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Effective Strategies for Mitigating Health Risks Among Skin And Nail Care Practitioners In Abia State

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Abstract

This study examines the health risks faced by skin and nail practitioners in Abia State, Nigeria and explores effective strategies for mitigating these risks. This is informed by the presence of harmful substances in chemicals used in the production of cosmetics constitute imminent danger to cosmetologists. The objectives of the study were to examine the work conditions of skin and nail care practitioners; ascertain the health hazards faced by skin and nail care practitioners; and to identify the appropriate strategies required to curtail the identified hazards. The population for the study were all skin and nail care practitioners in Abia State and the sample consisted of 120 persons conveniently selected although 116 practitioners eventually participated. Data were collected using a questionnaire developed for the study and titled "Mitigating Health Risks Questionnaire". Findings showed that over 80% have encountered workplace hazards through different routes among which are: the hands (80.2%), eyes (35.3%), mouth (23.3%), nostrils (68.1%), work surroundings (38.8%), with the highest being dermal contact (92.2%). Findings also revealed that workplace conditions, such as lighting, workstations, availability of first aid facilities, and the availability of gloves and face masks were unsatisfactory. Thus, it was agreed as indicated by the grand mean (3.8) that strategies such as proper management of work schedule (3.9), maintaining adequate hygiene (4.3), regular exercise (3.3), provision of suitable chairs/tables (4.4), use of protective equipment (3.7), adhering to good work postures (4.2), among others, can effectively reduce the health risks faced by skin and nail care practitioners in Abia State. It was recommended among others that there should be continuous sensitization of the practitioners with regards to the risks associated with their work and thus ensure safe practice. Proper work conditions should also be created by salon operators and the use of personal protective equipment should be encouraged.

Keywords: Skin and nail care practitioners, Beauty industry, Dermatitis, Cosmetologist, Workplace conditions.

Introduction

The beauty industry, particularly skin and nail care, is a rapidly growing sector in Nigeria. With the increasing demand for beauty services, practitioners are exposed to various occupational hazards that can negatively impact their health. Body and personal care products (cosmetics) are designed to be applied on body parts for the purpose of cleaning, protecting, beautifying, and enhancing health and young-looking appearance or appearance without changing the body's operational nature (Adepoju, et al, 2012; Oyedeji, et al, 2011). Body care products are of different kinds; the skin moisturizers, perfumes, lipsticks and lip glosses, fingernail polishes, eye and facial makeup preparations, shampoo, hair colors and deodorants (Odumosu & Ekwe, 2010). However, certain chemicals that are part of these cosmetic formulations have been found to be harmful, and the usage of cosmetic products containing such chemicals portends danger for human health. Surprisingly, despite the regulations put in place to prevent or minimize the presence of such ingredients in cosmetic brands, heavy metals,

organic and inorganic chemical substances are still very much in them. A reason given for this is that such substances may be a major component of the raw materials used in the manufacture of the products, or are deliberately included (WHO, 2011). Cosmetic products appear not to be subjected to clinical trials or laboratory testing(s) by the regulatory authority in Nigeria before premarket approval. This is evident from the legal document setting up the nation's National Agency for Food and Drug Administration and Control (NAFDAC). Guidelines stating the necessary requirement for registration of imported cosmetics in Nigeria are the attachment of certificate of analysis to the application for registration. This suggests that safety and quality of products are monitored through post-market surveillance (PMS) activity. The implication is that laboratory/clinical testing of cosmetic products by NAFDAC takes place only when a victim of hazardous effect of cosmetic is reported or an end user discovers it to be defective or have side effect on the consumers. Thus, beauty salons are a breeding ground for several health complications.

