

Assessment on Potential Factors to Affect the Availability and Accessibility of Snus in Low-and-middle Income Countries: The Case of Malawi

Kate Sikwese

University of Livingstonia

Wilfred Jekete (✉ wilfredjekete@gmail.com)

Tobacco Harm Reduction Malawi

Research Article

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Abstract

Introduction and literature review

This study focused on assessing the factors that may affect the availability and accessibility of snus in Malawi and provide possible means to ensure and enhance the availability and accessibility of snus in the country. Tobacco smoking is not just one of the world's largest, most pressing and most preventable health concerns, but an epidemic in the making. The available evidence indicates that both the burden of disease and smoking prevalence are on the rise in Malawi. The country's efforts to address such epidemic have been ineffective with limited preventive and therapeutic interventions tailored at making people to cease from smoking tobacco. Little is known about the health importance of tobacco harm reduction products that have the potential to improve the health of a regular smoker by ending smoking. On the other hand, the use of sophisticated tobacco Harm Reduction products has proven to be expensive hence unsustainable for the Low-Middle income countries such as Malawi, hence interventions such as the use of Snus has been viewed as the most possible alternative to Nicotine consumption. Thus, this report assessed the possible factors that may affect the availability and accessibility of snus as a tobacco harm reduction product in the country.

Methodology: It was conducted in three districts of Mchinji, Rumphi and Balaka, and employed quantitative and qualitative research methods. The data were collected from 100 randomly sampled respondents and 16 key informants play roles various roles in tobacco, health, political and economic sectors of the country. The data collected were cleaned, coded and analyzed in accordance with the research objectives. The analysis was guided by four research questions which included questions on willingness to quit consumption of combustible cigarettes, factors affecting the availability of snus, health perspective towards cigarette consumption and measure to enhance availability and accessibility. Descriptive statistics (percentages and frequency) were used to present the analyzed data and findings in tables and graphs.

Results: The study has revealed that majority of key informants and combustible cigarettes consumers perceive smoking as bad to human health, and a number of them made attempts to quit smoking by failed due to stress, lack of alternative source of containing nicotine cravings etc. On the other hand, lack of political willingness and commitment, taxation and lack of policies and regulations are some of the factors that may negatively affect the availability and accessibility of snus in the country. On the other hand, the health benefits of snus and the affordability among the rural consumers has been highlighted as some of the benefits and factors that may stimulate snus demand and enhance its availability and accessibility positively.

Conclusion and Recommendations:

In conclusion, the use snus as a harm reduction product can be of greater importance in helping to reduce cases of non-communicable infections as evidenced in Pakistan. With regards to the socio-economic status of most rural based combustible cigarette consumers, snus tends to provide a better option for

switching to safer nicotine as it is cheaper hence quite affordable by the majority which may directly contribute to a significant decline in combustible cigarette use hence improving the health wellbeing of individuals who have opted to switch thereby attaining the Sustainable Development Goal 3.

It can be recommended that, government should consider how harm reduction products are taxed, it very important to consider the relative harms of different tobacco products in taxation, where a harm reduction approach would apply differential taxation based on the relative harms associated with different products. The government also need to accommodate tobacco harm reduction strategies in its policies which will more likely enhance and ensure the availability and accessibility of snus and other related products will are more likely to reduce the risk associated with tobacco combustion.

Introduction

Background Information

Cigarette smoking prevalence has decreased over the last two decades in most high-income countries, but continues to increase in several Low Middle Income Countries, (Burns & Yusuf, 2012). This is the case despite that the tobacco control strategies articulated in the World Health Organisation (WHO) Framework Convention on Tobacco Control (FCTC) arms at preventing tobacco use initiation, promoting cessation and protecting non-smokers from the adverse health effects of secondhand smoke in order to achieve the global Non-Communicable Diseases target of a 30% reduction in tobacco use by 2025, (World Health Organization, 2016).

