



Communicating the knowledge of Youths in Owerri on the health effects of Shisha Smoking

¹Nwanekwu Eustace Chinedu, ²Etumnu Emeka Williams*, ³Amaku Miriam Ifeanyi,
⁴Oluchi Williams-Etumnu

¹ Department of Film and Multimedia Studies, Imo State University, Owerri, 460222, Nigeria

^{2,4} Department of Mass Communication, Imo State University, Owerri, 460222, Nigeria

³ Department of Public Health, Imo State University, Owerri, 460222, Nigeria

¹ semnedo2k@yahoo.com; ² etumnuemeka@gmail.com*; ³ miriamifeanyi@gmail.com; ⁴ anoruoimma@gmail.com

*Correspondent email author: etumnuemeka@gmail.com

ARTICLE INFO

ABSTRACT

Article history

Received 2025-01-25

Revised 2025-02-25

Accepted 2025-02-26

Keywords

Shisha

Smoking

youths

Owerri

Health effects

Recently, the prevalence of shisha smoking is alarming and it has continued to raise health concerns among smokers. The aim of this study was to find out the knowledge of youths on the health effects of smoking shisha. Hence, this study investigated the knowledge of the health effects of shisha smoking among youths in Owerri. The survey method was used for this study with a sample size of 385, which was derived from the Survey Monkey online sample size calculator. A multistage sampling technique was employed. Results showed that, at a mean of 3.2 (N = 372), there is a high prevalence of shisha smoking among youths in Owerri and its surrounding areas. The result showed that, at a mean of 3.2 (N = 372), the youths in Owerri are knowledgeable regarding the health effects of shisha smoking. It was concluded that there is a high prevalence of shisha smoking among youths in Owerri. This is even with the level of awareness and knowledge about the health effects of shisha smoking among youths in Owerri. This could be linked to the factors associated with shisha smoking. One of the contributions of the study is that it will provide the need for professionals, policymakers, and all stakeholders involved in managing the issues of smoking to see why it is essential to engage in serious campaigns so as to raise the awareness of people towards the danger or health effect of shisha smoking in society.

This is an open access article under the [CC-BY-SA](#) license.



1. Introduction

Shisha smoking has become a growing health concern among youths in Owerri, south-eastern Nigeria, and other parts of the world (Aanyu et al., 2019). This tobacco smoking style has gained popularity among the younger generation due to its social context, fruity flavours, and the misconception of less harm (Ogunkoya, 2023). Studies have shown that a significant percentage of youths have low knowledge of the health effects of shisha smoking (Aanyu et al., 2019). In Owerri, a study conducted among adolescents revealed that 63% had good knowledge of health problems



associated with cigarette smoking, with lung cancer being the most reported associated health problem (Ebirim et al., 2014; Uchendu et al., 2013).

Another study conducted among undergraduates at a Nigerian university found a prevalence of 4.25% for cigarette smoking, consumption of shisha, and other forms of tobacco use (Igwe et al., 2021). The study also revealed that 458 (86.4%) youths had low knowledge of the health effects of shisha smoking, and 193 (36.4%) smoked shisha (Aanyu et al., 2019). The habit of shisha smoking occurs among youths who may be unaware of the tobacco content, increasing evidence of possible health risks (Al-Numair et al., 2007).

Factors associated with shisha smoking among youths include individual factors such as age, sex, education, attitude, residence, and peer pressure (Aanyu et al., 2019). A survey of teenagers in Owerri revealed that 184 (97.4%) smoked flavoured and flavoured tobacco, 69 (36.5%) smoked once a week, 163 (86.2%) smoked with friends, and 162 (85.7%) shared shisha pipes (Ogunkoya, 2023). Meanwhile, this current study will look at youth awareness and knowledge on the danger of shisha smoking as well as factors contributing to it which some of these cited studies did not factor in their investigations.

Ebirim et al., (2014) examined the prevalence of cigarette smoking among Nigerian male adolescents and their awareness of the health repercussions in a descriptive cross-sectional study of 944 randomly selected male students enrolled in school in Southeast Nigeria. Bigwanto et al., (2017) reported a prevalence of 15.3% among teenagers who had ever smoked and 11.2% among those who were currently smokers. Sixty-three percent of respondents were well-informed of the health risks linked to smoking cigarettes, with lung cancer being the most commonly mentioned issue (Ebirim et al., 2014).

In Owerri and other parts of the world, youth shisha smoking poses a serious health risk. In addition to addressing the societal and personal elements that contribute to the habit's popularity, efforts to address this issue should concentrate on raising public awareness of the health hazards connected to shisha smoking (Nzotta & Orji, 2020).

