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Research Article

Secondhand Cigarette Smoke Exposure Pattern, Knowledge, Attitude and Perception of Harm amongst Non-Smokers in Sokoto Metropolis, Nigeria

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Abstract

Background: Cigarette smoke contains many carcinogens, and the negative health consequences associated with cigarette smoking are shared and suffered by the passive non-smokers.

Objective: To assess secondhand smoke exposure pattern and knowledge, attitude and perception of exposure harm among non-Smokers in Sokoto metropolis.

Material and Methods: We conducted a population-based descriptive cross-sectional study among 400 non-smokers. We used a two-stage sampling technique to select respondents and an interviewer-administered questionnaire to collect data through personal interview. Data were analyzed using SPSS version 23.0. Mean, and standard deviation was calculated for continuous data, frequency and percentage for categorical data and multiple

dichotomy analysis for variables where multiple responses were allowed.

Results: Respondents' mean age was 44.3 ± 4.7 years. Most, 299 (74.8%) were male, and less than half, 169 (42.5%), had tertiary education. More than half, 278 (69.4%) have had different form and level of exposure to secondhand smoke. A majority, 252 (63.0%) demonstrated good knowledge of exposure harm towards secondhand smoke.

Lungs and heart were the most frequently mentioned organs affected by cigarette smoke, while Lung cancer and exacerbation of asthmatic attack were the most frequently cited ailment following exposure. Majority, 262 (65.4%), expressed appropriate attitude and perception to exposure harms, as 261 (68.1%) of the respondents perceived that breathing even small amount can be dangerous.

Conclusion: Although many demonstrated good knowledge and expressed appropriate attitudes and perception to exposure harm of secondhand smoke, a large number experienced moderate to heavy exposure. Smoking in public places is a prevalent practice, therefore we recommend that the government should ensure that the law prohibiting smoking in public spaces are enforced.

Keywords: Secondhand cigarette smoke; Exposure Pattern; Knowledge; Attitude; Perception; Harm

1. Introduction

Cigarette smoke contains as many as four hundred different chemicals, and almost seventy of these are carcinogenic. However, the concentration of these chemicals and particles changes over time and in different environmental conditions [1]. Passive smoker must unavoidably be around a smoker s, hare, and suffer from some of the health hazards of tobacco smoke, as does the smoker [2]. Many constituents of secondhand smoke (SHS) have a higher rate of release into sidestream smoke compared with mainstream smoke. As twice as much nicotine and carbon monoxide and 15 times more formaldehyde were found in sidestream smoke compared with mainstream smoke [3]. Overall, the sidestream element of SHS has been judged to be approximately three-fold more toxic than the mainstream element [2].

Scientific evidence of the adverse health effects of SHS was available as far back as the 1970s. Some among the several independent reviews of the literature on the health effects of secondhand smoke are reports of the United States Environmental Protection Agency, the Australian National Health and Medical Research Council, the California Environmental Protection Agency, the United Kingdom Scientific Committee on Tobacco and Health, the World Health Organization, the United States National Toxicology Program, and the International Agency for Research on Cancer. The findings of all these studies revealed that second-hand smoke is a serious health hazard [4].

Though there are convincing evidences to support the negative health effects of cigarette smoking, it has been found that knowledge about the health hazards of smoking has not always served to prevent people from smoking [5]. In a study conducted among African born women, about two-thirds reported

having asked someone not to smoke around them because of concerns about their own health, smoke bothering their eyes or breathing, not liking the smell of smoke, concerns about the health of a child and concerns about the smoker's health [6].

The Global Adult Tobacco Survey (GATS) conducted in Nigeria (2012) revealed that almost one out of every three adults who had visited public places were exposed to secondhand smoke in restaurants, one out of every six in government buildings and 5% in health care facilities. The survey also revealed that up to 18.4 million children are exposed in their homes while 27.6 million are exposed in public places making Nigeria one of the top ten countries in low and middle-income countries where children are more exposed to secondhand smoke [7].

