



# Prevalence, Attitudes and Smoking Habits among Healthcare Professionals in Southwest Nigeria

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## **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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## **ABSTRACT**

**Background:** Smoking among healthcare professionals poses significant challenges to public health efforts, particularly in regions like Southwest Nigeria, where smoking prevalence remains relatively high despite tobacco control measures. Understanding the prevalence and attitudes towards smoking among healthcare professionals is crucial for designing effective tobacco control interventions.

**Methods:** A cross-sectional study was conducted among 800 healthcare professionals in Southwest Nigeria. Data on socio-demographic characteristics, smoking habits, attitudes towards smoking, workplace environment, and lifestyle factors were collected using a structured questionnaire. Statistical analysis was performed using SPSS version 20.0, including descriptive statistics and chi-square tests.

**Results:** The prevalence of smoking among healthcare professionals was 9.13%, with 31.75% being former smokers and 59.12% never smoked. Factors significantly associated with smoking

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prevalence included gender ( $p < 0.001$ ), age ( $p = 0.016$ ), occupation ( $p = 0.037$ ), education level ( $p = 0.049$ ), years of experience ( $p = 0.025$ ), beliefs about smoking harms ( $p < 0.001$ ), and attitudes towards workplace smoking policies ( $p < 0.001$ ). Most participants believed smoking was harmful (76.25%) and could adversely affect professional performance (68.38%). However, only 4.92% had participated in smoking cessation programs.

**Conclusion:** Despite high awareness of smoking harms, a significant proportion of healthcare professionals in Southwest Nigeria smoke. Workplace environment and attitudes towards smoking cessation programs are critical determinants of smoking behaviour. Strengthening tobacco control policies, promoting smoking cessation interventions, and creating supportive workplace environments are essential for reducing smoking prevalence among healthcare professionals in Nigeria.

*Keywords: Attitudes; healthcare professionals; smoking cessation programs; smoking habits; smoking prevalence; workplace environment.*

## 1. INTRODUCTION

Smoking is a global public health concern, with significant implications for both smokers and non-smokers. Healthcare professionals play a crucial role in promoting health and preventing diseases, yet their own smoking habits and attitudes toward smoking can influence patient care and public health initiatives [1]. Understanding the prevalence, attitudes, and smoking habits among healthcare professionals in Southwest Nigeria is essential for designing effective interventions to address smoking cessation and promote healthier behaviours within this population.

Nigeria, like many other countries, faces a growing burden of tobacco-related diseases. Despite efforts to curb smoking prevalence, tobacco use remains prevalent, with an estimated 4.5 million adults currently smoking in Nigeria [1]. Among healthcare professionals, smoking prevalence can vary, influenced by various factors such as socio-demographic characteristics, workplace environments, and individual attitudes toward smoking.

Studies examining the prevalence of smoking among healthcare professionals in Nigeria have reported inconsistent findings. For example, a study by Babatunde et al. [2] found a relatively low prevalence of smoking (8.2%) among healthcare workers in Northern Nigeria, while a study by Odeyemi et al. [3] reported a higher prevalence (17.3%) among healthcare professionals in Southern Nigeria. These discrepancies highlight the need for region-specific research to accurately assess smoking prevalence among healthcare professionals in different parts of Nigeria.

Attitudes toward smoking among healthcare professionals are also important determinants of smoking behaviour and cessation efforts.

Positive attitudes toward smoking, such as perceiving it as socially acceptable or believing in the benefits of smoking, can hinder smoking cessation initiatives and perpetuate smoking habits among healthcare professionals [4]. Conversely, negative attitudes toward smoking, coupled with adequate knowledge of the harmful effects of tobacco use, can facilitate smoking cessation and promote healthier lifestyles within healthcare settings.

Understanding the smoking habits of healthcare professionals is crucial for implementing effective tobacco control measures and promoting smoke-free environments within healthcare facilities. Healthcare professionals who smoke may face challenges in providing smoking cessation counselling to patients and may inadvertently undermine tobacco control efforts [1]. Additionally, exposure to second-hand smoke in healthcare settings can pose health risks to patients, visitors, and non-smoking healthcare professionals, highlighting the importance of addressing smoking habits among healthcare workers. This study aims to investigate the prevalence, attitudes, and smoking habits among healthcare professionals in Southwest Nigeria. By assessing smoking prevalence, attitudes toward smoking, and factors influencing smoking behaviour among healthcare professionals, this research seeks to provide valuable insights for developing targeted interventions to promote smoking cessation and create smoke-free healthcare environments in Southwest Nigeria.

## 2. MATERIALS AND METHODS

### 2.1 Study Area

Southwest Nigeria, comprising states such as Lagos, Ogun, Oyo, Osun, Ondo, and Ekiti, is a vibrant region known for its rich cultural heritage, economic significance, and diverse population. In recent years, the region has experienced rapid

urbanization and economic growth, leading to significant changes in lifestyle and healthcare patterns.