Many times, ignorance is cited as the primary cause of people's indulgence in numerous detrimental behaviours (Nurmansyah et al., 2021). Therefore, it is anticipated that conviction and knowledge will provide light and act as a compass to direct people's actions. However, there is much reason for doubt as to how much of this applies to smokers and the smoking habits of young people in Owerri. This is especially true given the apparent generational consistency in the growth of the smoking community despite clear, pervasive, and highly repetitious warnings like smokers are liable to die young and these products are not risk-free and are addictive, among other things. Youths continue to smoke in spite of the warnings against it. Could it be that they are not

knowledgeable about the hazardous effects of smoking shisha on their health? Based on this, this study examined youth knowledge on the health effects of smoking shisha in Owerri. The following questions guided the study, What is the prevalence of shisha smoking among youths in Owerri and its surrounding areas? what is the level of awareness of youths in Owerri regarding the health effects of shisha smoking? what is the knowledge of youths regarding the health effects of shisha smoking? what are the factors associated with shisha smoking among youths? At the end of this study, people will be able to know the awareness and knowledge level of youths regarding the danger of smoking shisha. Armed with such information, well-packaged sensitisation campaigns can be carried out by health stakeholders with the aim of discouraging shisha smoking that is hazardous to health.

2. Theoretical Framework

Shisha smoking, also known as hookah or water pipe smoking, has a rich and diverse history that spans centuries and cultures. The practice involves smoking flavored tobacco, known as shisha or maassel, through a water pipe, typically made of glass or metal. Shisha smoking has become a popular social activity, with lounges and cafes dedicated to providing a relaxed environment for enthusiasts to enjoy this traditional pastime ([Abu-Rmeileh & Alkhuffash, 2018](#)).

Ancient Persia is where shisha smoking originated, as they used the first prototypes of the water pipe to filter and cool the smoke from burning tobacco. Over time, the practice spread throughout the Middle East and Asia, becoming an integral part of social gatherings, celebrations, and ceremonies ([Abusalah et al., 2012](#)). Today, shisha smoking has a global presence, with enthusiasts from various cultures and backgrounds indulging in the flavours and rituals associated with this communal activity ([Aanyu et al., 2019](#)).

One of the distinguishing features of shisha smoking is the use of flavoured tobacco, which sets it apart from other forms of smoking. Often, people mix shisha tobacco with molasses, glycerin, and various flavorings to create a diverse range of tastes, ranging from traditional fruit flavors like apple and grape to more exotic options like mint, rose, and even bubblegum. This variety of flavours adds a sensory dimension to the experience, making shisha smoking a multisensory pleasure ([Akl et al., 2011](#)).

The apparatus itself, the hookah, consists of several components, including a water bowl, a pipe, a hose, and a mouthpiece. The hookah places the tobacco in a bowl at its top, covers it with perforated foil or a metal screen, and heats it using charcoal. The water in the bowl filters the produced smoke, cooling it and producing the distinctive bubbling sound associated with shisha smoking. The cooled smoke is then drawn through the pipe and into the hose, from which the smoker inhales ([Al-Haqwi et al., 2010](#)).

Some people perceive smoking shisha as less dangerous than smoking cigarettes because of the water filtering method, but it's important to understand that there are risks involved. Shisha smoke still contains dangerous ingredients such as heavy metals, compounds that cause cancer, and carbon monoxide, even after it has been filtered with water. These compounds can cause a number of health concerns, such as respiratory disorders and an increased risk of some malignancies, when inhaled repeatedly and over extended periods of time (Ali et al., 2020).

The social aspect of shisha smoking is a significant factor in its popularity. Shisha lounges and cafes have become cultural hubs where people gather to unwind, socialise, and enjoy the flavours of tobacco. The communal nature of shisha smoking fosters a relaxed and convivial atmosphere, making it a favoured activity among friends, family, and colleagues. Many cultures deeply ingrain shisha smoking in their social fabric, and its significance extends beyond the mere act of smoking. For instance, shisha sessions are sometimes combined with traditional games, music, and storytelling in Middle Eastern communities, offering a more immersive experience than just smoking flavoured smoke. Similarly, in South Asian cultures, shisha smoking is associated with celebrations, weddings, and other festive occasions, adding a touch of ceremony and ritual to the practice (Cosci et al., 2013).

The globalisation of shisha culture has led to the emergence of a wide range of accessories and innovations in the industry. Modern hookahs come in various designs and materials, from traditional handcrafted options to sleek and contemporary styles. Additionally, the availability of electronic or vaporised shisha pens has expanded the choices for those who prefer a smoke-free alternative, although these products also come with their own set of health considerations (Aniwada et al., 2018).

The debate over the health risks of shisha smoking continues, with ongoing research seeking to understand the full impact on respiratory health and overall well-being. While it may offer a different experience than cigarette smoking, the presence of harmful substances in shisha smoke underscores the importance of moderation and awareness among enthusiasts. Public health campaigns aim to educate individuals about the potential risks associated with shisha smoking and promote informed choices (Al-Numair et al., 2007).

Shisha smoking is a cultural practice with a rich history that has evolved into a global phenomenon. The flavours, rituals, and social aspects of shisha contribute to its widespread popularity, attracting enthusiasts from diverse backgrounds. However, it is crucial to balance the enjoyment of this communal activity with an awareness of the potential health risks associated with inhaling flavoured tobacco smoke. As shisha culture continues to thrive, responsible consumption

and informed choices will play a vital role in ensuring the well-being of those who indulge in this centuries-old tradition (Hill, 2007; Nahari, 2008).