The proportion of general public that are frequently exposed to secondhand cigarette smoke is an indication of potential number of people with the burden of the environmental tobacco smoke associated diseases and the proportion of population that will be saved from the disease burdens if effective intervention will be put in place. On this background, this study was conducted to assess secondhand smoke exposure pattern and Knowledge, Attitude and Perception of Exposure Harm among Non-Smokers in Sokoto metropolis, Nigeria.

2. Materials and Methods

The study was conducted in Sokoto metropolis which is made up of four Local Government Areas (LGA). The study was conducted in two of the LGAs, that comprised of 22 wards, and 78 districts. The study population comprised of male and female residents, aged 18 years and above. Only individuals residing within the study areas for at least three months prior to the date of data collection and voluntary consented to participate were considered eligible.

The study was a population-based and descriptive cross-sectional study design. We obtained a representative sample size of 427, using the formula for descriptive study design, [8] n =z2pq/d2 for population greater than 10,000, where n= sample size, z= standard normal deviate which correspond to 95% confidence level, = 1.96, p= proportion of respondents in previous study exposed to secondhand cigarette smoke (We assumed 50% in this study), q= complimentary probability of p, which is proportion of those exposed to secondhand cigarette smoke, 1-p= 50% and d= level of significance (0.05).

We anticipated a response rate of 90%. We used a multi-stage sampling technique to select the study respondents. Stage 1: Selection of LGA. Two LGAs were randomly selected using simple random sampling method (balloting technique). Stage 2: Selection of Wards: From each selected LGA, three wards were randomly selected using simple random sampling method (balloting technique). Stage 3: Selection of districts: three districts each were selected from each ward using simple random sampling method (balloting technique). Stage 4: Proportionate Allocation: Probability Proportionate to Size (PPS) was used to proportionately allot respondents to each selected district using the calculated sample size of 427. Stage 5: Selection of Household: From each district, households were selected using systematic sampling method using the calculated sampling interval.

In a Household where there was more one eligible person, a simple random sampling method (balloting technique) was used to select one eligible respondent. And where there was no eligible person or eligible person declined to participate, the next household was selected. The process continued in all the districts until all the required sample was obtained. Interviewer-administered questionnaires was used to collect field data through personal interview. Research assistants fluent in Hausa language, familiar with terrain, have respect for the tradition and culture of the locales were recruited for data collection. We trained the research assistants on secondhand cigarette smoke, methodology, data collection process, instruments and method, and interpersonal communication. We pre-tested 40 respondents (10% of sample size) in different community not selected for this study. Where necessary, changes to questions were made following the pretesting. Questionnaires were cross checked for completeness and data obtained were entered into and analyzed using IBM® SPSS version 23.0.

Each appropriate response of knowledge question was scored 1 mark while zero (0) was awarded to inappropriate/wrong and or no-response. The respondents' knowledge was graded as either good or poor knowledge. Knowledge score of less than 50% and equal to or greater than 50% was adjudged poor and good knowledge respectively. Similarly, each appropriate response of perception question was scored 1 mark while zero (0) was awarded to inappropriate/wrong and or no-response. The respondents' perception was graded as either appropriate or inappropriate attitude and perception. Attitude and perception score of less than 50% and equal to or greater than 50% was adjudged inappropriate and appropriate perception respectively. At the end of scoring, the proportion of respondents with good and poor knowledge, appropriate and inappropriate attitude and perception were determined.

Descriptive statistics such as mean and standard deviation were done for continuous variables whereas, categorical data were presented in frequencies and proportions. Multiple dichotomy analysis was performed on variables where multiple responses were allowed. Ethical approval was sought and obtained from the Sokoto state Health Research Ethics Committee. Further, permission for community entry was obtained from the respective District Heads while individual consent of participant was also obtained after explaining the purpose and procedure of the study and assuring confidentiality and anonymity of information provided before questionnaires were administered.

