

Occupational Health Problems and Work Practices of Hairdressers in Uyo, Akwa Ibom State, Nigeria

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ABSTRACT

There are several million hairdressers worldwide who are chronically exposed to various chemicals used in hairdressing business. This study aimed at determining the occupational health problems and work practices of hairdressers in Uyo, Nigeria. This was a cross-sectional descriptive study carried out in March 2017. The study participants consisted of all consenting hairdressers in Uyo metropolis, Nigeria who had been working for at least 6 months prior to the study. Data obtained was analyzed using STATA 12.1 software. Level of significance was set at 5%. A total of 429 hairdressers participated in the study. The mean age of respondents was 28.5 ± 7.5 years. Majority, (88.3%) were females and 63.9% were single. Ninety percent had at least secondary education, while 47.6% had worked for > 3 years. Health problems reported included back pain 61.5%, tiredness 57.1%, Itching/ redness of hands 43.1%, eye itching 26.1%, catarrh 22.8% and hearing difficulty 17.7%. Injuries included needle pricks 59.0% and cuts 46.9%. Standing for > 8 hours was reported by 33% of respondents. Use of any personal protective equipment (PPE) was 67.6%. The most commonly used was glove 42.7%. Awareness about PPE increased with respondent's level of education (p<0.05). Hand lesions were significantly less among those who used gloves as 95.6% had no chemical burns and rashes, 95.1% experienced no dryness and 63.4% had no itching/redness (p<0.05). The respondents reported several health problems. Work practices included poor use of PPE and prolonged standing. Regular workplace safety training, shift duty and use of ergonomically suitable chairs are advocated for hairdressers.

Keywords: Hairdressers, occupational hazards, health problems, work practices, Uyo, Nigeria

INTRODUCTION

Hairdressing is an occupation which has existed as far back as 5000BC among the Egyptians¹. The occupation has increased in popularity over the last few decades throughout the globe. Several million individuals practice as hairdressers and barbers worldwide². This is due to high patronage not only from women, but also men and children. Hairdressing work involves different activities such as prolonged standing, working with sharp tools like blades, needles, and scissors and sometimes working on wet and untidy floors. Consequently, hair dressers may encounter several health problems such as strain injuries from continuous muscle straining, pathological fractures, mechanical injuries from sharp tools as well as injuries from slips and falls³. They are also highly exposed to numerous harmful chemicals. This may result in chemical injuries such as burns from contact with cosmetic products like shampoo, hair bleaches, dyes, aerosol sprays and conditioners. These chemical substances with allergens and irritant effects also

cause health problems such as respiratory, skin and eye related diseases among hair dressers³⁻⁸. In addition, hairdressers and their customers also get exposed to blood borne infections such as Hepatitis B, Hepatitis C, HIV and other infections such as head lice, scabies, fungal infection which may be facilitated by shared tools (such as combs, towels, razors and scissors), especially where these tools are not appropriately disinfected⁶⁻¹¹. Following repeated exposures, reproductive health issues such as menstrual disorders and sub fertility have also been reported among female hairdressers⁴.

An indoor air pollution measurement in hairdressing saloons revealed higher levels of carcinogenic chemicals, oestrogenic or endocrine disrupting chemicals compared to the surrounding environment⁴. Hair products such as hair dyes, bleaching agents, permanent weaves solutions, hair conditioners, hair sprays and perfumes contain a large number of potentially harmful chemicals including resorcinol, aromatic amines, volatile solvents, diamino-toluence, formaldehyde, ammonia, ethanol and thioglycolic acid¹². Occupational Safety and Health Administration (OSHA) conducted extensive testing on these products in 2010. The agency found significant levels of formaldehyde

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in many popular products despite being labelled “formaldehyde free”¹³. The International Agency for Research on Cancer (IARC) classifies formaldehyde as a human carcinogen, particularly in the nasopharynx. Formaldehyde exposure is also linked to leukaemia and cancer of the nasal sinuses¹⁴. Low to moderate concentration of toluene contained in nail products and hair dyes as well as hair spray and gel can cause tiredness, weakness, memory loss, nausea, loss of appetite, hearing and colour vision loss^{15,16}. Route of entry of hazardous substances include inhalation, skin absorption, direct contact and ingestion.