Healthcare delivery in Southwest Nigeria is supported by a range of professionals including physicians, nurses, pharmacists, and allied health workers. Despite the presence of these professionals, challenges such as inadequate infrastructure, uneven distribution of healthcare facilities, and brain drain have persisted, impacting the quality and accessibility of healthcare services. Smoking is a significant public health concern in Southwest Nigeria, with implications for both individual health outcomes and healthcare systems. While tobacco control measures have been implemented, including public awareness campaigns and tobacco taxation, smoking prevalence remains relatively high in the region.

## 2.2 Study Design

This research utilized a cross-sectional study design to assess the prevalence of smoking

among healthcare professionals in Southwest Nigeria and explore associated factors. The study aimed to gather data on socio-demographic characteristics, smoking habits, attitudes towards smoking, workplace environment, general health, and lifestyle factors among healthcare professionals

## 2.3 Sampling

A multistage cluster design was employed for this study. In the first stage, four states Ekiti, Osun, Oyo and Lagos were randomly selected from the six states in Southwest Nigeria. In the second stage, ten local governments (5 rural and 5 urban) were selected in each of the four states. In the third stage, four hospitals (2 public and 2 private) were selected in each local government. In the final stage, five healthcare professionals were selected for each hospital. In total, 800 healthcare professionals were enrolled in this study. Participants were selected based on their availability and willingness to participate in the study.



Fig. 1. Map of Southwest Nigeria

**Table 1. Socio-demographic Details of Healthcare Professionals**

<b>Variable</b>	<b>Frequency (n = 800)</b>	<b>Percentage (%)</b>
<b>Gender</b>		
Male	337	42.13
Female	463	57.87
<b>Age (years)</b>		
Less than 25	52	6.50
25 – 34	239	29.88
35 – 44	170	21.25
45 – 54	254	31.75
55 and above	85	10.63
<b>Occupation</b>		
Doctor	117	14.63
Nurse	374	46.75
Pharmacist	89	11.12
Laboratory Scientist	123	15.38
Dentist	11	1.37
Others	86	10.75
<b>Highest level of education</b>		
Diploma	156	19.50
Bachelor's degree	492	61.50
Master's degree	114	14.25
Doctorate	38	4.75
<b>Years of experience in healthcare</b>		
Less than one year	33	4.13
1 – 5 years	142	17.75
6 – 10 years	115	14.38
11 – 15 years	189	23.63
More than 15 years	321	40.13
<b>Are you currently practicing in a public or private healthcare facility?</b>		
Private only	355	44.38
Public only	301	37.63
Both	144	18.00

**Table 2. Smoking Habits among Healthcare Professional in Southwest Nigeria**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>Do you currently smoke cigarettes or any other tobacco products?</b>		
Yes	73	9.13
No	727	90.87
<b>If no, have you smoked before?</b>		
Yes	254	34.94
No	473	65.06
<b>If you currently smoke, how many cigarettes do you smoke per day on average?</b>		
Less than 5	42	57.53
5 – 10	31	42.47
11 – 20	00	0.00
More than 20	00	0.00
<b>How long have you been smoking or did you smoked (if you've stopped smoking)?</b>		
Less than 1 year	11	1.38
1 – 5 years	217	27.12
6 – 10 years	28	3.50
11 – 15 years	44	5.50
More than 15 years	27	3.38
Not applicable	473	59.13
<b>*If you've ever smoked, what influenced your decision to start smoking? (Check all that apply) (n = 413)</b>		
Peer pressure	219	53.03
Family influence	11	2.66
Stress relief	89	21.55
Curiosity	74	17.92
Advertisement	9	2.18
Others	11	2.66
<b>If you are currently smoking, have you ever attempted to quit?</b>		
Yes	40	54.79
No	33	45.21
<b>If yes, how many times have you attempted to quit?</b>		
Once	16	40.00
Twice	11	27.50
Thrice	6	15.00
More than three times	7	17.50
<b>*What methods did (or have) you used to quit smoking? (Check all that apply) (n = 369)</b>		
Nicotine replacement therapy (e.g., patches, gum)	274	34.25
Counselling or support groups	39	4.88

<b>Variable</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Prescription medication (e.g., varenicline)	32	4.00
Cold turkey (quitting abruptly without assistance)	18	2.25
Others	6	0.75
<b>If you've quit smoking, what motivated you to quit?</b>		
Health concerns	254	100.00
Family pressure	00	0.00
Financial reasons	00	0.00
Others	00	0.00
<b>How do you perceive the prevalence of smoking among healthcare professionals in Southwest Nigeria?</b>		
Very low	667	83.38
Low	133	16.62
Moderate	00	0.00
High	00	0.00
Very high	00	0.00
<b>What do you think are the main reasons for healthcare professionals to smoke in Southwest Nigeria?</b>		
Stress relief	448	56.00
Peer influence	21	2.62
Lack of awareness about health risks	00	0.00
I don't know	331	41.38
<b>Do you think healthcare professionals who smoke should receive any form of special assistance to quit smoking?</b>		
Yes	379	47.38
No	421	52.62
<b>Are you exposed to second-hand smoke in any form?</b>		
Yes	419	52.38
No	381	47.63