3. Results

Of the 427 respondents interviewed, 400 respondents' questionnaires were satisfactory for analysis (response rate of 93.7%). Majority, 380 (95%) were adults aged 25-64 years, with overall mean age of 44.3 ± 4.7 years. Most, 299 (74.8%) were male, Hausa/Fulani 248 (62.0%), married, 289 (73.0%) and Muslims, 310 (78.3%). A large proportion, 169 (42.5%) of the respondents had tertiary education. One hundred and sixty-four (41.6%) engaged in business/trading, followed by 109 (27.7%) who were civil servants, while students and others (rent agent, transporter) who accounted for 25 (6.3%) and 21 (5.3%) respectively were the least.

Variables	Frequency (n = 400)	Percentage
Age group (years)		
22-24	12	3.0
25-64	380	95.0
65+ years	8	2.0
Sex		
Male	299	74.8
Female	101	25.2
Ethnicity		
Hausa/Fulani	248	62.0
Yoruba	62	15.5
Igbo	58	14.5
Others	32	8.0
Marital Status		
Married	289	73.0
Single	93	23.5
Separated/Widow	14	3.5
Religion		
Islam	310	78.3
Christianity	86	21.7
Highest educational level attained		
Informal (Qur'anic only)	22	5.5
Primary	58	14.6
Secondary	140	35.2
Tertiary (NCE, Polytechnic & University)	169	42.5
Postgraduate	9	2.2
Occupation		
Business/ trading	164	41.6
Civil servant	109	27.7
Artisan	47	11.9
Unskilled laborer	28	7.1
Student	25	6.3
Others (rent agents, transporter)	21	5.3

Table 1: Socio-demographic characteristics of the respondents.

Eight (21.6%) single female respondents, had male friends that smoke cigarette and 4 (50.0%) of them reported male friends smoke in their presence. Six (10.2%) of the married females' husband smoke, of which 2 (33.3%) smoked at home, and 3 (50.0%) smoked inside the car while both are together. Seven (58.3%) of the 12 female respondents whose husband/friend are smokers had smoked less than five times in their presence. One hundred and eighty six (62.2%) of the 299 male respondents have a smoker friend, 80 (26.8%) live in the same place with a smoker and 110 (36.3%) sit in a Joint/workplace with smokers. Most, 106 (93.8%) of the male respondents reported sitting in a car, Joint or workplace while

someone was smoking cigarette. Among these, 71 (67.0%) left the place immediately, 25 (23.6%) asked the smoker to move away and 10(9.4%) stayed with the smoker. Most, 232 (80.3%) of the male respondents were exposed to cigarette smoke within the last four weeks, of which 164 (70.7%) had exposure frequency of 1-5 times, and 24 (10.3%), between 11 and 20 times, with overall median exposure frequency of 3.0, IQR 2-6 times.

Variable	Frequency	Percentage
FEMALE RESPONDENTS (n= 101)		
Single females that have smoking male friends	8	21.6
Male friend smoke while with her	4	50.0
Husband smoke cigarette	6	10.2
Husband smoke at home	2	33.3
Other family members smoking at home	3	5.1
Husband smoke inside car while with her	3	50.0
How often does your husband/partner smoke inside your living room?		
Not at all	4	66.6
Yes always	1	16.7
Yes sometimes	1	16.7
Number of times husband/ partner smoke in your presence (n=12)		
Less than 5 times	7	58.3
More than or equal to 5 times	5	41.7
MALE RESPONDENTS (n= 299)		
Do you have friend(s) that smoke cigarette?		
Yes	186	62.2
No	113	37.8
Do you live in the same place as a smoker?		
Yes	80	26.8
No	219	73.2
Do you sit in a joint/ workplace with a cigarette smoker?		
Yes	110	36.3
No	193	63.7
Have you been inside a car or sitting in the joint/workplace while someone was smoking cigarette within the last four weeks?		
Yes	106	93.8
No	7	6.2
What action did you take? (n=106)		
Immediately left the place	71	67.0
Asked the person smoking to leave the place	25	23.6
Stayed till the person finished smoking	10	9.4
Exposure to cigarette smoke within the last four weeks		
Exposed	232	80.3
Not exposed	57	19.7
Frequency of the exposure		
1-5 times	164	70.7
6-10 times	44	19.0
11-20 times	24	10.3

Table 2: Secondhand cigarette smoke Exposure Pattern by Gender.