Nevertheless, there continues to be new tobacco users and established tobacco users who are unable or unwilling to quit, (Drope, et al., 2018). The continuing, and in some countries expanding, prevalence of cigarette smoking has led to a broadening of traditional tobacco control strategies to include 'harm reduction' approaches such as considering the use of Smokeless Tobacco products as a means of reducing the use of combusted tobacco products, where snus is highly recommended for low- middle income countries to ensure sustainability of the efforts, (Burns & Yusuf, 2012)

The use of snus is not a significant risk factor for developing lung cancer, cardiovascular disease, pancreatic cancer or oral cancer. The most recent Eurobarometer data from 2017 reported that Sweden had the lowest prevalence of daily cigarette use in the European Union at 5% whilst daily "oral tobacco" use was reported to be 20%, (Clarke, et al., 2019).

European data published by the World Health Organisation in 2018 indicated that Sweden had the lowest rate of tobacco-related mortality and the lowest incidence of male lung cancer. Overall, prevalence statistics and epidemiological data indicate that the use of snus confers a significant harm

reduction benefit which is reflected in the comparatively low levels of tobacco-related disease in Sweden when compared with the rest of Europe, (Ramstrom & Wikmans, 2014) .

Despite this being the case, but the tobacco harm reduction alternatives such as snus are barely known and accessible and thus used by the population, and in Low-and-Middle income countries, access to such harm reduction products remain laborious (Camara, 2021), thus resulting in the majority of cigarette consumers being trapped despite their attempts to quit smoking.

Problem Statement

Tobacco kills more than 8 million people each year. More than 7 million of those deaths are the result of direct tobacco use while around 1.2 million are the result of non-smokers being exposed to second-hand smoke, over 80% of the world's 1.3 billion tobacco users live in low- and middle-income countries, (**World Health Organization, 2021**) . It is predicted that 70% of these future deaths will occur in low income and/or middle-income countries (LMICs). The increase in future deaths is expected to be largely due to increased cigarette use, (Burns & Yusuf, 2012).

Studies show that few people understand the specific health risks of tobacco use. However, when smokers become aware of the dangers of tobacco, most want to quit. Despite this being the case, but without alternative support only 4% of quit attempts succeed in quitting tobacco smoking, (World Health Organization, 2021).

In this case, Low- and Middle-income countries need to find alternatives to assist its largely 1.3 billion cigarette consumers to quit smoking in order to prevent 70% of future deaths which are more likely to occur in not kept in check. Hence it is important to help those willing to quit smoking to do so.

However, most government of Low-and-Middle income countries such as Malawi are doing little to protect and promote good health and well-being of tobacco consumers, since, tobacco is known to be the economic backbone of the country, (Appau, et al., 2016). As such, alternatives to nicotine consumption other than combustible cigarettes are hardly available and accessible among the locals in Africa, as a means to access such alternative still remain laborious, (Camara, 2021) living the consumer with no option but to buy cigarettes as a means of consuming nicotine, this entails that the consumers are deprived of access to tobacco Harm reduction products which are focused on reducing health risks or behaviors by providing safer forms or smokeless tobacco products to promote good health and well-being.

Justification

Snus is considered by scientists to be at least 90% and possibly closer to 99%. Less risky than smoking. A comprehensive review of the health effects of snus in 2011 found no evidence of any significant harmful effects, (C.A.S.A., 2022), however, since the accessibility to these products is still difficult in Africa, it is important that advocates should make efforts to ensure that alternatives to cigarettes are more accessible and affordable to ordinary people, and place for measures that will ensure competition between combustible cigarettes and tobacco harm reduction products such as snus, (Camara, 2021), in order for the consumers to make unlimited health choices based on the availability and accessibility of the products.

Basing on this context, this study was conducted in order to understand the benefits and factors that may affect the availability, affordability and accessibility of snus as an alternative to nicotine consumption in the country.

Research objectives

Main Objective

The main objective of the study was to assess potential factors affecting the availability and accessibility of snus in Low-and-Middle income countries with emphasis on Malawi.

