



Title: Occupational hazards in wood industries of the informal sector at Olezoa, Yaounde-Cameroon.

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Abstract

In 2010, 70% of the active Cameroonian population was under employed .Due to under employment the Cameroonian government had as objective to create jobs in the wood sector. Creating such jobs will generate hazards. The consequences of the increased hazards might not be efficiently taken care of by the Cameroonian health system. Thus evaluating and properly managing hazards is a preventive measure that can be done in order to reduce work related accidents and diseases. The objectives of this study were to: describe the socio-demographic characteristics of workers, identify the hazards and describe the consequences of the hazards.

Our study was descriptive and cross sectional, from November 2015 to May 2016.The study site was the olezoa quarter. We included industries in the informal wood sector, workers who consented to this study. We excluded workers who did not consent to this study. We enrolled workers using a data entry form. The data entry form had socio-demographic characteristics and consequences of hazards. We used the walk-through method in identifying hazards in the work environment. We identified hazards with the aid of the French guide on health insurance in wood industries.

We enrolled 48 industries and interviewed 168 workers. The 19- 30 year age group was the most represented probably because of the informal nature of this sector. 55% of the workers were married. Hazards related to the work environment were the most represented. The most represented consequences were wounds, heat stroke and infections.

Key words: Hazards, Informal, Occupational, Olezoa, Wood, Yaounde

Introduction

Cameroon is a developing country and has forest resources. Despite these forest resources, in 2010, 70% of the active Cameroonian population was under employed⁽¹⁾. Due to under employment the Cameroonian government had as objective to create jobs in the wood sector^{(1),(2)}. Creating such jobs will generate hazards⁽³⁾. These hazards include: machine related hazards, hazards due to wood dust, hazards related to handling, hazards due to chemical products and psychosocial hazards^{(4),(5)}. The consequences of the increased hazards generated by these jobs might not be efficiently taken care of by the Cameroonian health system. This is because the Cameroonian physician-inhabitant ratio (that stood at 1 physician for 13 468 inhabitants in 2007) is less than the standard of the World Health Organisation that stands at 1 physician for 1000 inhabitants⁽¹⁾. Thus evaluating and properly managing hazards is a preventive measure that can be done in order to reduce work related accidents and diseases^{(6),(4)}. The objectives of this study were to: describe the socio-demographic characteristics of workers, identify the hazards and describe the consequences of the hazards

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Materials and Methods

Our study was descriptive and cross sectional, from November 2015 to May 2016. The study site was the olezoa quarter in Yaounde. Our inclusion criteria : industries in the wood sector of the informal sector, workers who consented to this study. We excluded from this study: workers who did not consent to this study. Enrolment of participants and industries was random. Detailed information on the rationale of the study was given to all heads of industries and workers through face-to-face discussions⁽⁷⁾. Those who consented to the study were enrolled and interviewed using a data entry form. The data entry form had: socio-demographic characteristics and consequences of hazards. These consequences were identified through a thorough history of the complaint and physical examination where appropriate. We used the walk-through method in identifying hazards in the work environment^{(7),(8)}. We identified hazards with the aid of the French guide on health insurance in wood industries⁽⁴⁾. We recorded all information gathered in a hazard identification form. All data obtained was entered in Microsoft excel version 2010 and analysed using EPI Info version 7.

Results

We enrolled 48 industries and interviewed 168 workers. See table 1 for the socio-demographics characteristics of the workers (on page 5).

For convenience we grouped the hazards into 4 categories (See Table 2 on page 6 for these hazards).

The most frequent consequences were: wounds (n=63, 37.5%), heat stroke (n=24, 14.3%) and infections (n=21, 12.5%)

Discussions

The 19- 30 year age group was the most represented probably because of the informal nature of this sector. In the informal sector age is not a barrier for employment since in most African countries informal sectors are not protected by laws⁽¹⁰⁾. The number of workers decreased with increasing age-since you have just 10.7% of the workers in the 43-54 year age group; this is probably because intense physical strength is required for this type of job (since physical strength also decreases with age). Fifty five percent (55%) of the workers were married. The African culture might explain this-since every man would like to have his own wife (ves) and child (ren). Workers with a primary school level were those who had obtained a « first school leaving certificate » or those who abandoned at primary school, those with a secondary level were those who had gone to at least form one and those with a higher level were those who had gone to the University. Those with no level of education were those who never went to school. Since education is an element that is effective in promoting a healthy work place, the increased participant population (53.6%) with just a primary school level constitutes a hazard⁽¹⁰⁾.

