on the health and safety of workers.

In the sector of building, workers perform a wide variety of activities, each with a specific risk associated. The worker performing a task is directly exposed to the associated risks and passively exposed to the risks produced by close colleagues [12]. Building design, materials, dimensions and site conditions are often unique, requiring adaptation and learning curve from one site to another. Injuries can occur in many ways and at any stage of the process [13].

Moreover, as reported by Aballea and Marie (2012) [14], assessing disability is not assessing the severe and stabilized impairment of a person's health status; it is to evaluate the effects of this alteration on his ability to work and gain, with a view to his partial or minimal financial compensation from social programs. Indeed, even in the case where the victim has not died, various physical, sociological and psychological effects can traumatize the affected person knowing that from a psychological point of view, often a state of neurosis or post-traumatic stress sets in (Rillaer, 2011) [4] and often, an event is all the more traumatic as it is more threatening for physical or psychological integrity [15]. Thus, theoretically, one can think that following an accident, the importance of psychic traumatic effects will be proportional to the degree and the duration of the disability of the victim. The age of the victim could also be one of the main influencing the victim's traumatic condition. As an effect of age, Krause *et al.* (2001) [16], Askenazy (2006) [17], noted that the age of the victim intervenes to accentuate or reduce the traumatic effects of an accident. But, the results of some previous works have shown that this is not always the rule because other characteristics of the victim influence the traumatic state of the victim. Thus, when assessing the consequences of an occupational accident, it would be useful to use several different measures of the results from multiple data sources [18], not just the degree of physical impairment. In particular, the introduction of systematic screening for psychopathology after an occupational accident is recommended [19].

It should be noted that several studies have addressed the impact of individual characteristics on the risk of work-related accidents [16, 17]. These authors suggest that there are

significant variations in the rate of work-related injuries between individuals by gender and that men are more affected than women. Similarly, the age of the employee influences the frequency, severity and consequences of work-related accidents. Indeed, the study by Euzenat (2009) [20], shows that employees under 20 and those aged 20 to 29 are respectively three times and twice as often as work accidents than those aged 50 to 59 years. In addition, older employees, even if they know they are experiencing a decline in their functional abilities [21, 22], engage less in risky behaviors, are more attentive to safety and are more likely to identify hazards [6, 12, 13]. Tissot and Bastide (2012) [23] add that workers over the age of 50 are mainly concerned with manual handling accidents, single-storey accidents and falls from height, while over-40s have an overrepresentation of accidents. walk-in and falls from height. There is also an overrepresentation of deaths due to road accidents among 50-59 year olds, vehicles 60-64 years old and malaise among 40-59 year olds. In contrast, young people under the age of 25 are particularly affected by accidents due to moving masses, machines, tools, appliances and various risks. The latter authors also reported that the average duration of work stoppages increases with age and that falls from height, accidents on the same level and discomfort are characteristic of older workers, regardless of the professional sector and the number of Temporary disability days show that the number of days lost due to discomfort is higher among the over 40s.

Conclusion

The frequency of work accidents noted in the geographical area studied is one of the greater ones amount noted in the world. It greater those noted in the MENA region. In addition, for the different types of incidents recorded, the results show that there is an insignificant chance for the victim to leave the accident without incident. With mortality average rates of 3.31%, total disability rates of 71.95% and permanent disability rates of 23.19, the consequences of workplace accidents have become worrying and multidimensional in nature for the victim, his family, the employer and the economy of the country. The most lethal and high-risk sectors are industry, building and service companies. Certainly, according to the work done in different countries, the causes and frequency of the different types of impact vary from one country to another and from one sector of activity to another. In our study area, the characteristics of the victims and the accident conditions noted in the Ministry's archival forms that we analyzed are insufficient that their statistical analysis allows the more efficient syntheses.

References

1. Sehat O, Kourosh HN, Mohsen AL, Abbas Rahimi, Hossein MA. Socioeconomic Status and Incidence of Traffic Accidents in Metropolitan Tehran: A Population-based study. *Int J Prev Med.* 2012; 3(3):181-190.
2. Baghdadi M, Touati N, Raougui D, Alwashali E, Fadli M. Qualitative and quantitative overview of victims of work accidents in the province of Kenitra, Morocco. *Biolife.* 2017; 5(1):92- 99. doi:10.17812/blj.2017.5115
3. Raougui D, Ahami A, Aboussaleh Y, Chebabe M, Fadli M. Certaines circonstances accompagnant les accidents de travail dans trois secteurs: transport, agroindustrie et industrie de la chimie et du caoutchouc. *Sciencelibe ditions mersenne,* 2012, 4:120112, issn 2111-4706.
4. Rillaer VJ. L'impact psychologique des traumatismes et son traitement. *Psychologie scientifique SPS,* 2011,