The National Institute for Occupational Safety and Health (NIOSH), state that concerns about job-related health effects associated with chemicals routinely used by manicurists drew attention in 2015, when the governor of New York, Andrew M. Cuomo announced a new initiative to "prevent unlawful practices and unsafe working conditions" in New York nail salons, following the publication of a two-part investigative series in the New York Times. Accordingly, from physical discomforts to contact with chemical substances contained in polishes, removers, gels, shellacs, disinfectants and adhesives, nail workers and skincare practitioners encounter hazards that predispose them to several health complications like cancer, respiratory, neurological and dermatological problems, as well as reproductive harms that is equally injurious to developing fetuses (Ford, 2014). Some of these chemicals may also affect the body's normal hormonal functions. Dodson, et al (2012) states that, the contents of products used in nail salons for example, include endocrine disrupting compounds (EDCs) like parabens and phthalates. Endocrine-disrupting chemicals (EDCs), by interfering with normal processes, can have developmental, carcinogenic, mutagenic, immuno-toxicological, and neuro-toxical effects (Quach 2010). Respiratory problems are further exacerbated by inadequate or poor ventilation in salons (Marlow et al, 2012), through exposure to irritants in the work setting (Lung Association of Ontario, 2012).). In addition, a considerable amount of dust is generated when artificial nails are filed and this, if carried by the wind, are inhaled by both the workers and the clients (Marlow et al, 2012), Ford (2014) points out that, the chemicals contained in most of the products frequently used in nail salons only recently started receiving attention by getting tested in humans, and most of the products do not carry a list of the chemicals contained within. Worse still, these chemicals are under-regulated. Nail salons utilize large quantities of chemicals. Salon workers encounter over 20 regularly used chemicals each day (NAILS, 2007).

Adebajo (2002) observes that the cosmetic market in Nigeria is currently flooded with a variety of cosmetic products in response to the high demands for products. Nigeria, whose citizens are regarded as being highly fashionable and glamorous, provides a thriving market for cosmetic product manufacture, marketers and importers. Also, cosmetic manufacturers and marketers/distributors selling products containing mercury and corticosteroids usually violate fair packaging and labelling requirements by not always listing them as ingredients of the products. Furthermore, because society tends to associate affluence with physical attractiveness, most cosmetic manufacturers and marketers have devised the advertising strategy of promoting products basically by exposing the populace to pictures of good-looking and even slightly above-average-looking females (Apaolaza-Ibanez et al., 2011). Many cosmetic products exist in the Nigerian market and elsewhere across the globe; some are locally made,

while others are imported. They may occur in liquid, semi-liquid, solid, granular and volatile form; examples include skincare creams, hair creams, toothpaste, soaps, perfumes, lipsticks, fingernail and toenail polish, eye and facial makeup, towelettes, permanent waves, hair colours, hair sprays and gels, deodorants, hand sanitizer, etc. (Nduka et al., 2019). The presence of harmful substances in these cosmetics which constitute imminent danger to cosmetologists informed this study which aims to ascertain the strategies to deploy in curbing/ameliorating the health hazards among beauty practitioners in Abia State.

Statement of the Problem

Skin and nail care practitioners in Abia State are often exposed to hazardous substances, poor working conditions, and a lack of proper health and safety training. These factors contribute to a high risk of occupational illnesses and injuries. There is a critical need to address these issues to protect the health of practitioners and ensure the sustainability of the beauty industry. Additionally, considering the absence of a determined effort by different levels of government to address the health issues posed by these exposures, it is important to ensure that skin and nail care workers comply with health and safety procedures that will drastically reduce the health hazards they encounter in their work environments. This study, therefore, sought to identify the key health risks and propose effective strategies for reducing these risks.

Objectives of the study

The main aim of this study is to find out the effective strategies that can be employed to promote safe work practices among skin and nail care practitioners in Abia state. More specifically, the study sought to:

1. Examine the work conditions of skin and nail care practitioners in Abia State.
2. identify the health hazards faced by skin and nail care practitioners.
3. Identify the appropriate and effective strategies required to mitigate the health risks within the salons.

Methodology

Research Design

This study employed cross sectional descriptive study involving skin and nail care practitioners. This form of research design involves the collection of data from many individuals at a single point in time. The study involved the collection of information on the demographic characteristics of the practitioners, the health risks as identified by them, and the possible strategies for mitigating these risks.

Area of the study

The area of the study is Abia state. Abia states is one of the States in the southeastern part of Nigeria. The capital is Umuahia, and the major commercial city is Aba. The State was created in 1991 from the old Imo State and its citizens are predominantly Igbo people (99.9%) of the population). The people of the State are involved in many industries among which is the beauty industry.

Population of the Study

The population of the study is 1,200 identified skin and nail care practitioners in Abia state.

Sample and Sampling Technique

A total of 120 skincare and nail care practitioners were selected through non-probability convenient sampling; only 116, however, accepted to participate in the study.