Majority, 278 (69.4%) of the 400 respondents were exposed to secondhand cigarette smoke and 33(8.3%) couldn't recall exposure history. One hundred and thirty-five (59.0%) were sometimes exposed, followed by 76 (24.1%) rarely exposed while 11 (2.8%) were nearly always exposed. Majority, 174 (62.6%) of the 278 respondents exposed, graded the exposure as being light, 91 (32.6%) moderate and 13 (4.8%) as heavy exposure.

Characteristics	Frequency	Percentage
Exposed to secondhand cigarette smoke within the last four weeks		
Yes	278	69.4
No	89	22.3
Can't remember	33	8.3
Frequency of exposure to cigarette smoke		
Sometimes	135	59.0
Rarely	76	24.1
Most times	56	14.1
Nearly always	11	2.8
Grading of the intensity of exposure to secondhand smoke		
Light	174	62.6
Moderate	91	32.6
Heavy	13	4.8

Table 3: Overall exposure status and intensity of secondhand cigarette smoke.

Majority, 252 (63.0%) of the 400 respondents demonstrated good knowledge of health effect of secondhand cigarette smoke. Most, 342 (85.5%) reported listening to news/ health program from electronic media (radio and television).

Lungs was the most frequently mentioned organ by 380 (32.7%) of the respondents of being affected by the cigarette smoke, followed by Heart, 284 (24.4%) while the least mentioned organs were urinary bladder and kidneys by 89 (7.6%) and 109 (9.4%) respectively.

Also, 261 (65.9%) of the 398 respondents correctly mentioned children as being more at risk of effect of the smoke. Lung cancer was most frequently cited ailment by 345 (19.7%) of the respondents, followed by exacerbation of asthmatic attack 333 (19.0%) and lower respiratory tract infection by 329 (18.8%) while the least cited effects were giving birth to small/underweight baby and stroke by 125 (7.1%) and 97 (5.4%) respectively.

One-third,381 (33.3%) of the 400 respondents cited public places as where people can easily get exposed

to secondhand smoke, followed by inside motor park by 292 (25.5%) while home was the least cited place by 196 (17.1%).

Variable	Frequency	Percentage
Overall knowledge		
Good knowledge	252	63.0
Poor	148	37.0
Knowledge of some aspects of health effects of secondhand cigarette smoke		
Which Part of the body is affected by secondhand smoke? *		
Lungs	380	95.0
Heart	284	71.0
Skin	171	42.8
Blood vessels	130	32.5
Kidneys	109	27.3
Urinary bladder	89	22.3
What categories of people are more at risk of effect of cigarette smoke? (n=398)		
Adults	135	34.1
Children	261	65.9
What illnesses are caused by secondhand smoke? *		
Lung cancer	345	86.3
Exacerbate Asthmatic attack	333	83.3
Lower respiratory tract infection	329	82.3
Asthma	317	79.3
Heart diseases	208	52.0
Giving birth to small/underweight baby	125	31.3
Stroke	97	24.3
Where can people easily get exposed to secondhand smoke? *		
Public places such as office, at a gathering, restaurants	381	95.3
Inside motor vehicles	292	73.0
Workplace	275	68.8
Homes	196	49.0

*multiple responses

Table 4: Respondents' knowledge of some health effects of secondhand cigarette smoke.

Majority, 262 (65.4%) of the 400 respondents expressed appropriate attitude and perception to secondhand cigarette smoke. Almost two-thirds (65.1%) perceived that there is no safe exposure to secondhand smoke and 267 (67.1%) reported that breathing even a little amount can be dangerous to ones' health. Almost all 358 (95.5%) perceived secondhand smoke as being harmful to health, as 261 (68.1%) graded it as very harmful and 35 (9.1%) as somewhat harmful. Majority, 215 (53.8%) perceived that a nonsmoker staying in a room/close vicinity to where cigarette is being smoked is also smoking. Most, 281 (70.4%) of the respondents are not aware of any policy prohibiting cigarette smoking in public places. Almost all, 381 (95.3%) of the respondents expressed willingness to support the policy formulation and implementation, with 261 (67.3%) recommending complete ban of cigarette smoking.