Specific Objective

In order to achieve the stated main objective, the following specific objectives were followed:

- Assessing the health attitude/perspective of consumers towards combustible cigarettes
- To examine the willingness of consumers of combustible cigarettes to quit smoking.
- To project factors that may affect snus availability, accessibility and affordability in Malawi.
- Provide means of enhancing the availability and accessibility of snus in the country.

Research Questions

- What is the health perspective of consumers towards combustible cigarettes?
- How many people are willing and attempted to quitting consuming combustible cigarettes?
- What the factors that are more likely to affect the availability and accessibility of snus in Malawi?
- What are the possible means of enhancing the availability and accessibility of snus in Malawi?

Chapter summary

This chapter has discussed the background information of the study topic, statement of the problem, objectives of the study, such as: assessing the health attitude/perspective of consumers towards combustible cigarettes; examining the willingness of consumers of combustible cigarettes to quit smoking; examining factors that may affect snus availability, accessibility and affordability in Malawi, and providing means of enhancing the availability and accessibility of snus in the country. The next chapter that follows will discuss the literature review.

Literature Review

2.0. Introduction

This section introduces the literature review done by the researcher and scholars on factors affecting the availability and accessibility of Tobacco harm reduction products such as snus. It mainly focuses on smoking prevalence and health potential of snus in reducing the harms associated with combustible cigarettes.

2.1. Conceptual framework

[See figure 1]

2.2. Tobacco Harm Reduction Context

Cigarette smoking prevalence has decreased over the last two decades in most high-income countries, but continues to increase in several Low Middle Income Countries, (Burns & Yusuf, 2012). This is the case despite that the tobacco control strategies articulated in the World Health Organisation (WHO) Framework Convention on Tobacco Control (FCTC) aims at preventing tobacco use initiation, promoting cessation and protecting non-smokers from the adverse health effects of secondhand smoke in order to achieve the global Non-Communicable Diseases target of a 30% reduction in tobacco use by 2025, (World Health Organization, 2016).

Nevertheless, there continues to be new tobacco users and established tobacco users who are unable or unwilling to quit, (Drope, et al., 2018). The continuing, and in some countries expanding, prevalence of cigarette smoking has led to a broadening of traditional tobacco control strategies to include 'harm reduction' approaches such as considering the use of Smokeless Tobacco products as a means of reducing the use of combusted tobacco products, where snus is highly recommended for low- middle income countries to ensure sustainability of the efforts, (Burns & Yusuf, 2012)

All tobacco control strategies can logically be defined as 'harm reduction' strategies, since avoiding tobacco use reduces risks. However, they define tobacco harm reduction as the minimization of the net damage to health for continuing tobacco users and the general population by substituting more harmful tobacco products for less harmful ones, (Abrams, et al., 2018) like cigarettes substituted for snus.

2.2.1. Understanding Snus

Snus is an oral smokeless tobacco product which is usually placed behind the upper lip, either in a loose form or in portioned sachets, and is primarily used in Sweden and Norway. Air-cured tobacco is ground, mixed with salt and water and then processed under strict quality and regulatory controls using a technique similar to pasteurisation. Snus is distinctly different to other oral tobacco products due to the unique manufacturing process involved, (New Nicotine Alliance, 2016)

The use of snus is not a significant risk factor for developing lung cancer, cardiovascular disease, pancreatic cancer or oral cancer. The most recent Eurobarometer data from 2017 reported that Sweden had the lowest prevalence of daily cigarette use in the European Union at 5% whilst daily “oral tobacco” use was reported to be 20%. European data published by the World Health Organisation in 2018 indicated that Sweden had the lowest rate of tobacco-related mortality and the lowest incidence of male lung cancer. Overall, prevalence statistics and epidemiological data indicate that the use of snus confers a significant harm reduction benefit which is reflected in the comparatively low levels of tobacco-related disease in Sweden when compared with the rest of Europe, (Ramstrom & Wikmans, 2014).