In their study conducted in Lagos, Opanuga et al., (2020) observed a lack of statistically significant correlation between knowledge, attitude, and the utilisation of smokeless tobacco. According to the study, the most prevalent tobacco usage was snuff (81.8%), followed by chewing (18.2%). Once again, the study revealed that a significant majority of users, up to 81.8%, were regular consumers of tobacco. However, despite their general awareness of the adverse effects of tobacco consumption, only a small fraction possessed a comprehensive understanding of the specific health complications it entails. Out of the current users, 77.3% were males; the majority of them had experienced divorce, separation, or other marital difficulties. The remaining users were female. In a study conducted by Xu et al., (2017) among secondary school students in China, it was shown that smokers generally had a lower level of understanding regarding the health risks associated with smoking compared to non-smokers. For example, they noted that 12.2% of those who do not smoke were aware that smoking can cause a cerebral stroke; however, only 11.1% of smokers were aware of this fact. Nevertheless, their research also revealed that a higher proportion of smokers (16.7%) were aware of the detrimental effects of smoking on peptic ulcers compared to non-smokers (12.5%).

In another survey Muula & Mpabulungi (2007) revealed that approximately 67% of individuals were aware of the warnings regarding smoking. Aniwada et al., (2018) observed that individuals with a secondary education or higher exhibited a lower propensity for smoking compared to those with a primary education or lower. Suggesting that education provides a benefit in comprehending the consequences of smoking and hence abstaining from it. In a study conducted by Hosseinpour et al., (2011) it was shown that there was a 3.5-fold increase in tobacco usage among men who lacked formal education, in comparison to their educated counterparts. In their study, Cosci et al., (2013) identified several factors that predict adolescent smoking. These factors include a lack of knowledge about the harmful effects of second-hand smoke on child growth, a lack of awareness about the harmful effects of nicotine on the foetus, and a lack of understanding that pipes and cigars are equally detrimental to health compared to cigarettes.

It was observed in a study that despite the abundance of knowledge on the drawbacks associated with tobacco, it continues to be cultivated, promoted, distributed, and consumed (Mishra & Mishra, 2013). Opanuga et al., (2020) found that the expertise of instructors did not influence their smoking status. Nurmansyah et al., (2021) argue that both smokers and non-smokers demonstrated awareness of the health risks associated with cigarette smoking. This implies that smokers' awareness of the harmful effects of smoking does not significantly deter them from continuing to smoke.

The health belief model served as the study's theoretical framework. A team of social psychologists from the US public health service created the health belief model (HBM) in the 1950s to describe phenomena related to issues pertaining to health. Even though the service was provided without charge and in a different convenient location, they looked into why so few people participated in illness prevention and detection programmes. The model's understanding was enhanced through the research conducted by scholars, who determined that six primary constructs impact individuals' judgements on whether to engage in screening, manage sickness, and take preventive measures. This study examines six constructs: perceived susceptibility, perceived severity, perceived benefit, perceived barriers, cues to action, and self-efficacy. Perceived susceptibility refers to an individual's belief that they are susceptible to a particular condition. Perceived severity pertains to the belief that the condition has serious ramifications. Perceived benefit refers to the belief that taking action would reduce their susceptibility to the condition or its severity. Perceived barriers refer to the belief that the costs of taking action outweigh the rewards (Jones et al., 2015).

This theory holds that people's beliefs and attitudes affect how they behave in terms of their health. The beliefs that people have about their health affect how they behave. Geoffrey Hochbaum first established the Health Belief Model in the 1950s, and Becker, Haefner, and Maiman added to it in 1977. This theory centres on the evaluation of individuals' health behaviour by analysing their perceptions and attitudes towards diseases and the negative consequences of specific actions. It encompasses personal knowledge and beliefs and is employed in health promotion to develop intervention and prevention programmes (Jones et al., 2015).

According to HBM, certain conditions must be met in order for behaviour to change. They consist of incentives, risks, and benefits. These indicate that a person needs motivation to alter their behaviour. The individual must believe that continuing their current behaviour carries a risk. For a change to occur, the individual must feel that the benefits of the change will outweigh the barriers. To modify their conduct, a person needs the confidence (self-efficacy) to do so. This can come up in a chat with a buddy or during a show on television (Tone & Green, 2004).

The HBM also values 'modifying variables' as crucial for behaviour change. These factors affect how a person perceives the severity, risks, and susceptibility of the disease. They include demographic factors, sociopsychological factors, and structural factors. Age, gender, peer pressure, prior exposure to the disease, and other factors all have an effect on how decisions are made (Khubchandani & Simmons, 2012; Nadioo & Wills, 2000).