Variables	Frequency	Percentage
Secondhand cigarette smoke is harmful to health		
Yes	358	95.5
No	8	2.1
Don't know	9	2.4
If yes, how will you grade the level of harmfulness?		
Very harmful	261	68.1
Harmful	87	22.7
Somehow harmful	35	9.1
How often do you take measures to avoid exposure to smoke?		
Yes, always	240	60.5
Yes, sometimes	138	34.8
No, not at all	19	4.8
There is no safe exposure to secondhand smoke		
Yes	261	65.4
No	62	15.5
Don't know	76	19.1
Long term exposure to secondhand cigarette smoke negatively affects the health of nonsmoker like the smoker?		
Yes	353	82.7
No	55	12.9
Don't know	19	4.4
Breathing even a little secondhand smoke can be dangerous?		
Yes	267	67.1
No	54	13.6
Don't know	77	19.3
If a nonsmoker is in a room or an area where someone is smoking, that person is also smoking.		
Yes	215	53.8
No	116	29.0
Don't know	69	17.2
Are you aware of any policy on public smoking of cigarette?		
Yes	118	29.6
No	281	70.4
Assuming none exist, will you support the formulation and implementation of the policy?		
Yes	381	95.3
No	10	2.5
Don't know	9	2.3
What form of smoking policy do you want to see put in place		
Ban smoking in all areas	261	67.3
Designate cigarette smoking areas	127	32.7
How do you respond when a smoker/s lit up a cigarette close to where you are?		
Move away from the place	253	64.5
Ask the person to stop smoking	64	16.3
Ask the person to move away	41	10.5
Do nothing	34	8.7

Table 5: Public attitude and perception of secondhand cigarette smoke.

4. Discussion

The study assessed secondhand smoke exposure pattern and knowledge, attitude and perception of exposure harm among non-smokers in Sokoto Metropolis, Nigeria. In this study, majority of the respondents were aged 25-64 years. This is expected as the study was carried out among adults, and only a few Nigerians live beyond 64 years (the elderly is <4% of the total population). This is similar to the findings of the GATS done in Nigeria in 2012 where 60% were aged 25-64 years but dissimilar to the findings of the study done in Lagos among Pharmacists were 72.1% were aged 20-40 years [7, 9]. This is probably because the GATS survey was a household-based survey while the latter study was done among a professional group (Pharmacists) who are most likely to be at the most active years of service.

About three-fourth were males and married. The fact that the majority were married is not surprising as the majority of the respondents were aged 25-64 years. The ages at first marriage for men and women were 27.7 years and 19.1 years, respectively, according to NDHS 2018 [10]. The finding in this study of men being the majority is not in keeping with the findings of GATS Nigeria and a study done in Malaysia where females were the majority (50% and 56.3% respectively) [7, 11]. However, the study done amongst Pharmacists in Lagos, showed males were the majority (60.8%).9 The finding of males being the majority in this study may influence the prevalence of exposure to secondhand smoke as previous studies have shown the prevalence of smoking to be more among males and men are likely to hang out outdoors and in places where exposure to secondhand smoke is more likely than females [12].

A majority had tertiary education (42.5%), which is not surprising as the study location was the metropolis where there are many schools and opportunities for learning. This may also influence the knowledge, attitude and perception of secondhand smoke. GATS Nigeria 2012 contrasts this finding where the majority (38.0%) had secondary education [7].

The highest proportion of the respondents were traders (41.6%) followed by civil servants (27.7%), which is in keeping with a previous report of agriculture, petty trading and craftmanship as the main occupations of the people of Sokoto state [13]. Certain occupations such as those in the informal sector are likely to predispose to exposure to secondhand smoke due to the informal nature of the work environment and the difficulty of enforcing rules, especially with regards to smoking.