2.2.1. Prevalence Statistics

Sweden has the longest history of snus use in Europe. Snus was reportedly introduced into Sweden in 1637 and became popular among aristocratic men and women. Snus use reached record levels in 1919 but started to decline with the introduction of cigarettes from the 1970s to 2005. The prevalence of smoking declined in Sweden whilst snus use increased in popularity. Snus has now been used widely by consumers in Sweden over the past four to five decades which is sufficient time for epidemiological studies to assess potential effects of its use on health. In 2016, The UK Royal College of Physicians stated that the trends in smoking and snus use indicated that snus had become a substitute for smoking particularly among men, (Clarke, et al., 2019)

This is corroborated by data from 1986 to 2009 showing that the prevalence of snus use has increased over time, above and beyond that of cigarettes, especially in men, (Rodu, et al., 2009). Swedish national statistics indicate that snus has been more popular than smoking among men since around 1996 (New Nicotine Alliance, 2016). Among women, daily snus use is much lower. However, in recent years this has increased from 1% in 1996 to 4% in 2015, (Clarke, et al., 2019) . Recently, the growth of daily snus use among men has slowed; rates were 19% in both 1996 and 2015, (Public Health Agency of Sweden, 2016), and the most recent Eurobarometer data from 2017 reported daily oral tobacco use at 20%, (The European Commission, 2017).

The Swedish pattern of increasing snus use and declining cigarette smoking has also been observed in Norway. According to Statistics Norway, smoking rates in Norway have declined over the past decade whilst snus use has increased over the same time period taken in 2017, 11% of the Norwegian population aged 16 to 74 were daily cigarette smokers, whilst 12% used snus daily. 2017 was reported as being the first year in which there were more daily snus users than cigarette smokers. Statistics Norway reported

that the prevalence of daily snus use is highest among young men below 35 years of age, (Clarke, et al., 2019)

Norway shows a similar trend to Sweden with a higher proportion of males compared to females being daily snus users. The Norwegian data shows that snus is most popular among younger age groups (16- to 34-year-old age groups). With respect to snus use within the EU, the Special Eurobarometer 458 report examined the use of a range of tobacco products across the 28 EU member states in 2017, (The European Commission, 2017).

2.2.3. Tobacco Smoking Epidemiology

Since the early 1950s, thousands of epidemiological, clinical and scientific publications have reported the adverse health consequences of smoking. Based on these findings, numerous public health bodies including the UK Royal College of Physicians, the US Surgeon General and the International Agency for Research on Cancer have concluded that smoking is causally associated with numerous diseases, (Royal College of Physicians, 2016), (The United States Surgeon General, 2010) , (International Agency for Research on Cancer, 2012).

According to the European Parliament, tobacco consumption is reportedly responsible for nearly 700,000 deaths in the EU every year, with half of smokers dying an average of 14 years earlier than a never-smoker. The World Health Organisation (WHO) European Region reports the highest proportion of deaths attributable to smoking compared to the rest of the world. The WHO has estimated that smoking is currently responsible for 16% of all deaths in adults over 30 years of age in Europe, which is above the global average of 12%, (World Health Organization, 2016).

Lung cancer has been found to be the most common tobacco-related cause of death in Europe, and smoking has been associated with an increased risk of squamous cell carcinoma, adenocarcinoma, large cell carcinoma and small cell carcinoma of the lung. Swedish males reportedly have the lowest rate of lung cancer and lowest rate of tobacco-related mortality in Europe, (International Agency for Research on Cancer, 2012).

2.2.4. Harm Reduction Potential of Snus

Tobacco harm reduction is a strategy intended to reduce the health risks associated with smoking to individuals and the wider society. This may be achieved by using an alternative product which is less harmful than cigarettes. Special Eurobarometer data of 2017 shows that total tobacco consumption in Sweden is within a similar range to other European countries. However, smoking-related mortality is markedly lower. The comparably low incidence of smoking-related mortality in Swedish males may be explained by snus being a viable, and less harmful alternative to cigarettes, (Clarke, et al., 2019).