Method of Data Collection and Analysis

Data was collected from the study participants using a questionnaire titled "Mitigating Health Risks Questionnaire". The questionnaire contained three sections according to the three objectives of the study. Section A required respondents to indicate the conditions under which they operated in their workplaces and had nine items. Section B required respondents to identify the health risks they faced in their workplaces and contained 13 items. Section C required respondents to agree or disagree with suggested ways of curbing or reducing the identified health risks. It had eight items.

The response mode for Sections A and B were Yes and No while Section C was a five-point Likert scale of Strongly agree, Agree, Disagree Strongly disagree and Undecided. These were scored 5, 4, 3, 2, and 1 respectively. The researcher with the assistance of three persons administered and retrieved copies of the questionnaire. These were collated and analysed using frequencies and percentages and summarized in tables.

Results

Table 1 summarizes the work conditions of the practitioners. The table shows that almost all the respondents perceive the workplace environment as not conducive for work. Fist aid facilities are not available (94%); the practitioners have not been tutored about safe handling of dangerous work tools and substances (88.8%); gloves and face masks are not available (77.6%) and so on. Rest rooms, however, are available and the practitioners are able to use them when need be. They are also conscious of handling dangerous chemicals.

Table 1: Work Conditions in Most Skin and Nail Care Salons

S/N	Variables	Yes	Percentages	No	Percentages
1.	Availability of sufficiently lighted work environment	53	45.7	63	54.3
2.	Presence of suitable workstation/nail table for clients	42	36.2	74	63.8
3.	Adequacy of ventilation around the work environment	48	41.4	68	58.6
4.	Visits the restroom despite the work pressure	39	33.6	77	66.4
5.	Handles chemical substances that could cause skin problems	93	80.2	23	19.8
6.	Previously tutored about safely handling dangerous work tools and substances	13	11.2	103	88.8
7.	Availability of first aid facility/measures	7	6.0	109	94.0
8.	Availability of gloves and face masks	26	22.4	90	77.6
9.	Task variability ensuring working in different postures	29	25.0	87	75.0

These hazards are summarized in table 2. The analysis shows that the least faced risk by the practitioners is varicose vein followed by fungal infection, carpal tunnel syndrome, nausea, nail infection, skin irritation, physical injuries, eye irritation, leg/foot pain, nose irritation, dermatitis, and respiratory discomfort in that order

Table 2: Reported Health Problems Associated with Skin and Nail Care Practice

S/N	Variables	Yes	Percentage	No	Percentage
1.	Eye irritation	61	52.6	55	47.4
2.	Nose irritation	63	54.4	53	45.6
3.	Dermatitis	64	55.2	52	44.8
4.	Physical injuries	59	50.8	57	49.2
5.	Nausea	33	28.4	83	71.6
6.	Leg/foot pain	62	53.4	54	46.6
7.	Fungal infection	12	10.3	104	89.7
8.	Nail infection	42	36.2	74	63.8
9.	Respiratory discomfort	71	61.2	45	38.8
10.	Varicose vein	8	6.9	108	93.1
11.	Skin irritation	49	42.3	67	57.7
12.	Carpal tunnel syndrome	14	12.1	102	87.9

Table 3 shows some strategies, as identified by the practitioners, to reduce workplace hazard encountered. All the identified strategies were seen to be effective except for one which had a mean of 2.6.

Table 3: Strategies for reducing workplace risks.

S/N	Variables	SA	A	D	SD	U	Mea
1.	Proper management of work schedule	49	41	11	9	6	4.0
2.	Maintaining adequate hygiene	67	29	7	4	9	4.2
3.	Regular exercise	33	37	19	25	2	3.6
4.	Use of suitable chairs/tables	84	18	5	8	1	4.5
5.	Taking regular breaks	21	50	25	13	7	3.6
6.	Use of protective equipment	47	34	13	15	7	3.9
7.	Medical checkups	12	45	12	8	39	2.6
8.	Adhering to good work posture	53	41	2	7	13	4.0
	Grand mean						**3.8**