With these occupational hazards hairdressers are expected to protect themselves by using personal protective equipment (PPE) in addition to other control measures. These are equipment worn to minimize exposure to hazards. They are designed to protect workers from serious workplace injuries or illness resulting from contact with chemical, physical, mechanical or other workplace hazards. Personal Protective Equipment includes items such as gloves, eye protective wears, protective hearing devices (ear plugs, muffs), vests, face masks, and safety shoes¹⁷. Occupational skin diseases such as contact dermatitis are the most common types of occupational diseases among hairdressers and can be very costly¹⁸. Therefore, effectively using PPE among hairdressers is vital to avoid unnecessary contact with hazardous products. Studies have shown low use of PPE among hairdressers despite the health problems they experience^{11,19,20}.

Also, certain work practices such as prolonged standing, long working hours and not taking breaks in a physically demanding job are important occupational health risks identified among hairdressers in previous studies^{16, 21}. Despite these identified health problems and work practice issues among hairdressers, there is however paucity of documented studies among this occupational group in Uyo. This study therefore aimed at determining the occupational health problems and work practices of hairdressers in Uyo with the intention of documenting findings and also giving feedbacks and recommendations to the study population.

METHODOLOGY

This study was carried out in hairdressing salons in Uyo, the capital of Akwa Ibom State, Nigeria. It is a fast developing city in the southern part of Nigeria with an estimated population of 413,381 based on the 2015 projected population²². The city has many users of hairdressing salons especially those working as civil servants and other workers in the formal sector. No association of hairdressers existed in Uyo as at the time of this study.

This was a cross-sectional descriptive study carried out in March 2017. The study population constituted of all consenting hairdressers in Uyo metropolis who had been working for at least 6 months prior to the study. The sample size was calculated for descriptive cross sectional studies using the formula for estimating single proportion with a prevalence of 0.52 being the proportion of utilization of PPE by hairdressers in a previous study¹⁹, z of 1.96, sampling error set at 5%, and 10% over estimation to accommodate for non response. A sample size of 423 was obtained.

In the absence of a hairdressers' association, the total number of salons was determined by manually counting all the hairdressing salons located on the different streets in Uyo metropolis. A total of 218 hairdressing salons were identified in Uyo metropolis by 10 research assistants. These were final year medical students who participated in data collection and were adequately trained. Total sampling was carried out involving all hairdressers who consented and had worked for up to 6 months in all the identified salons in Uyo metropolis. Data was collected using an interviewer administered questionnaire designed by the researchers based on the aims and objectives of the study. Information obtained included respondents' socio-demographic characteristics, health problems associated with hairdressing, awareness of and utilization of personal protective equipment and other work practices of hairdressers. Data collection was carried out by the researchers and lasted 2 weeks. The instrument was pretested on 10 hairdressers in Abak, a nearby town to ensure adequate comprehension.

The data obtained was analyzed using STATA 12.1 software. Data analysis was done using descriptive statistics (frequency and proportion to summarize variables) and inferential statistics (chi square to test the significance of association between two categorical variable). Level of significance was set at 5%.

Ethical clearance was obtained from University of Uyo teaching hospital ethical committee and informed consent was obtained from the respondents. Participation was voluntary and strict confidentiality was ensured. After the study, health education was given to respondents on the benefits of utilization of personal protective equipment in the salon.

RESULTS

A total of 429 out of 454 hairdressers participated in the study giving a response rate of 94.5%. The highest proportion of respondents, 255 (59.6%) were 21-30 years old with a mean ± SD of 28.5 ±7.5 years. Majority, 379 (88.3%) of the respondents were females. Almost two thirds, 274 (63.9%) were single, while majority, 386 (90.0%) had at least secondary education. Two hundred and four respondents (47.6%) had worked for more than 3 years as hairdressers. The commonest monthly income bracket was 20,000-50,000 Naira (£40-100). (Table 1).