\* = multiple responses

**Table 3. Attitudes towards Smoking and Smoking Cessation Programs**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>Do you believe smoking is harmful to health?</b>		
Strongly agree	610	76.25
Agree	139	17.37
Neutral	33	4.13
Disagree	18	2.25
Strongly disagree	00	0.00
<b>Do you think smoking can adversely affects your professional performance?</b>		
Strongly agree	547	68.38
Agree	197	24.63
Neutral	56	7.00
Disagree	00	0.00
Strongly disagree	00	0.00
<b>Do you think healthcare professionals who smoke set a bad example for patients?</b>		
Strongly agree	229	28.63
Agree	453	56.63
Neutral	00	0.00
Disagree	81	10.13
Strongly disagree	37	4.625
<b>Have you ever received feedback from patients or colleagues about your smoking habit affecting your professional practice?</b>		
Yes	5	0.63
No	68	8.50
Not Applicable	727	90.88
<b>How do you perceive the prevalence of smoking among healthcare professionals in Nigeria?</b>		
Very low	667	83.38
Low	133	16.63
Moderate	00	0.00
High	00	0.00
Very high	00	0.00
<b>Are you aware of smoking cessation programs available to healthcare professionals in Southwest Nigeria?</b>		
Yes	731	91.38
No	69	8.62
<b>If yes, have you ever participated in any smoking cessation program?</b>		
Yes	36	4.92
No	695	95.08
<b>If no, what are the reasons for not participating? (Check all that apply) (n = 695)</b>		
Lack of time	68	9.78
Lack of interest	94	13.53

<b>Variable</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Doubt in program effectiveness	22	3.17
Confidentiality concerns	19	2.73
I don't need it	492	70.79
<b>Do you believe smoking cessation programs are effective for healthcare professionals?</b>		
Yes	613	76.63
No	42	5.25
Not sure	145	18.13
<b>*What factors do you think discourage healthcare professionals from participating in smoking cessation programs? (Check all that apply) (n = 876)</b>		
Lack of awareness	229	28.63
Fear of stigma or judgment from colleagues	414	51.75
Lack of time	126	15.75
Lack of effective programs	85	10.63
Others	22	2.75
<b>How effective do you think smoking cessation programs are for healthcare professionals?</b>		
Very effective	348	43.50
Effective	276	34.50
Somewhat effective	49	6.13
Not effective	00	0.00
I don't know	127	15.88
<b>*What factors influence your decision to discuss smoking cessation with patients? (Select all that apply) (n = 951)</b>		
Patient's health condition	552	69.00
Patient's readiness to quit	96	12.00
Time constraints	14	1.75
Personal beliefs about smoking cessation	211	26.38
Others	78	9.75
<b>*What barriers do you think prevent healthcare professionals from effectively helping patients quit smoking? (Select all that apply) (n = 900)</b>		
Lack of time during patient visits	17	1.89
Inadequate training in smoking cessation counselling	23	2.56
Lack of resources (e.g., educational materials, access to counselling services)	327	36.33
Cultural or societal norms	419	46.56
Others	114	12.67

\* = multiple responses



**Table 4. Workplace Environment and Policies**

Variable	Frequency	Percentage (%)
<b>Is smoking permitted within your workplace premises?</b>		
Yes	00	0.00
No	800	100.00
<b>Do you think implementing stricter smoking policies within healthcare facilities would help reduce smoking among healthcare professionals?</b>		
Yes	800	100.00
No	00	0.00
<b>Are there any smoking cessation programs or support services available at your workplace?</b>		
Yes	117	14.63
No	683	85.37
<b>Do you believe that the workplace environment influences smoking behaviour among healthcare professionals?</b>		
Yes	13	1.63
No	787	98.37
<b>Do you think healthcare professionals should be held to a higher standard regarding smoking behaviour than the general population?</b>		
Yes	615	76.87
No	98	12.25
Not sure	87	10.88
<b>Would you support a policy banning smoking for healthcare professionals during working hours?</b>		
Yes	700	87.50
No	34	4.25
Not sure	66	8.25

**Table 5. General Health and Lifestyle**

Variable	Frequency	Percentage (%)
<b>How would you rate your knowledge about the health risks associated with smoking?</b>		
Very poor	00	0.00
Poor	00	0.00
Fair	00	0.00
Good	167	20.88
Excellent	633	79.12
<b>How often do you educate your patients about the health risks of smoking?</b>		
Never	00	0.00
Rarely	00	0.00
Sometimes	126	15.75
Often	411	51.38
Always	263	32.88