Discussion of Findings

Findings indicate the work conditions under which most cosmetologist operate. Challenges such as insufficient lighting, poor ventilation, inability to use the bathroom often due to work pressure. as well as dealing with different chemical substances on daily basis, lack of suitable workstations, unavailability of first aid measures, and so on, make the workplace hazardous for cosmetologists. Following closely, several health problems were identified as common ailments among practitioners such as eye irritation, nose irritation, dermatitis, physical injuries, respiratory discomforts, nail infection, leg/foot pain. These findings agree with Minamoto (2014) who affirm that exposure to a range of chemicals used in cosmetic products can lead to skin irritation and skin diseases such as irritant contact dermatitis (ICD), allergic contact dermatitis (ACD), urticaria (hives) and angioedema (like hives but where swelling occurs under the skin). These chemicals include formaldehyde (found in some polishes) and acetone and alcohol (used in nail polish removers). Acrylates (methyl methacrylates and ethyl methacrylates) used in the creation of acrylic nails, have also been linked to ACD when there is direct contact with the substance. Known carcinogens used in products commonly found in nail salons include titanium dioxide, formaldehyde, benzoyl peroxide, and so on (Rudel et al, 2007; Quach, 2010). Furthermore, acetone, toluene, paraben and dibutyl phthalates, which are found in several nail products, are known endocrine disruptors and raise concern about their possible risks for causing cancers that may be hormonally influenced, such as ovarian and breast cancer. The chemicals of greatest concern in nail products have been referred to as The Toxic Trio. Chemicals found in products that are used in nail salons that have endocrine-disrupting effects can be categorized as volatile solvents - including formaldehyde and toluene - or as semi-volatile solvents, including phthalates (Quach, 2012).

In the same vein, Roelofs et al (2007) studied Vietnamese nail salon workers in the Boston area and found that breathing problems and nasal symptoms were not uncommon. In one study of Korean nail salon workers, compared with a matched control group of office workers (Park et al, 2014), 92% of salon workers complained of eye irritation, significantly higher than the control group. Research has also been done on the health issues relating to chemical exposures for nail salon workers in pregnancy and on the problems faced by the offspring of women who work in nail salons. A study by Garlantezec (2009) found that women exposed to solvents used in products common in hair salons - and which are also used in nail salons - had offspring with higher rates of birth defects than expected, with these problems including oral clefts, urinary malformations and male genital malformations, while the studies by Herdt-Losavio et al (2009) found that cosmetologists are at higher risk of having

spontaneous abortions (miscarriages) and low birth weight babies. It is, however, surprising that participants did not identify fungal infections, nail infection, and carpal tunnel syndrome as major health hazards given that they regularly come in contact with infected nails of clients. The non recognition of carpal tunnel syndrome as a major problem may be attributed to the ignorance of the meaning of the term.

With regards to the strategies that could be applied to curb the hazards, the grand mean indicated that the respondents agreed that the listed strategies such as proper management of work schedule, maintaining adequate hygiene, regular exercise, provision of suitable chairs/tables, use of protective equipment, adhering to good work postures, among others, can effectively reduce the health hazards faced by skin and nail care practitioners in Abia state. A publication by NIOSH indicates that manicures are better performed over a workstation—or "nail table"—with the client's hands resting on the table as they work. The nail table is, therefore, directly below the nail technicians' breathing zone. Downdraft vented nail tables and portable source capture systems that place local exhaust ventilation close to the work area provide the means to vent (remove) potential dust or chemicals away from the breathing zone. Hence, theoretically, potential contaminants may be removed before they cross the breathing zone and are inhaled. Good general room ventilation is also important. But it had been found that workplaces in the study area are not so well ventilated. NIOSH further described simple measures to reduce exposures during artificial nail application such as keeping dispensers closed and wearing long sleeves and gloves to protect skin from potential irritants and sensitizers. Information is also provided on engineering controls, such as how to build a downdraft vented nail table that vents to the outdoors.

Conclusion and Recommendations

It can be concluded that most of the Salon practitioners do not operate under good work conditions and are exposed to diverse health risk which may and often deleterious and predisposing them to illnesses. It can also be concluded that there exist strategies which can be applied to mitigate these risks and thus enhance the physical well-being of practitioners.

In the light of the findings and in view of the growth of the beauty industry in Nigeria, it is here recommended that:

1 Proper work conditions should be created by Salon owners, as well as enforce safe salon practices.
2 There should sensitization of the practitioners by the relevant bodies in the cosmetology industry and government agencies to create an awareness of the hazards or risks of the profession.
3 The use of protective equipment, the practice of hygiene as well as the sterilization of work tools should be encouraged among beauty salon practitioners as these will significantly ensure safety in workplaces.

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