Several different health behaviours can be addressed by the health belief model. The interventions implemented in this module frequently aim to modify the variable of perceived threat

of disease, hence influencing the balance between susceptibility and severity. Utilising information that elicits an emotional appeal or elicits a significant fear or emotional response is commonly seen as the primary approach for achieving this objective. A practitioner may target an intervention to encourage a behavioural change on these obstacles if they can be found ([Davis et al., 2015](#)).

This theory is relevant to this study because it provides the basis for understanding why youths act the way they do, especially towards the smoking of Shisha. Youths make decisions about their health in accordance with the health beliefs they have developed as a result of exposure to health messages. This theory also explains why youths behave the way they do, especially as it pertains to their health.

3. Method

The researcher adopted the survey method in carrying out this study. This method enables the researcher to study samples, and it also makes for easy identification of conditions and phenomena in their natural setting. This is because the study is focused on the residents of Imo State, all of whom cannot possibly be studied. Hence, the researcher uses the survey design to select a representative sample from the population and later generalise on the said population. The survey method is a method of data collection that involves asking people who are believed to hold the needed information questions using a questionnaire and an open-ended approach ([Cajetan et al., 2021](#); [Loveth et al., 2022](#)).

This study population consists of people between the ages of 15 and 44 who, according to this study, can be classified as youths. The population of this study is therefore 2,011,049 ([Zhujiworld, 2024](#)). The Survey Monkey online sample size calculator was used at a 95% confidence level and a 5% error margin. Therefore, the sample size for this study is 385. The study employed a multistage sampling technique. This methodology involves the systematic organisation of samples in a sequential manner, wherein each stage necessitates the implementation of a certain sampling strategy. The initial stage involves the division of Owerri, which is part of a cluster, into three distinct regions: Owerri North, Owerri West, and Owerri Municipal. The second phase involved the deliberate selection of two communities from each local government area, chosen for their proximity to the researchers, their significant young resident population, and the presence of numerous bars and hotels where they sell this shisha. The chosen communities for this study were Owerri North (specifically Orji and Uratta), Owerri West (Umuguma and Ihiagwa), and Owerri Municipal (Umuoyima and Umuororonjo), in that order. During stage three, the researchers distributed the questionnaire proportionally to the six selected villages, which is equivalent to $385/6 = 64$. During the fourth stage of the study, the researcher sent 64 copies of the questionnaire

to respondents who were purposefully selected based on their age range and likelihood of being exposed to shisha smoking.

The questionnaire was the main tool used to collect data for this investigation. Two sections, A and B, made up the questionnaire for this study. Section A presents the demographic data of the respondents, while Section B presents the thematic issue, which is the researcher's subject matter. All questions were closed-ended or structured. This is to avoid difficulty in understanding the questions given by the respondents.

The researchers distributed 20 copies of the questionnaire to respondents. The retrieved questionnaire responses were computed using Cronbach alpha with the aid of SPSS version 21 to check for the level of consistency of the instrument. The result showed .77, meaning there is a high level of internal coefficient in the instrument. Face validity was used in this study. In a bid to ascertain the validity of the instrument, the researcher gave a copy of the structure questionnaire to a research expert in the institution to validate. Corrections were made, which affirms the validity of the instrument. The questionnaire as an instrument for data collection was distributed through a face-to-face approach within a period of two weeks. After administering the questionnaire to the respondents, the researcher waited patiently so as to collect them and make a good number of usable copies. For data analysis, the researcher utilised the simple percentage and mean methods. The data were presented in a table for easy understanding and analysis.

4. Result and Discussion

A total of 385 copies of the questionnaire were disseminated to the individuals residing in Owerri metropolis. Upon retrieval of the distributed copies of the questionnaire, the researcher found that out of the 385 copies, a total of 13 copies were deemed invalid. As a result, the researcher experienced a loss of 13 surveys, representing /a proportion of 3%. The remaining questionnaire, which accounted for 97% (372), was subjected to analysis.

Table 1. Respondents Responses on the prevalence of shisha smoking among youths in Owerri and its surrounding areas (N=372)

Items	SA	A	D	SD	Mean	Remark
Youths smoke shisha when they go for outing	209	163	-	-	3.6	Accepted
Shisa has come to stay no matter the health consequences	131	152	56	33	3.0	Accepted
Youths engage smoking of shisha more often	108	197	67	-	3.1	Accepted
Mean					3.2	Accepted

FIELD SURVEY, 2024

Variables Key: SA (Strongly Agree) = 4; A (Agree) = 3; D (Disagree) = 2 and SD (Strongly Disagree) = 1

Decision Rule: If the mean score is lower than 2.5 (1 – 2.4), the researcher decides that there is high prevalence of shisha smoking among youths in Owerri and its surrounding areas. But if the mean score is higher than 2.4 (2.5 – 5.0), the researcher decides that there is no high prevalence of shisha smoking among youths in Owerri and its surrounding areas.

As seen Table 1, revealed a mean of 3.2 (N = 372), indicating that there is a high prevalence of shisha smoking among youths in Owerri and its surrounding areas. By implication, this finding reveals that there is a high prevalence of shisha smoking among youths in Owerri and its surrounding areas.