About half of the single female respondents reported that their male friends smoke in their presence. One-third of the married female husband smoked at home and smoked inside the car while both are together. Roughly two-fifth of the 12 female respondents whose husband/ friend are smokers had smoked at least five times in their presence. The figures reported in this study are quite disturbing as exposure to second-hand smoke predisposes to negative health effects later in life. These findings were corroborated by the findings of the study done among women in Jordan were more than half (55%) of participants reported living with a smoking husband and more than one-third (36.7%) of husbands smoked inside

their homes, and many (24.9%) subjects reported that other family members also smoked in the home. In total, almost two thirds (59.6%) of subjects reported that someone (husband or other family members) smoked inside the house [14]. A study done in urban and rural India revealed a prevalence of exposure amongst women of 57.4% in the urban areas, which corroborated the finding of this study probably because both study locations were urban but the prevalence of exposure in the rural areas (36.6%) contrasted the findings in this study [15]. However, a study done among undergraduate students in Ibadan showed a prevalence of exposure among the females to be 93.2% which is much higher than the figure in this study. The disparity may have arisen because female undergraduate students are more likely to have male friends that smoke, and being in a university environment may expose them to cigarette smoke [16]. Much lower figures were reported in a study done in Abia State, Nigeria among women were 7.9%, 12.2% and 8.7% reported exposure to second-hand cigarette smoke at home, in public and in both places respectively [12].

A majority of the male respondents had a friend who smokes. Although the minority of the male respondents, 80 (26.8%), live and sit 110 (36.3%) with a smoker, these numbers are worrisome. While most 106 (93.8%) of the male respondents reported sitting in a car, joint or workplace while someone was smoking cigarette, a little above two-third (67.0%) left the place immediately, 23.6% asked the smoker to leave the place, and 9.4% stayed with the smoker until he finished smoking. About four- fifth of the male respondents were exposed to cigarette smoke within the last four weeks. The high prevalence of exposure to secondhand smoke among men reported in this study was not unexpected as men are less likely to have spouses who smoke and are more likely to hang out outdoors where smoking is done. The fact that most of the respondents were exposed to SHS in the last four weeks is alarming. A study done in Ibadan among undergraduate students reported a higher figure (94.0%) while studies that were done in Abia state (26.0%) and urban (49.2%) and rural (32.2%) areas of India showed smaller figures among men [12, 15, 16].

Overall, majority (69.4%) of all the respondents were exposed to secondhand cigarette smoke. This figure not surprising as three- fourth of the respondents were males, and exposure is more likely in them. This can be likened to the finding of a study in New Zealand where 59.3% of the respondents reported exposure to SHS, but unlike that of a study in Italy where 31.2% reported exposure [17, 18]. The finds of GATS done in 2012 in the country gave disaggregated exposure prevalence by place of exposure of 17.3% , 6.6% and 29.3% reported being exposed at the workplace, home and restaurants respectively [7].

The majority had a light intensity exposure, about one- third had a moderate exposure, while the least proportion (4.8%) had a heavy exposure. The majority (59.0%) and the minority (2.8%) of the respondents were sometimes exposed and nearly always exposed, respectively. These figures are heartening as the majority had the least and mildest frequency and intensity of exposure, translating to less minor health consequences. These figures could also have been under reported due to recall bias. A

study done among casino workers in Hong Kong reported that 14% and 42% respectively were sometimes and nearly always exposed respectively. The study also reported a majority (49%) had a heavy exposure [19]. The disparity with the findings in this study are not surprising as the latter study was done among Casino workers where smoking is allowed.

A majority (63.0%) of the respondents demonstrated good knowledge of secondhand cigarette smoke's health effects, which was expected because 35.2% and 42.5% had secondary and tertiary education, and 85.5% reported listening to news/ health program from electronic media. This is much higher than the figure reported in six counties in China (13.2%) where the majority of the respondents had only junior high and primary education [20]. Since the majority had good knowledge of the health effects of SHS, it is hoped that they will take proactive measures to stop being exposed to it.

Most (95.0%) of the respondents mentioned the lungs as the part of the body affected by secondhand smoke, followed by the heart (71.0%), while the least mentioned organs were the urinary bladder (27.3%) and kidneys (22.3%). These impressive figures might be explained by the fact that the majority had at least secondary education, and it is also common knowledge that smoke is inhaled and it goes to the lungs.