- n° 294.
5. Trontin C, Béjean S. La prévention des accidents du travail: risque moral et relations d'agence complexes », *Revue française des affaires sociales*, p. 157-181. URL: <https://www.cairn.info/revue-francaise-des-affaires-sociales-2001-4-page-157.htm>
 6. Gosselin Maurice. La gestion des coûts de la santé et de la sécurité du travail en entreprise: une recension des écrits, *Perspectives interdisciplinaires sur le travail et la santé* [En ligne], 7-2 | 2005, mis en ligne le 01 mai 2005, consulté le 18 janvier, 2018, 2005.
 7. Takala J. Introductory Report: Decent Work – Safe Work by Dr. J. Takala, Director, SafeWork International Labour Office (Vienna, 27 May, ILO/SafeWork). Geneva XVIth World Congress on Safety and Health at Work, 2002.
 8. Desmarez P, Godin I, Renneson B. L'impact des accidents du travail sur le statut socio-économique des victimes. *Le travail humain*, 2007/2. Éditeur: Presses Universitaires de France, 2012; 70:104
 9. Saari J. *Ebyclopédie de Sécurité et de Santé au Travail*; 3ème édition; Bureau International du Travail. Partie VIII. Accidents et gestion de la sécurité; Chapitre 56 - La prévention des accidents, 2008.
 10. Fonds des accidents du travail. Rapport général, exercice 2003, complément, Statistiques accidents du travail. 2003; 84 pages.
 11. Yoon SJ, Lin HK, Chen G, Yi S, Choi J, Rui Z. Effect of Occupational Health and Safety Management System on Work-Related Accident Rate and Differences of Occupational Health and Safety Management System Awareness between Managers in South Korea's Construction Industry. *Saf Health Work*, 2013; 4:201-9.
 12. Pinto A, Nunes IL, Ribeiro R. Occupational risk assessment in construction industry – Overview and reflection. *SafSci*, 2011; 49:614-24.
 13. Grant A, Hinze J. Construction worker fatalities related to trusses: An analysis of the OSHA fatality and catastrophic incident database. *SafSci*, 2014; 65:54-62.
 14. Aballea P, Etienne M. L'évaluation de l'état d'invalidité en France: réaffirmer les concepts, homogénéiser les pratiques et refondre le pilotage de risque. *Inspection générale des affaires sociales RM2012-059P*; IGAS Rapport n° RM2012-059P, 2012.
 15. Southwick SM, Morgan A, Nagy LM, Bremner D, Nicolaou AL, Johnson DR *et al.* Trauma-related symptoms in veterans of Operation Desert Storm: A preliminary report. *The American Journal of Psychiatry*. 1993; 150(10):1524-1528.
 16. Krause N, Frank JW, Dasinger LK *et al.* Determinants of Duration of Disability and Return-to Work after Work-Related Injury and Illness: Challenges for Future Research. *American Journal of Industrial Medicine*. 2001; 40:464-484.
 17. Askenazy P, Caroli E. Innovative Work Practices, Information Technologies and Well-Being at Wor: Evidence for France. *IZA Working Paper*, 2006, No 232.
 18. Evanoff B, Abedin S, Grayson D, Dale AM, Wolf L, Bohr P. Is disability underreported following work injury. *J Occup Rehabil*. 2002; 12:139-150
 19. Ghisi M, Novara C, Buodo G, Matthew O Kimble, Simona S, Arianna DN *et al.* Psychological Distress and Post-Traumatic Symptoms Following Occupational Accidents. *BehavSci (Basel)* 2013; 3(4):587-600. Published online 2013.
 20. Euzenat D. L'exposition des salariés aux accidents du travail en 2007, Premières synthèses, DARES, n°50, 2009.
 21. Garg A. Ergonomics of the older worker: An overview. *Experimental Aging Research*, 1991; 17(3):143-155.
 22. De Zwart BC, Frings-Dresen MH, Van Dijk FJ. Physical workload and the aging worker: a review of the literature. *International Archives of Occupational and Environmental Health*, 1995; 68(1):1-12.
 23. Tissot C, Bastide JC. Accidents du travail quelles particularités chez les seniors?. INRS, département Etudes, veille et assistance documentaires. I NRS-Hygiène et sécurité du travail - 4e trimestre 229/15, 2012.