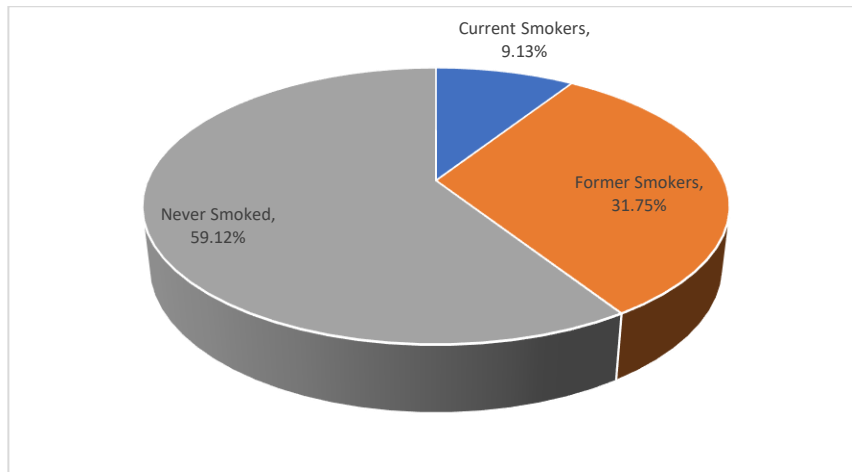
Variable	Frequency	Percentage (%)
<b>Do you engage in regular physical activity?</b>		
Yes	662	82.75
No	138	17.25
<b>How would you describe your diet?</b>		
Unhealthy	00	0.00
Moderately healthy	196	24.50
Very Healthy	604	75.50
<b>Do you consume alcohol?</b>		
Yes	114	14.25
No	686	85.75
<b>How confident are you in your knowledge of the health risks associated with smoking?</b>		
Very confident	518	64.75
Confident	282	35.25
Neutral	00	0.00
Not very confident	00	0.00
Not confident at all	00	0.00
<b>Smoking is a major cause of preventable diseases</b>		
Strongly agree	584	73.00
Agree	129	16.13
Neutral	37	4.63
Disagree	50	6.25
Strongly disagree	00	0.00
<b>Second-hand smoke exposure poses significant health risks to non-smokers</b>		
Strongly agree	481	60.13
Agree	312	39.00
Neutral	7	0.88
Disagree	00	0.00
Strongly disagree	00	0.00
<b>Second-hand smoke exposure poses similar health risks as smoking</b>		
Strongly agree	348	43.50
Agree	245	30.63
Neutral	30	3.75
Disagree	166	20.75
Strongly disagree	11	1.38
<b>Smoking during pregnancy can have serious health consequences for both the mother and the baby</b>		
Strongly agree	662	82.75
Agree	103	12.88
Neutral	35	4.38
Disagree	00	0.00

Variable	Frequency	Percentage (%)
Strongly disagree	00	0.00
<b>How would you rate your overall health?</b>		
Very poor	00	0.00
Poor	00	0.00
Fair	155	19.38
Good	407	50.88
Excellent	238	29.75

**Table 6. Factors Influencing the Prevalence of Smoking among Healthcare Professionals**

Factors	Prevalence of Smoking among Healthcare Professionals			p-value
	Current Smokers (n = 73)	Former Smokers (n = 254)	Never Smoked (n = 473)	
<b>Gender</b>				0.000*
Male	73 (21.66%)	252 (74.77%)	12 (3.56%)	
Female	0 (0.00%)	2 (0.43%)	461 (99.57%)	
		<b>Age (years)</b>		0.016*
Less than 25	22 (42.31%)	0 (0.00%)	30 (57.69%)	
25 – 34	38 (15.90%)	47 (19.67%)	154 (64.44%)	
35 – 44	11 (6.47%)	69 (40.59%)	90 (52.94%)	
45 – 54	2 (0.79%)	86 (33.86%)	166 (65.35%)	
55 and above	0 (0.00%)	52 (61.18%)	33 (38.82%)	
		<b>Occupation</b>		0.037*
Doctor	0 (0.00%)	65 (55.56%)	52 (44.44%)	
Nurse	0 (0.00%)	22 (5.88%)	352 (94.12%)	
Pharmacist	27 (30.34%)	49 (55.06%)	13 (14.61%)	
Laboratory Scientist	19 (15.45%)	71 (57.72%)	33 (26.83%)	
Dentist	6 (54.55%)	1 (9.09%)	4 (36.36%)	
Others	21 (24.42%)	46 (53.49%)	19 (22.09%)	
		<b>Highest level of education</b>		0.049*
Diploma	29 (18.59%)	56 (35.90%)	71 (45.51%)	
Bachelor's degree	31 (6.30%)	121 (24.59%)	340 (69.11%)	
Master's degree	10 (8.77%)	49 (42.98%)	55 (48.26%)	
Doctorate	3 (7.89%)	28 (73.68%)	7 (18.42%)	
		<b>Years of experience in healthcare</b>		0.025*
Less than one year	9 (27.27%)	15 (45.45%)	9 (27.27%)	
1 – 5 years	32 (22.54%)	37 (26.06%)	73 (51.41%)	
6 – 10 years	21 (18.26%)	31 (26.96%)	63 (54.78%)	
11 – 15 years	11 (5.82%)	53 (28.04%)	125 (66.14%)	
More than 15 years	0 (0.00%)	118 (36.76%)	203 (63.24%)	