For convenience, we grouped the hazards into hazards linked to: attitude of workers, assigned tasks, equipment, on-going activities and work environment⁽⁹⁾(See Table 2 on page 6 for these hazards).

Hazards related to the work environment were the most represented. The stocking of equipment and material on the path of work flow were hazards since they made the workflow path unsafe and the work environment congested. Fire and explosion was a hazard because all the industries were constructed with temporary material (wood) which is highly flammable. More to that, some workers smoked their cigarettes at their work places during working hours. The high nature of hazards in the work environment is probably because promoters of these industries lack the financial resources to prevent these hazards. More to that these industries are in the informal sector thus they lack policies related to workplace health and safety. Being in the informal sector also means there is little or no pressure by state authorities (the ministry of labor and social security) as concerns the implementation of workplace health and safety .Even if they were asked to implement these policies by state authorities, they lack the economic stability to implement these policies⁽¹⁰⁾. Hazards due to attitudes of workers were also highly represented. Lack of Personal Protective Equipment (PPE), repetitive gestures and insufficient training were the most represented. Again the presence of these hazards in high quantities indirectly relates to the informal nature of these activities. Unsuitable postures were one of the hazards in this category. This finding is similar to the study carried out by *Jahangiri M* and collaborators in which unsuitable postures was identified as a hazard⁽⁷⁾. The wounds that workers had were mainly amputation of fingers and hand/finger lacerations. Those workers with heat stroke had it because they worked in the open air, under the mercy of the sun; thus they complained of “internal heat” and sun burns. The infections included respiratory tract infections since the workers complained of frequent episodes of cough, rhinorrhea, chest pains and sneezing. These infections might be related to biologic hazards.

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Table 1: Distribution of socio-demographic characteristics of workers
(N=168)

Socio-Demographic characteristics	n	%
of workers		
Age of participants(years)		
0 to 18	3	1.8
19 to 30	84	50.0
31 to 42	63	37.5
43 to 54	18	10.7
Marital status		
Single		42.9
Married	93	55.4
Divorced	3	1.8
Level of education		
None	15	8.9
Primary	90	53.6
Secondary	54	32.1
High	9	5.4
Number of children		
0 to 3	138	82.1
4 to 7	27	16.1
More than 7	3	1.8
Number of hours of work per day		
0 to 8	78	46.4
9 to 11	69	41.1
12 to 13	21	12.5
Number of Days of work per week		
3	3	1.8
5	39	23.2
6	123	73.2
7	3	1.8
Number of years of experience		
0 to 10	93	55.3
10 to 20	60	35.7
21 to 30	9	5.4
More than 30	6	3.6

Table 2: Distribution of the hazards and risks within the 48 industries
N=48

Hazard/Risk	n	%
Attitude of workers		
Proximity of workers to a machine that is in operation	36	75
Untimely starting a marching when electricity supply resumes	24	50
Starting a machine by a third party	9	18.8
Handling of raw materials and finished products without PPE*	45	93.8
Repetitive gestures	48	100
Manipulation of chemicals	39	81.3
Insufficient training of workers on usage of machines	39	81.3
Consumption of alcoholic drinks during work hours	3	6.3
Unsuitable postures	24	50
Assigned tasks		
Time and distance constraints	9	18.8
Poor maintenance of electric equipment	12	25
Equipment		
Rejection of wood by a machine	12	25
Vibrations of machines	3	6.3
On-going activities		
Stress due to under estimation of duration of contract	3	6.3
Work environment		
Wood dust in atmosphere	3	6.3
Bad state of floors	36	75
Working at High altitude	3	6.25
Congestion of work environment	39	81.3
Path of work flow not secure	36	75
Stocking of goods above office seats	3	6.3
Inadequate stocking conditions	33	68.8
Biologic hazards	3	6.3
Bad weather	3	6.3
Fire and explosion	3	6.3

*PPE= Personal Protective equipment