Table 2. Respondents Responses on the level of awareness of youths in Owerri regarding the health effects of shisha smoking (N=372)

Items	SA	A	D	SD	Mean	Remark
With the flavor in shisha the negative health effect will not still be less	177	132	52	11	3.3	Accepted
I know about the health consequences of shisha smoking	91	192	76	13	3.0	Accepted
There might be health issues associated with shisha smokers	89	83	190	10	2.7	Accepted
Grand Mean					3.0	Accepted

FIELD SURVEY, 2024

As seen Table 2, revealed that, with a mean of 3.0 (N = 372), the level of awareness of youths in Owerri regarding the health effects of shisha smoking is high. By implication, this finding reveals that youths in Owerri are aware of the health effects of shisha smoking.

Table 3. Respondents Responses on the knowledge of youths regarding the health effects of shisha smoking (N=372)

Items	SA	A	D	SD	Mean	Remarks
Shisha smoking can cause lung disease	192	123	41	16	3.3	Accepted
Shisha smoking most times can cause dizziness and headache	131	156	56	33	3.0	Accepted
Shisha can lead to coughing and other related health issues	208	97	67	-	3.4	Accepted
Grand Mean					3.2	Accepted

FIELD SURVEY, 2024

As seen Table 3, revealed that with a mean of 3.2 (N = 372), the youths in Owerri are knowledgeable regarding the health effects of shisha smoking. This implies that the youths in Owerri are knowledgeable regarding the health effects of shisha smoking.

Table 4. Respondents Responses on the factors associated with shisha smoking among youths (N=372)

Items	SA	A	D	SD	Mean	Remark
Peer pressure can lead to shisha smoking among youths	209	163	-	-	3.6	Accepted
Escape route from stress leads to smoking of shisha	131	152	56	33	3.0	Accepted
Social norm (wanting to belong)	108	197	67	-	3.1	Accepted
Grand Mean					3.2	Accepted

FIELD SURVEY, 2024

As seen Table 4, revealed that at a mean of 3.2 (N = 372). It was confirmed that some of the factors that are associated with shisha smoking among youths include peer pressure, an escape route to relieve stress, and social norms (wanting to belong). By implication, this finding reveals that the highlighted factors are responsible for shisha smoking among youths in Owerri.

The findings indicate a significant prevalence of shisha smoking among young individuals in Owerri and its neighbouring regions, with a mean score of 3.2 (N= 372). This finding aligns with the research conducted by [Mishra & Mishra \(2013\)](#) where they found that female tobacco consumers in Bangladesh hold the belief that the intake of paan, which is commonly consumed alongside tobacco, enhances their ability to concentrate on their work. According to the survey, a significant proportion of individuals hold the belief that this practice contributes to the enhancement of dental health and the eradication of halitosis. Furthermore, the study conducted by [Malik et al., \(2021\)](#) found a higher incidence of shisha smoking among males compared to females, with rates of 41% and 16.9%, respectively. The findings of this study suggest a significant incidence of shisha smoking among young individuals residing in Owerri and its neighbouring regions. The findings indicate that the degree of awareness among youths in Owerri regarding the health effects of shisha smoking is high, with a mean score of 3.0 (N = 372). This finding corroborate with the research conducted by [Muula & Mpabulungi \(2007\)](#), which revealed that the degree of awareness regarding smoking warnings was 67%, indicating an above-average level. According to the research conducted by [Nurmansyah et al., \(2021\)](#), a significant proportion of students, including both smokers and non-smokers, demonstrated awareness regarding the adverse health effects associated with cigarette smoking. According to the study conducted by [Aniwada et al., \(2018\)](#) individuals with a secondary education or higher exhibited a lower likelihood of smoking compared to those with a primary education or lower. Education plays a crucial role in raising awareness about the detrimental effects of smoking shisha on the health of young people in Owerri. This data suggests that there is awareness among young individuals in Owerri regarding the health consequences associated with shisha smoking.

The results indicated that at a mean score of 3.2 (N = 372) the youngsters in Owerri possess a high level of knowledge on the health consequences of shisha smoking. This finding is in tandem with the study conducted by Xu et al. (2016), which revealed that a smaller proportion of secondary school students in China, compared to non-smokers, have a comprehensive understanding of the detrimental health effects associated with smoking. The research conducted by [Naseeb et al., \(2024\)](#) revealed that a majority of the participants have knowledge regarding the presence of nicotine (23/45) and tobacco (25/45) in shisha. The participants were informed about the potential health risks associated with shisha smoking, including cancer, cardiovascular illnesses, an elevated risk of infections, decreased infant weight during pregnancy, gum and mouth disease, eye disease, and blindness, as well as harm to individuals who do not smoke ([Mokhtar et al., 2024](#); [Watts et al., 2024](#)). However, the study conducted by [Opanuga et al., \(2020\)](#) did not identify any statistically significant correlation between knowledge, attitude, and the usage of smokeless tobacco. According to the research, the most prevalent tobacco usage was snuff (81.8%), followed by chewing (18.2%).