<b>Factors</b>		<b>Prevalence of Smoking among Healthcare Professionals</b>		<b>p-value</b>
		<b>Are you currently practicing in a public or private healthcare facility?</b>		0.564
Private only	31 (8.73%)	113 (31.83%)	211 (59.44%)	
Public only	29 (9.63%)	99 (32.89%)	173 (57.48%)	
Both	13 (9.03%)	42 (29.17%)	89 (61.81%)	
		<b>Do you believe smoking is harmful to health?</b>		0.000*
Strongly agree	0 (0.00%)	171 (28.03%)	439 (71.97%)	
Agree	22 (15.83%)	83 (59.71%)	34 (24.46%)	
Neutral	33 (100.00%)	0 (0.00%)	0 (0.00%)	
Disagree	18 (100.00%)	0 (0.00%)	0 (0.00%)	
Strongly disagree	0 (0.00%)	0 (0.00%)	0 (0.00%)	
		<b>Do you think smoking can adversely affects your professional performance?</b>		0.001*
Strongly agree	0 (0.00%)	205 (37.48%)	342 (62.52%)	
Agree	21 (10.66%)	49 (24.87%)	127 (64.47%)	
Neutral	52 (92.86%)	0 (0.00%)	4 (7.14%)	
Disagree	0 (0.00%)	0 (0.00%)	0 (0.00%)	
Strongly disagree	0 (0.00%)	0 (0.00%)	0 (0.00%)	
		<b>Do you think healthcare professionals who smoke set a bad example for patients?</b>		0.000*
Strongly agree	0 (0.00%)	102 (44.54%)	127 (55.46%)	
Agree	0 (0.00%)	111 (24.50%)	342 (75.50%)	
Neutral	0 (0.00%)	0 (0.00%)	0 (0.00%)	
Disagree	44 (54.32%)	34 (41.98%)	3 (3.70%)	
Strongly disagree	29 (78.38%)	7 (18.92%)	1 (2.70%)	
		<b>Do you think healthcare professionals should be held to a higher standard regarding smoking behaviour than the general population?</b>		0.001*
Yes	0 (0.00%)	219 (35.61%)	396 (64.39%)	
No	70 (71.43%)	0 (0.00%)	28 (28.57%)	
Not sure	3 (3.45%)	35 (40.23%)	49 (56.32%)	
		<b>Would you support a policy banning smoking for healthcare professionals during working hours?</b>		0.000*
Yes	0 (0.00%)	254 (36.29%)	446 (63.71%)	
No	34 (100.00%)	0 (0.00%)	0 (0.00%)	
Not sure	39 (59.09%)	0 (0.00%)	27 (40.91%)	
		<b>Do you consume alcohol?</b>		0.000*
Yes	69 (60.53%)	45 (39.47%)	0 (0.00%)	
No	4 (0.58%)	209 (30.47%)	473 (8.95%)	



**Fig. 2. Prevalence of Smoking among Healthcare Professional in Southwest Nigeria**

## 2.4 Data Collection

Data collection was conducted using a structured questionnaire administered in-person between April and July 2023. The questionnaire consisted of multiple-choice questions covering various aspects related to smoking behaviour, attitudes, workplace environment, and general health.

## 2.5 Data Analysis

Statistical analysis was performed using SPSS version 20.0. Descriptive statistics, including frequencies and percentages, were calculated for categorical variables. Chi-square tests were utilized to assess the association between categorical variables, with significance set at  $p < 0.05$ .

## 3. RESULTS

The results of this study showed that 42.13% of healthcare professionals were male, while 57.87% were female. The majority of professionals fell within the age range of 25 to 54 years, with 31.75% aged 45-54. Nurses comprised the largest occupational group at 46.75%. Regarding education, 61.50% held bachelor's degrees. More than 40% of respondents had over 15 years of experience in healthcare. In terms of the workplace, 44.38% practiced in private facilities, while 37.63% worked in public settings, and 18.00% worked in both (Table 1). Prevalence of smoking showed that 9.13% were current smokers, 31.75% were former smokers, and 59.12% had never smoked (Fig. 2). Notably, 59.13% of respondents who had smoked previously cited stress relief as a reason for starting (Table 2). The majority strongly agreed that smoking is harmful to health (76.25%), can affect professional performance

(68.38%), and that healthcare professionals who smoke set a bad example for patients (28.63%) (Table 3). The study showed unanimous support for implementing stricter smoking policies within healthcare facilities (100.00%) (Table 4). The study further revealed high confidence in knowledge about smoking-related health risks (79.12%), and most professionals reported often educating patients about these risks (51.38%) (Table 5). Finally, Table 6 illustrates various factors influencing the prevalence of smoking, including gender, occupation, education level, years of experience, and beliefs about smoking-related harms.