Health problems reported by the respondents included back pain 264 (61.5%), tiredness 245(57.1%), Itching/ redness of the hands 185 (43.1%), eye itching 112 (26.1%), Catarrh 98 (22.8%) and hearing difficulty 76 (17.7%). Injuries included needle pricks 253 (59.0%) and cuts 201 (46.9%). (Table 2).

A total of 301 (70.2%) respondents were aware of existence of PPE for salons. Two hundred and ninety respondents (67.6%) reported using any form of PPE. The most commonly used was gloves 183 (42.7%). Reasons for non use among those that were aware of PPE included discomfort 156 (36.7%), not knowing what to use 33 (18.9%) and lack of permission by workplace 125 (8.3%), (Table 3).

Awareness about PPE was highest among those aged 15-20 years (88.2%) compared to those aged >40 years (50.0%) and those who had worked for <1 year (87.1%) compared to those who had worked for > 3 years (64.2%) (p<0.05). Awareness also increased with respondent's level of education being highest among those with tertiary (84.9%) compared to primary education (48.8%)(p<0.05). (Table 4).

About one third of the respondents (33%) reported standing more than 8 hours daily. (Fig 1).

Hand lesions were significantly less among those who used gloves as 95.6% had no chemical burns and rashes, 95.1% experienced no dryness and 63.4% had no itching/redness of the hands (p<0.05). (Table 5).

Table 1: Socio-Demographic profile of respondents

Variable	Frequency n=429	Percent
Age(years)		
≤20	51	11.9
21-30	255	59.4
31-40	97	22.6
>40	26	6.1
Mean ±28.5 ± 7.5		
Sex		
Male	50	11.7
Female	379	88.3
Marital status		
Single	274	63.9
Married	132	30.7
Others	23	5.4
Educational level		
Primary	43	10.0
Secondary	313	73.0
Tertiary	73	17.0
Duration of employment (years)		
<1	93	21.6
1-3	132	30.8
>3	204	47.6
Income (Naira)		
<20,000	157	36.6
20,000-50,000	173	40.3
>50,000	99	23.1

Table 2: Occupational Health problems associated with hair dressing among respondents

Variable	Frequency n=429	Percent
*Health problem		
Back pain	264	61.5
Tiredness	245	57.1
Weakness	213	49.7
Itching/ redness of the hands	185	43.1
Hand dryness	164	38.2
Eye itching	112	26.1
Loss of appetite	110	25.6
Nausea	98	22.8
Catarrh	98	22.8
Hand rashes	95	22.1
Hearing difficulty	76	17.7
Breathlessness	72	16.8
Cough	62	14.5
Body itching	46	10.7
*Types of Injuries		
Needle pricks	253	59.0
Cuts	201	46.9
Chemical Burns	153	35.8
Slip or fall	93	21.7
Violence	68	15.9

*multiple response

Table 3: Awareness, use and reasons for non-use of PPE among respondents

Variable	Frequency n=429	Percent
Awareness of PPE		
Yes	301	70.2
No	128	29.8
Use of any PPE		
Yes	290	67.6
No	139	32.4
*Use of PPE by types		
Gloves	183	42.7
Apron	69	16.1
Cream	62	14.5
Head cover	34	7.9
Earmuff	39	9.1
Boots	23	5.4
*Reasons for non -use of PPE among those who were aware		
N=301		
Discomfort	156	51.8
Difficult to use	59	19.6
Don't know what to use	33	11.0
Don't know when to use	26	8.6
Not permitted in workplace	25	8.3

*Multiple response

Table 4: Association between socio demographic characteristics and awareness of PPE among hairdressers in Uyo