The study revealed that a significant proportion of users, specifically 81.8%, engaged in regular tobacco usage despite possessing a general awareness of the detrimental effects associated with tobacco use. Table 4 presents data with a mean of 3.2 (N = 372), indicating several factors associated with shisha smoking among young people. These factors include peer pressure, seeking an escape from stress, and conforming to social norms (wanting to belong). This finding is consistent with the research conducted by [Al-Haqwi et al., \(2010\)](#), which found that approximately 20% of the participants in the study held the belief that smoking possesses certain advantageous effects, mostly as a means of managing stress. The research conducted by [Aanyu et al., \(2019\)](#) revealed several aspects that are linked to shisha smoking. These associations include the adjusted odds ratio of smoking cigarettes, a positive attitude towards shisha, being in metropolitan areas, and being of older age ([Record et al., 2023](#)). Additionally, in conjunction with this observation, [Khan \(2019\)](#) conducted a study that revealed that a majority of the participants, specifically 64 percent, were influenced by their peers to engage in the practice of smoking shisha. This finding suggests that the identified parameters are associated with the prevalence of shisha smoking among young individuals in Owerri.

5. Conclusion

Therefore, based on the results, it can be said that youths in Owerri have a high prevalence of smoking shisha despite having a low level of awareness and knowledge about the health effects of smoking shisha. This could be related to factors associated with smoking shisha, like a high level of peer pressure, a social norm, and the belief that smoking shisha is the best way to relieve stress. In line with the findings, we can categorically say that youths of Owerri are knowledgeable about the health effects of shisha smoking. According to the results, the following suggestions are made: Youths should be encouraged to avoid excessive smoking of shisha because of the potentiality of developing smoking related ailments. Ministry of health and other health related stakeholders should use the opportunity of the high level of awareness to sensitise youths on the danger of shisha smoking. The youths should be extensively educated so as to widen their knowledge scope on the hazardous effects of smoking with the aim of encouraging healthy living. Proper health campaigns against shisha smoking should be sponsored by relevant stakeholders so as to adequately equip the youths to ward off peer pressure and other factors that can encourage shisha smoking.

The following are the implications of the study, it will provide the need for professionals, policymakers, and all stakeholders involved in managing the issues of smoking to see why it is essential to engage in serious campaigns so as to raise the awareness of people towards the danger or health effect of shisha smoking in society. The findings of this study will further increase the efforts of relevant stakeholders against shisha smoking among youths in Owerri or even Nigeria at large. Academically, this study will add to the volume of literature on issues related to smoking and

health. With the volume of literature to be used in this study, this study will no doubt serve as reference material for people studying areas that have to do with health-related issues in Nigeria. Theoretically, this study provided better knowledge of how the theory used in this study can be applied in reality. Additionally, it provided more information on how these theories might be applied in studies about smoking and health-related issues in Nigeria.

Acknowledgment

We sincerely thank all those who, one way or another, assisted us in ensuring we completed this work. Furthermore, we express our profound gratitude to the editorial team of the Commicast journal for the good work they do to produce a quality journal.

References

- Aanyu, C., Kadobera, D., Apolot, R. R., Kisakye, A. N., Nsubuga, P., Bazeyo, W., & Ddamulira, J. B. (2019). Prevalence, knowledge and practices of shisha smoking among youth in Kampala City, Uganda. *Pan African Medical Journal*, 32. <https://doi.org/10.11604/pamj.2019.32.61.15184>
- Abu-Rmeileh, N. M. E., & Alkhuffash, O. (2018). Harm perceptions of waterpipe tobacco smoking among university students in five Eastern Mediterranean Region countries: A cross-sectional study. In *Tobacco induced*. pmc.ncbi.nlm.nih.gov. <https://pmc.ncbi.nlm.nih.gov/articles/PMC6659482/>
- Abusalah, A., Gavana, M., & Haidich, A. B. (2012). Low birth weight and prenatal exposure to indoor pollution from tobacco smoke and wood fuel smoke: a matched case-control study in Gaza strip. *Maternal and Child Health Journal*. <https://doi.org/10.1007/s10995-011-0851-4>
- Akl, E. A., Gunukula, S. K., Aleem, S., Obeid, R., & Jaoude, P. A. (2011). The prevalence of waterpipe tobacco smoking among the general and specific populations: a systematic review. In *BMC public health*. Springer. <https://doi.org/10.1186/1471-2458-11-244>
- Al-Haqwi, A. I., Tamim, H., & Asery, A. (2010). Knowledge, attitude and practice of tobacco smoking by medical students in Riyadh, Saudi Arabia. In *Annals of thoracic medicine*. journals.lww.com. https://journals.lww.com/aotm/fulltext/2010/05030/knowledge_attitude_and_practice_of_tobacco.5.aspx
- Al-Numair, K., Barber-Heidal, K., & Al-Assaf, A. (2007). Water-pipe (shisha) smoking influences total antioxidant capacity and oxidative stress of healthy Saudi males. In *Journal of Food ...* researchgate.net. https://www.researchgate.net/profile/Gaber-El-Desoky/publication/267845201_Water-pipe_shisha_smoking_influences_total_antioxidant_capacity_and_oxidative_stress_of_healthy_Saudi_males/links/550e9fe40cf27526109e1b0d/Water-pipe-shisha-smoking-influences-tota
- Ali, F. R. M., Diaz, M. C., Vallone, D., Tynan, M. A., Cordova, J., Seaman, E. L., Trivers, K. F., Schillo, B.