## 4. DISCUSSION

This study revealed that out of the 800 participants, 337 (42.13%) are male, while 463 (57.87%) are female. This distribution indicates a higher representation of females within the healthcare workforce in Southwest Nigeria. This finding aligns with previous studies that have reported similar trends in gender distribution among healthcare professionals. For example, a study conducted by Adebayo et al. [5] in Nigeria also found a higher percentage of female healthcare professionals, reflecting the global trend of increasing female participation in the healthcare sector [5].

Regarding age distribution, the majority of participants fall within the age range of 25 to 54 years, with the highest proportion being in the 25-34 years category (29.88%). This suggests that the healthcare workforce in Southwest Nigeria is relatively young, with a significant portion of professionals in the early to middle stages of their careers. This finding is consistent with studies conducted in other regions, such as a study by Alkhamis et al. [6] in Saudi Arabia,

which also reported a similar age distribution among healthcare professionals [6].

In terms of occupation, nurses constitute the largest group among the participants (46.75%), followed by doctors (14.63%), laboratory scientists (15.38%), pharmacists (11.12%), and dentists (1.37%). This distribution reflects the diverse nature of the healthcare workforce in Southwest Nigeria, with representation from various professional categories. Similar occupational distributions have been reported in studies conducted in different countries. For instance, a study by Li et al. [7] in China found a comparable distribution of healthcare professionals across different occupations [7].

Furthermore, the educational background of the participants indicates a predominance of individuals with bachelor's degrees (61.50%), followed by those with diplomas (19.50%) and master's degrees (14.25%). This suggests that the majority of healthcare professionals in Southwest Nigeria have attained at least a bachelor's level of education, which is essential for their roles in providing quality healthcare services. Similar educational trends have been observed in studies conducted in other regions, such as a study by Tefera et al. [8] in Ethiopia, which reported a high prevalence of bachelor's degree holders among healthcare professionals [8].

Moreover, the distribution of years of experience in healthcare indicates that a significant proportion of participants (40.13%) have more than 15 years of experience, followed by those with 11-15 years of experience (23.63%). This suggests a relatively experienced workforce in Southwest Nigeria, with a considerable number of professionals having extensive experience in the healthcare sector. This finding is consistent with studies conducted in similar settings, such as a study by Muliira et al. [9] in Uganda, which also reported a high prevalence of experienced healthcare professionals [9].

The distribution of participants based on their practice settings revealed that a higher percentage of healthcare professionals practice in private healthcare facilities (44.38%) compared to public facilities (37.63%). Additionally, 18.00% of participants practice in both public and private facilities. This distribution reflects the dual practice system prevalent in many developing countries, where healthcare professionals often work in both public and private sectors to supplement their income [10].

The prevalence of smoking among healthcare professionals in Southwest Nigeria is notable, with 9.13% currently smoking, 31.75% being former smokers, and the majority (59.12%) having never smoked. This suggests a considerable portion of healthcare professionals have been or are currently engaged in smoking behaviour, which could potentially undermine their credibility in advocating for smoking cessation and health promotion. Studies examining the prevalence of smoking among healthcare professionals in Nigeria have reported inconsistent findings. For example, a study by Babatunde et al. [2] found a relatively low prevalence of smoking (8.2%) among healthcare workers in Northern Nigeria which is very similar to the results of this present study, while a study by Odeyemi et al. [3] reported a higher prevalence (17.3%) among healthcare professionals in Southern Nigeria. In a related study, Awopeju et al. [11] reported a smoking Prevalence of 17.9% among health professional students in South-Western Nigeria. Similarly, Zafar [12] observed a prevalence of smoking of 29% among medical professionals in hospitals of Karachi, Pakistan. These discrepancies highlight the need for region-specific research to accurately assess smoking prevalence among healthcare professionals in different parts of Nigeria.

Health concerns overwhelmingly motivate healthcare professionals to quit smoking (100%), indicating a recognition of the health risks associated with smoking. However, there seems to be a disparity in perceptions, with a majority perceiving the prevalence of smoking among healthcare professionals as very low (83.38%), despite the significant prevalence observed. Stress relief emerges as the main reason for smoking among healthcare professionals (56.00%), followed by peer influence (2.62%).

The findings indicate a significant acknowledgment of the harmful effects of smoking on health, with a vast majority (93.62%) either strongly agreeing or agreeing that smoking is harmful. Moreover, a substantial proportion (92.01%) also recognize the potential adverse effects of smoking on professional performance. This high level of awareness among healthcare professionals aligns with previous studies, emphasizing the importance of health professionals' role in advocating for smoking cessation [13].