(Nutt, et al., 2014) assessed the harm conferred by a range of different nicotine and tobacco products according to a set of criteria including non-health-related measures. Snus was estimated to confer only 5% of the harm of cigarettes. The epidemiology relating to the use of snus indicates it is substantially less harmful to health than smoking. In 2007, The UK Royal College of Physicians stated there are no clearly established causes of premature death associated with snus use.

It is estimated that, users of snus have at least 90–95% less smoking-related mortality, with minimal reduction in life expectancy, if any at all. The health benefits of smokers who completely transition to snus use is similar to those reported for smoking cessation. The Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR) concluded that snus use carried an overall risk reduction close to 100% for respiratory disease (lung cancer, chronic obstructive pulmonary disease and pneumonia), at least 50% for cardiovascular disease and at least 50% for oral and pharyngeal, oesophageal and pancreatic cancers compared to cigarette smoking, (Scientific Committee on Emerging and Newly Identified Health Risks, 2008). It should also be noted that the levels of several harmful compounds (such as tobacco-specific nitrosamines, lead and aflatoxins) in snus have decreased over the past two decades, primarily due to advances in production and processing techniques, (Clarke, et al., 2019).

2.3. Chapter Summary

This chapter has presented an analysis of the already existing literature by other researchers and related studies on the topic. The chapter has also presented the theoretical framework that underpinned the study. The next chapter will present the research methodology.

Research Methodology

3.1. Study Design

The study employed both quantitative and qualitative research methods. The rationale for using both approaches was to meet people's (smokers) smoking and quitting experience, attitude and perception and quantify the information related factors that can affect the availability, accessibility and consumption of snus in Malawi.

3.2. Study sites

The study was conducted in urban areas of three districts which were purposively sampled from all the three regions of the country, namely: Balaka, Rumphi and Mchinji. Urban areas are characterized by people of various opinions and experiences as far as smoking and quitting experiences are concerned.

3.3. Study Population

The respondents comprised of ex-smokers and current smokers, (males and females- age range 15-54), as a source of primary data on smoking and quitting experience as well as health attitude and perspective on smoking. This age group is considered as the primary target of the tobacco industry. Information from key informants, who were mainly key players in the tobacco sector and other government agencies was used to triangulate information collected on factors that may affect the availability and accessibility of snus.

3.3.1. Inclusion Criteria

An individual that had smoked tobacco in a period of six months upon the commencement of the study/survey, was included as a current smoker, while those that had not smoked for six months were considered as an ex-smoker.

3.3.2. Exclusion Criteria

Any individual that had never smoked in their life upon commencement of the study was not included. This was so, because the sole purpose was to understand the smoking and quitting experience in those that smoke.

3.4. Sampling Techniques and Tools

Simple random sampling technique was used to determine the participants to take part in the study. The focus was on individuals with experience, know about, or have insights into the research topic, and to avoid biasness and have a wider section to gather factual results.

3.5. Sample Size Determination

The study used the following (Yamane, 1967) formula $n = \frac{N}{1 + N(e)^2}$, a 95% confidence interval, where n is sample size, N is population and e are error margin. Therefore, the study used the sample size of 100 and 16 key informants.

3.6. Data Collection Techniques and Tools

The following data collection methods were used in the study; in-depth interview and a questionnaire installed in tablets. The questionnaire had both open and close ended questions in order to produce reliable information, from quantitative and qualitative data.

3.7. Data management and analysis

Quantitative data was analyzed by descriptive statistics to generate Means, percentages and frequencies which were tabulated on graphs and tables. On the other hand, the analysis and tabulation of qualitative data was done through content and conversation analysis.

3.8. Ethical Consideration

The approval for the study was obtained from the National Health Science Research Council. Permission to conduct the study in the selected district was obtained from the District Council. The approval letters have been attached in the annex of this the final project report.