- A., Talley, B., & King, B. A. (2020). E-cigarette Unit Sales, by Product and Flavor Type — United States, 2014–2020. *MMWR. Morbidity and Mortality Weekly Report*, 69(37), 1313–1318. <https://doi.org/10.15585/mmwr.mm6937e2>
- Aniwada, E., Uleanya, N., Ossai, E., Nwobi, E., & Anibueze, M. (2018). Tobacco use: prevalence, pattern, and predictors, among those aged 15-49 years in Nigeria, a secondary data analysis. *Tobacco Induced Diseases*, 16(March), 1–8. <https://doi.org/10.18332/tid/82926>
- Bigwanto, M., Mongkolcharti, A., & Peltzer, K. (2017). Determinants of cigarette smoking among school adolescents on the island of Java, Indonesia. *International Journal of Adolescent Medicine and Health*. <https://doi.org/10.1515/ijamh-2015-0036>
- Cajetan, I., Cynthia, J., & Etumnu, E. W. (2021). *Influence of COVID-19 Broadcast Media Campaigns on the Health Consciousness of Owerri Residents*. 2, 2550–7302. https://www.researchgate.net/publication/355094413_Influence_of_COVID-19_Broadcast_Media_Campaigns_on_the_Health_Consciousness_of_Owerri_Residents
- Cosci, F., Zagà, V., Bertoli, G., & Campiotti, A. (2013). Significant Others, Knowledge, and Belief on Smoking as Factors Associated with Tobacco Use in Italian Adolescents. *ISRN Addiction*, 2013, 1–7. <https://doi.org/10.1155/2013/968505>
- Davis, R., Campbell, R., Hildon, Z., Hobbs, L., & Michie, S. (2015). Theories of behaviour and behaviour change across the social and behavioural sciences: a scoping review. *Health Psychology Review*, 9(3), 323–344. <https://doi.org/10.1080/17437199.2014.941722>
- Ebirim, C. I. C., Amadi, A. N., Abanobi, O. C., & Iloh, G. U. P. (2014). The Prevalence of Cigarette Smoking and Knowledge of Its Health Implications among Adolescents in Owerri, South-Eastern Nigeria. *Health*, 06(12), 1532–1538. <https://doi.org/10.4236/health.2014.612188>
- Hill, S. (2007). Why Do People Smoke Cigarettes? In *Why Do People Smoke Cigarettes*.
- Hosseinpoor, A. R., Parker, L. A., Tursan d’Espaignet, E., & Chatterji, S. (2011). Social Determinants of Smoking in Low- and Middle-Income Countries: Results from the World Health Survey. *PLoS ONE*, 6(5), e20331. <https://doi.org/10.1371/journal.pone.0020331>
- Igwe, C. U., David, J. C., & Okuma, O. A. (2021). The prevalence, knowledge of health effect and attitude towards smoking among undergraduates in a Nigerian University. In *Journal of Public Health and Epidemiology*. [academicjournals.org. https://academicjournals.org/journal/JPE/article-full-text/360E65166106](https://academicjournals.org/journal/JPE/article-full-text/360E65166106)
- Jones, C. L., Jensen, J. D., Scherr, C. L., Brown, N. R., Christy, K., & Weaver, J. (2015). The Health Belief Model as an Explanatory Framework in Communication Research: Exploring Parallel, Serial, and Moderated Mediation. *Health Communication*, 30(6), 566–576. <https://doi.org/10.1080/10410236.2013.873363>