A high proportion of the respondents (65.9%) correctly mentioned children as being more at risk of the effect of smoke. This is inconsistent with the figure reported in a study done in Klang valley, Malaysia where 95.0% said children exposed to tobacco smoke have more illness, such as colds [21]. Children are still growing and so are their organs. This knowledge might help in protecting the children from exposure to SHS by asking smoking adults to quit smoking in their presence or not carrying the children to outdoor settings where exposure is likely.

Lung cancer was the most frequently cited ailment (86.3%) of the respondents, followed by an exacerbation of asthmatic attack (83.3%), lower respiratory tract infection (82.3%) and asthma (79.3%) while the least cited effects (less than one-third) were giving birth to small/ underweight baby and stroke. A little above half of the respondents mentioned heart disease as an illness caused by secondhand smoke. Many studies have shown lung cancer to be widely known as a disease caused by secondhand smoke [9, 19, 21, 22]. This is not surprising owing to the fact that smoke is inhaled and it goes to the lungs. It is expected that the knowledge of these health effects of SHS may make people actively protect themselves from exposure to it.

Public places were cited by most of the respondents (95.3%) as where people can easily get exposed to secondhand smoke. Public places are places where people of different backgrounds with different social habits are found and enforcement of rules and regulations (especially regarding smoking) are difficult. Men being the majority in this study could explain the high figure established in this study. Besides, men spend more time outdoors where exposure is highly likely.

Although almost all the respondents believed that secondhand smoke is harmful to health, slightly above two- thirds (68.1%) believed that it is very harmful

and yet only 60.5% always take measures to avoid exposure to it. It is reassuring that the majority of the respondents know that secondhand smoke is detrimental to their health, although a smaller figure always takes proactive measures to avoid exposure to it. Studies done in Jordan and Malaysia reported similar figures and this may probably be because the two settings were urban just like this study [11, 14]. However, studies done in Nigeria among Pharmacists reported a smaller figure where only 75.8% believed that secondhand smoke is harmful to health even though the respondents were healthcare providers [9]. The GATS done in Nigeria in 2012 revealed that 75.1% believed breathing other people's smoke causes serious illness in non-smokers [7].

About two- third of the respondents perceived that there is no safe exposure to secondhand smoke and breathing even a little amount can be dangerous to health. A little above four- fifth appropriately perceived that long term exposure to secondhand smoke negatively affects health of the non- smoker like smoker. Although perception does not always translate to practice, but this is encouraging as it is expected that they will take measures to protect themselves from exposure to secondhand smoke.

Although 70.4% of the respondents are not aware of any policy on public smoking of cigarette, 95.3% will support the formulation and implementation of the policy, and about two- thirds want a ban on smoking in all areas. A study done in Lagos state among Pharmacists reported figures which were not in consonance with these findings as only a little over half of the respondents (53.8%) were aware of any law in Nigeria controlling tobacco use but the majority of the respondents supported a ban on smoking in homes (83.5%), in public places (79.2%), and in restaurants, nightclubs and bars (73.6%).9 However, a study done in Klang valley, Malaysia reported values which align with this finding as 94.0% said public places should be smoke free [21]. The expression of support on a policy banning smoking by the majority in this study is impressive and may be explained by the good knowledge demonstrated by them.

The majority reported responding when a smoker lit up a cigarette near to them by moving away from the place, 16.3% by asking him to stop smoking, 10.5% by asking him to move away and 8.7% do nothing. These figures are quite encouraging as the majority in various ways avoid exposure to secondhand smoke. In a study done in Jordan, 16.7% of the respondents said they respond to someone smoking around them by asking them to put out their cigarette and this is similar to the finding in this study [14].

This study's limitations include recall bias as some questions were asked regarding retrospective occurrences. Efforts were made to reduce this by limiting the duration of recall to four weeks. In conclusion, although many demonstrated good knowledge and expressed appropriate attitudes and perception to exposure harm of secondhand smoke, a large number experienced moderate to heavy exposure. Smoking in public places is a prevalent practice, therefore we recommend that the government should ensure that the law prohibiting smoking in public spaces are enforced.

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Conflict of Interest

None declared.

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