Interestingly, despite the awareness of the harmful effects of smoking, a considerable

number of respondents (28.63%) believe that healthcare professionals who smoke set a bad example for patients. This perception underscores the importance of role modelling in healthcare settings and highlights the need for smoking cessation interventions tailored specifically for healthcare professionals [14].

The study also reveals a disparity between awareness and participation in smoking cessation programs. While the majority of respondents are aware of such programs (91.38%), only a small proportion (4.92%) have actually participated. Reasons for non-participation include lack of interest, doubts about program effectiveness, and perceived lack of need. This finding echoes previous research indicating that healthcare professionals may face unique barriers to participating in smoking cessation programs, such as time constraints and skepticism about program efficacy [15].

Moreover, the study identifies various factors that discourage healthcare professionals from participating in smoking cessation programs, including lack of awareness, fear of stigma, and time constraints. These findings align with previous literature highlighting similar barriers to smoking cessation program uptake among healthcare professionals [16].

In terms of patient interactions, the study reveals that factors influencing healthcare professionals' decisions to discuss smoking cessation with patients include the patient's health condition and readiness to quit. However, barriers to effectively helping patients quit smoking include lack of time during patient visits, inadequate training in smoking cessation counselling, and cultural or societal norms. These findings emphasize the importance of addressing systemic barriers and enhancing training programs to equip healthcare professionals with the necessary skills to support smoking cessation efforts among patients [17].

From the results of this study (Table 4), it is notable that none of the surveyed healthcare professionals reported smoking being permitted within their workplace premises. This indicates a strict adherence to no-smoking policies within healthcare facilities in Southwest Nigeria. This result aligns with the growing global trend towards implementing smoke-free environments in healthcare settings, which has been shown to promote healthier behaviours among both staff and patients [18].

Furthermore, the overwhelming consensus (100%) among respondents that implementing

stricter smoking policies within healthcare facilities would help reduce smoking among healthcare professionals reflects a strong endorsement for policy interventions. This finding resonates with previous research emphasizing the importance of workplace smoking policies in promoting smoking cessation and reducing tobacco use among healthcare workers [18,19].

Despite the unanimous agreement on the potential effectiveness of stricter smoking policies, the study reveals a concerning lack of smoking cessation programs or support services available at the workplace. Only 14.63% of respondents reported the presence of such programs, indicating a significant gap in addressing the cessation needs of healthcare professionals in Southwest Nigeria. This finding underscores the urgent need for healthcare institutions to prioritize the implementation of comprehensive tobacco control programs, including smoking cessation support services, to assist staff in quitting smoking [19].

Interestingly, while the majority of respondents (76.87%) believe that healthcare professionals should be held to a higher standard regarding smoking behaviour than the general population, a notable proportion (10.88%) are uncertain about this issue. This uncertainty may reflect varying cultural attitudes towards smoking norms and professional expectations within the healthcare community in Nigeria. However, the predominant support for holding healthcare professionals to a higher standard suggests a recognition of their role as health advocates and the importance of setting a positive example for patients and the community [20].

Moreover, the strong support (87.50%) for a policy banning smoking for healthcare professionals during working hours indicates a willingness to embrace stricter regulations to promote a smoke-free workplace environment. This finding is consistent with previous research demonstrating the effectiveness of workplace smoking bans in reducing smoking prevalence and promoting smoke-free norms [18].

From the results of this study (Table 5), it is noteworthy that a significant proportion of healthcare professionals rated their knowledge about the health risks associated with smoking as excellent (79.12%) and good (20.88%). This indicates a high level of awareness among the participants, which is encouraging considering their role in promoting health behaviours to patients. The finding aligns with previous studies that have also reported relatively high levels of

awareness among healthcare professionals regarding the health risks of smoking [13,21].

However, despite the high level of knowledge, there seems to be a gap in practice, as a considerable number of participants reported rarely (15.75%) or never (0.00%) educating their patients about the health risks of smoking. This finding is consistent with previous research indicating that healthcare professionals often miss opportunities to provide smoking cessation interventions during patient encounters [22,23].

Regarding lifestyle behaviours, a majority of healthcare professionals in this study reported engaging in regular physical activity (82.75%) and maintaining a very healthy diet (75.50%). These findings reflect positive health behaviours among the participants, which may contribute to their overall well-being and ability to serve as role models for patients. Comparable results have been reported in previous studies highlighting the importance of healthy lifestyle behaviours among healthcare professionals [24,25].

Furthermore, a relatively low proportion of participants reported consuming alcohol (14.25%), which is consistent with the notion of healthcare professionals adhering to professional standards and maintaining healthy habits [26].