- Khan, W. U. (2019). Maximizing physical layer security in relay-assisted multicarrier nonorthogonal multiple access transmission. *Internet Technology Letters*, 2(2). <https://doi.org/10.1002/itl2.76>
- Khubchandani, J., & Simmons, R. (2012). Going global: building a foundation for global health promotion research to practice. *Health Promotion Practice*. <https://doi.org/10.1177/1524839912439063>
- Loveth, O., C., A. K., M., O. K., W., E. E., Okodogbe, P., & Odionyenma, C. U. (2022). Effectiveness of Mass Media in the Fight against Drug Abuse among Undergraduates of Tertiary Institutions in Imo State. *South Asian Journal of Social Studies and Economics*, 1–10. <https://doi.org/10.9734/sajsse/2022/v14i330380>
- Malik, A., Khan, M. L., & Quan-Haase, A. (2021). Public health agencies outreach through Instagram during the COVID-19 pandemic: Crisis and Emergency Risk Communication perspective. *International Journal of Disaster Risk Reduction*, 61, 102346. <https://doi.org/10.1016/j.ijdrr.2021.102346>
- Mishra, S., & Mishra, M. B. (2013). Tobacco: Its historical, cultural, oral, and periodontal health association. In *Journal of International Society of Preventive and Community Dentistry*. https://journals.lww.com/jpcd/fulltext/2013/03010/tobacco_its_historical,_cultural,_oral,_and.3.aspx
- Mokhtar, H. H. M., Guntoro, N. A., & Ahmad, A. (2024). Knowledge On Smoking/Vaping, Attitude Towards Smoking Behavior, And Practice Of Smoking Prevention And Cessation Among. In *Journal of Islamic, Social, Economics and Development*. irep.iium.edu.my. [http://irep.iium.edu.my/119156/1/119156_Knowledge on smoking vaping.pdf](http://irep.iium.edu.my/119156/1/119156_Knowledge%20on%20smoking%20vaping.pdf)
- Muula, A. S., & Mpabulungi, L. (2007). Cigarette smoking prevalence among school-going adolescents in two African capital cities: Kampala Uganda and Lilongwe Malawi. *African Health Sciences*. <https://www.ajol.info/index.php/ahs/article/view/6990>
- Nadioo, J., & Wills, J. (2000). *Health promotion Foundation for Practice*. Vol. 2nd): Baillière Tindall.
- Nahari, G. (2008). Why do people smoke cigarettes? Different reasons for different people. In *International Journal*. 27 Church Rd, Hove Bn3 2fa.
- Naseeb, U., Alam, M. T., & Pervez, F. (2024). Knowledge, Attitude, and Perception of Passive Smoking Among Medical and Dental Students of Karachi: A Survey-Based Study. *Tobacco Use*. <https://doi.org/10.1177/1179173X241258347>
- Nurmansyah, M. I., Umniyatun, Y., & Jannah, M. (2021). Knowledge, attitude and practice of cigarette smoking among senior secondary school students in Depok, Indonesia. *International Journal of UIN Syarif Hidayatullah*. <https://doi.org/10.1515/ijamh-2018-0124>
- Nzotta, N. U., & Orji, U. F. (2020). Influence of radio health programmes on residents' of select

- communities in Imo State: A study orient 94.4 FM Owerri. In *Journal of Communication*. researchgate.net. https://www.researchgate.net/profile/Orji-Uchenna-Franklin-2/publication/354687724_Influence_Of_Radio_Health_Programmes_On_Residents'_Of_Select_Communities_In_Imo_State_A_Study_Of_A_In_Orient_944_Fm_Owerri/Links/6146ff48a3df59440b984812/Influence-Of-Radio-Health-Programmes-On-Residents-Of-Select-Communities-In-Imo-State-A-Study-Of-A-In-Orient-944-Fm-Owerri.Pdf
- Ogunkoya, J. O. (2023). Original Articles Knowledge, Attitude and Practice of Shisha Smoking among Undergraduates in a Private Tertiary Institution in Nigeria: A Cross-Sectional Study. *West Africa Journal of Medicine*. https://wajmed.com/ojs3.3_wajm/index.php/wajmed/article/view/601
- Opanuga, O., Ayankogbe, O., Oluwole, E., & Odukoya, O. (2020). Smokeless tobacco: Knowledge, attitudes and use among adults in Lagos, South-West, Nigeria. *Journal of Addiction Medicine and Therapeutic Science*, 6(1), 035–040. <https://doi.org/10.17352/2455-3484.000035>
- Record, R. A., Greiner, L. H., Wipfli, H., & Strickland, J. (2023). Evaluation of a social media campaign designed to increase awareness of thirdhand smoke among California adults. *Health Communication*. <https://doi.org/10.1080/10410236.2021.1954760>
- Tone, K., & Green, J. (2004). Health Promotion: Planning and Strategies. In *www. books Google. com*.
- Uchendu, O. C., Ilesanmi, O. S., & Olumide, A. E. (2013). Factors influencing the choice of health care providing facility among workers in a local government secretariat in south western Nigeria. *Annals of Ibadan Postgraduate Medicine*. <https://www.ajol.info/index.php/aipm/article/view/102558>
- Watts, C., Burton, S., Lizama, N., & Chapman, L. (2024). Tobacco sales through vending machines: Insights from owners and managers of Australian alcohol-licenced premises with different licencing schemes. In *Australian and New Zealand Journal of Public Health*. Elsevier. <https://www.sciencedirect.com/science/article/pii/S1326020024000013>
- Xu, X., Liu, D., Sharma, M., & Zhao, Y. (2017). Prevalence and Determinants of Current Smoking and Intention to Smoke among Secondary School Students: A Cross-Sectional Survey among Han and Tujia Nationalities in China. *International Journal of Environmental Research and Public Health*, 14(11), 1323. <https://doi.org/10.3390/ijerph14111323>
- Zhujiworld. (2024). *Imo State, Nigeria — statistics*. Zhujiworld. https://zhujiworld.com/ng/1293884-imo-state/#google_vignette