Characteristics	Awareness of PPE n (%)		Total (n=429)	Statistical indices
	Yes (n=301)	No (n=128)		
Age (Yr)				
15-20	45 (88.2)	6 (11.8)	51 (100.0)	$\chi^2=15.52$ P value=0.00+
21-30	183 (71.7)	72 (28.3)	255 (100.0)	
31-40	60 (61.9)	37 (38.1)	97 (100.0)	
41 and above	13 (50.0)	13 (50.0)	26 (100.0)	
Sex				
Male	38 (76.0)	12 (24.0)	50 (100.0)	$\chi^2=0.92$ P value=0.34
Female	263 (69.4)	116 (30.6)	379 (100.0)	
Marital status				
Single	191 (69.7)	83 (30.3)	274 (100.0)	$\chi^2 =0.19$ P value= 0.91
Married	93 (70.5)	39 (29.5)	132 (100.0)	
Others	17 (73.9)	6 (26.1)	23 (100.0)	
Level of education				
Primary	21 (48.8)	22 (51.2)	43 (100.0)	$\chi^2=16.99$ P value< 0.00+
Secondary	218 (69.6)	95 (30.4)	313 (100.0)	
Tertiary	62 (84.9)	11 (15.1)	73 (100.0)	
Duration of employment				
Less than 1	81 (87.1)	12 (12.9)	93 (100.0)	$\chi^2=16.66$ P value <0.00+
1-3	89 (67.4)	43 (32.6)	132 (100.0)	
Above 3	131 (64.2)	73 (35.8)	204 (100.0)	

+Significant

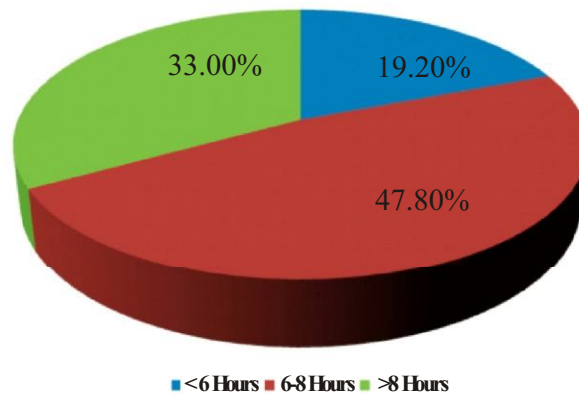


Figure 1: Daily hours of standing by respondents

Table 5: Association between respondents' glove use and hand lesions

Variables	Glove Use		Statistical Indices
	Yes N=183	No N=246	
Chemical burns			
Yes	8 (4.4)	145 (58.9)	$\chi^2 = 136.20$
No	175 (95.6)	101 (41.1)	p value=0.00*
Hand rashes			
Yes	8(4.4)	87 (35.4)	$\chi^2 = 58.47$
No	175 (95.6)	159 (64.6)	p value=0.00*
Hand dryness			
Yes	9(4.9)	155(63.0)	$\chi^2 = 149.95$
No	174(95.1)	91(37.0)	p value=0.00*
Itching/Redness of Hands			
Yes	67 (36.6)	118 (48.0)	$\chi^2 = 5.52$
No	116 (63.4)	128 (52.0)	p value=0.02*

*significant

DISCUSSION

This study was conducted among hairdressers to determine the occupationally related health problems they encountered as a result of their work. It also considered their work practices. The profession is practiced by both male and females. In the present study, majority were females. More than half of the respondents in this study were within the age range of 21-30 years. Hairdressing in the study area was therefore engaged in by young people in the peak of their productive work lives. Many started early in life as almost half of the participants had worked as hairdressers for more than three years. Similar studies have reported a period of 6-10 years as the duration spent in this occupation^{23,24}. This long duration underscores the need to ensure

appropriate workplace culture to prevent occupationally related health problems and injuries.