In terms of attitudes towards smoking-related issues, the majority of participants strongly agreed that smoking is a major cause of preventable diseases (73.00%) and that second-hand smoke exposure poses significant health risks to non-smokers (60.13%). Additionally, a large proportion strongly agreed that smoking during pregnancy can have serious health consequences for both the mother and the baby (82.75%). These findings reflect a strong awareness of the detrimental effects of smoking, both directly and indirectly, among healthcare professionals in Southwest Nigeria. Similar attitudes have been observed in previous studies examining healthcare professionals' perceptions of smoking-related health risks [27,28].

However, it is notable that a considerable proportion of participants (20.75%) disagreed or strongly disagreed that second-hand smoke exposure poses similar health risks as smoking. This discrepancy in perception warrants further investigation, as it may indicate a misunderstanding or underestimation of the health hazards associated with second-hand smoke exposure.

The self-rated overall health status of the participants varied, with a majority rating their

health as either good (50.88%) or excellent (29.75%). This finding suggests that while many healthcare professionals maintain positive health behaviours, there is still room for improvement in addressing individual health concerns and promoting overall well-being.

The study found a significant association between gender and smoking prevalence among healthcare professionals ( $p < 0.001$ ). Males exhibited a considerably higher prevalence of current and former smokers compared to females. This finding aligns with previous research indicating that smoking rates tend to be higher among males than females globally [29]. However, the disparity observed in this study, with no female current smokers and a vast majority of female healthcare professionals never having smoked, underscores potential cultural and societal factors influencing smoking behaviour among women in Nigeria.

Age also emerged as a significant factor influencing smoking prevalence ( $p = 0.016$ ). The prevalence of current smokers was notably higher among healthcare professionals aged less than 25 years and decreased with increasing age. This trend is consistent with studies conducted in various countries, which have consistently shown a decline in smoking prevalence with advancing age [16]. The higher prevalence among younger healthcare professionals could be attributed to factors such as peer influence, social norms, and accessibility to tobacco products.

The occupation of healthcare professionals was significantly associated with smoking prevalence ( $p = 0.037$ ). Pharmacists and laboratory scientists exhibited higher rates of current smoking compared to doctors, nurses, and other healthcare professionals. This finding contradicts previous studies suggesting that physicians tend to have higher smoking rates compared to other healthcare professionals [13]. However, it is consistent with recent research highlighting the high prevalence of smoking among pharmacists in Nigeria [30]. The discrepancy in smoking rates across healthcare professions underscores the need for targeted interventions tailored to specific occupational groups.

Higher levels of education and longer years of experience in healthcare were associated with lower smoking prevalence among professionals ( $p = 0.049$  and  $p = 0.025$ , respectively). This finding is consistent with existing literature suggesting a negative correlation between



educational attainment, professional experience, and smoking behaviour [31]. Healthcare professionals with advanced degrees and extensive experience may possess greater awareness of the health risks associated with smoking and may be more likely to adhere to evidence-based guidelines promoting tobacco cessation.

The study revealed strong associations between attitudes towards smoking and smoking behaviour among healthcare professionals. Those who strongly agreed that smoking is harmful to health, adversely affects professional performance, sets a bad example for patients, and believed that healthcare professionals should be held to a higher standard regarding smoking behaviour exhibited lower smoking prevalence. These findings corroborate previous research highlighting the influence of attitudes and perceptions on smoking behaviour among healthcare professionals [32]. Efforts to promote anti-smoking attitudes and beliefs among healthcare professionals through education, training, and workplace policies are essential for reducing smoking prevalence and promoting tobacco cessation.

While the prevalence of smoking among healthcare professionals in Southwest Nigeria appears to be consistent with national trends, the factors influencing smoking behaviour may vary across regions and populations. For instance, the high prevalence of smoking among pharmacists observed in this study aligns with recent research highlighting similar trends in other parts of Nigeria [30]. However, the lower prevalence of smoking among doctors compared to other healthcare professions contradicts findings from some international studies where physicians have been reported to have higher smoking rates compared to nurses and other healthcare professionals [13].

## 5. CONCLUSION

The study provides valuable insights into the prevalence, attitudes, and smoking habits among healthcare professionals in Southwest Nigeria. Despite high awareness of smoking harms, a significant proportion of healthcare professionals in Southwest Nigeria smoke. Similarly, despite awareness of smoking cessation programs, participation remains low among healthcare professionals in Southwest Nigeria. Addressing workplace factors and promoting effective cessation interventions are essential to reducing smoking prevalence among healthcare professionals and improving public health

outcomes. The findings underscore the importance of implementing comprehensive tobacco control measures, promoting smoking cessation programs, and creating smoke-free environments within healthcare facilities. Addressing smoking behaviour among healthcare professionals is essential not only for improving personal health but also for setting a positive example for patients and promoting public health initiatives.

## CONSENT

Informed consent was obtained from all participants before their participation in the study. Confidentiality and anonymity of participants were maintained throughout the research process. Participants were informed of their right to withdraw from the study at any time without consequences.

## ETHICAL APPROVAL

It is not applicable.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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