The most common health problem identified by almost two thirds of the respondents in the present study was backache. This was higher than a prevalence of 31% and 19% reported in similar studies conducted in Benin and Ibadan respectively^{25,26}. Low back pain and other musculoskeletal disorders such as neck-shoulder pain have been reported in other studies among hairdressers^{27,28}. Other health problems reported in the present study were cuts 46.9%, itching and redness of the hand 43.1%, hand dryness 38.2% and rashes on the hands 22.1%. A prevalence of hand dermatitis ranging from 5% - 38.6% has been reported among hairdressers in

different studies^{26,29,30}. Hand lesions are common among hairdressers since they mostly use their hands in the various activities involved in their occupation.

The work practices of hairdressers contribute to their health, well being and safety in the work environment. The use of personal protective equipment (PPE) is a universal measure for preventing harm from occupational hazards and is particularly necessary in occupations with high possibility of exposure to harmful or infective substances. About seventy percent of hairdressers in the present study reported awareness of the need for use of PPEs in their workplaces. Awareness was observed to increase with respondents' level of education. It was also higher among the younger age group. This group of hairdressers may likely have finished their training more recently than those in the older age groups and possibly were trained on the use of PPEs. About two thirds of the respondents in the present study reported to have consistently used a type of PPE while working. This finding is similar to that in a study in Croatia which reported that 68% of the hairdressers always used PPE²⁰. A study among manicurists in Brazil reported median adherence of 52% with respondents younger than 31 years being 2.5 times more likely to use PPE than the older ones¹⁹. In the present study, the most commonly used PPE were gloves 42.7% and aprons 16%. The commonest reason given by respondents for non use of PPE was discomfort. This corroborates with findings of a similar study where gloves use was 26.4% and the most common reasons for non-adherence were inconvenience or discomfort and allergy during use¹⁹.

The relatively low number of people using PPEs could be somewhat linked to the occurrence of health problems among the study population. A previous study reported that people who did not use protective equipment had twice the number of skin diseases compared to those who wore gloves and masks³⁰. Another study also reported that direct hand contact with oxidative hair dyes produces an undesirable, long-lasting discoloration of hands and fingernails³¹. This can be prevented by simple regular use of gloves. In the present study, a significant association was observed between use of gloves and the lack of occurrence of skin rashes, chemical burns and skin dryness.

Exposure to hairdressing chemicals such as dyeing or tinting agents is likely to induce an acute form of dermatologic symptoms³². On the other hand, relatively weak chemicals, such as detergents used in washing work, are more likely to act as chronic forms of irritant and induce chronic forms of dermatologic symptoms. Additionally, wet work acts as a weak but chronic irritant which can affect the skin barrier³³ and play a prominent role in inducing dermatologic symptoms. A retrospective review of the clinical assessments of hairdressers attending a clinic in Australia showed that 95.7% had a diagnosis of occupational contact dermatitis¹⁸. The use of glove should therefore be a mandatory practice among hairdressers.

Periodic training and reminders have been reported to encourage the use of PPE and fight against complacency regarding workplace safety¹⁹. In a study conducted in United Kingdom among hairdressers, 61% of those who had received health and safety training reported that this changed the way they undertook certain tasks, such as glove use²⁹.

Another work practice identified in the present study was prolonged hours of standing. Hairdressers in this study, worked for a mean of more than 8 hours a day without any break. Hair dressing salons commonly open from 8:00am to 7:00pm or later and most do not run shifts. The practices of prolonged standing, long working hours and not taking breaks in a physically demanding job are important occupational health risks which can result in health challenges such as low back pain^{16,21}. The introductions of shift duty and break periods are likely to improve the wellbeing of these workers. Use of ergonomically suitable chairs which permit the respondents to sit and work could also be beneficial.

CONCLUSION

The respondents in this study reported several health problems such as backache and dermatitis. The use of the different types of PPE including gloves was poor. Other work practices reported included prolonged standing and long working hours with no break. Hand lesions were least among those who used gloves. It is recommended from the study that there should be regular training of hairdressers to improve their

use of PPE which would limit exposure to workplace hazards and reduce occurrence of health problems. Reduction in daily hours of standing can be achieved through running shifts and encouraging the hairdressers to sit on ergonomically suitable chairs to work instead of standing.

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