The purpose of the study was explained to the key informants as well as the participants and an oral consent was obtained from those who were willing to participate prior to the interview. The purpose of the informed consent was to ensure that the participants understand what was expected from them and they agreed to take part. Participation in the study was voluntary for both groups and they were assured of anonymity. Confidentiality was ensured through the use of numbers and fictitious names for identification. All raw and processed data was kept confidential.

3.9. Study Limitations:

The research has been conducted to project the benefit and factors that may affect the availability and accessibility of snus in Malawi. However, the research was limited by several constraints during the Covid-19 pandemic. The study was conducted in three districts out of 24 districts, one in every region of Malawi. Therefore, the sample population may not be the actual or full representation at the national level. The study found it difficult to meet female respondents who were willing to respond to smoking related questions, despite the fact that the country has also a significant number of women who are consumers of combustible tobacco.

3.10. Chapter summary

This chapter has presented the methods that were used in gathering the information that was related to the topic of this study. The next chapter will present the major research findings of the study.

Research Findings

Introduction

This chapter presents the main research findings from both qualitative and quantitative analysis of data collected from the respondents through questionnaire and key informants and the interpretation in-line with the analyzed information. The study aimed at assessing the benefits and challenges of adopting snus in Low-and-Middle income countries, with the main objective to assess factors that may affect the availability and accessibility of snus in Malawi.

The data presented in this chapter were collected, analyzed and were presented in frequency distribution such as tables and graphs in form of frequencies and percentages. The findings are presented separately with the discussion to avoid information overrode and easier understanding among readers.

Demographic data of the respondents

The demographic data were analyzed in each group of respondents. The data were generally based on gender of the respondents, age, marital status and level of education.

Demographics of respondents

The demographic data was analyzed and presented based on the age group, marital status, gender of the respondents and levels of education. Table 1 below shows the demographic information of the respondents who were interviewed in various districts where the study was being conducted. The study revealed that out of 100 respondents which were considered for the interview, 69.0% were males, while the remaining 30.0% comprised of females and 1.0 % were unwilling to disclose. 21.0% and 26.0% of the total of the respondents, were within the age range of 21-25 and 26-30 respectively. While 19.0% and 10.0% of the respondent were found to be within the age range of 31-35 and 36-40 respectively.

Furthermore, 9.0%, and 12.0% of the respondents were found to be within the age range of 15-20, and 41-50 with the least number of respondents found to be within the age range of 50 and above having registered 6.0% of the respondents. On the other hand, the highest percentage of the respondent were single, registering 48.0% of the total respondent followed by the 37.0% who were married, while 7.0% of the respondents revealed that they were either divorced or separated. While 1.0% were found to have been widowed.

In addition to the above demographics, the study further revealed that 31.0% of the respondents attended senior secondary school level, followed by 19.0% and 20.0% who had attended tertiary and junior secondary school levels respectively, as compared to 12.0% who revealed to have attended senior primary school with another 12.0% indicated to have attended primary school level, while 3.0% of the respondent were found to have not attained any level of education.

Demographics of key informants

On the other hand, the age 87.5% (14) of the key informants were within the age range of 25-30 while 6.25% were with the age ranges of 31-35 and 36-40. Additionally, 100% (16) of the key informants were found to have attained a college degree. This ensured their ability to provide responses on the topic based on proper analysis.

On the other hand, only 12.5% (2) of the key informants were found to be in tobacco sector under tobacco companies, while the majority 87.5% (14) were found to be players in other sectors such as public health, nursing, nutritionists, quality control, policy and economic analysts.

This ensures diversity in the information that was being collected to avoid bias and ensure that the information covers a wide section of key players in the public health, policy and tobacco sector of which all play a role in forming policies on regarding tobacco consumption in the country.

Table 1: Social and demographic information for the respondents and key informants

Variable	Frequency (n=100)	Percentage (%)
Gender		
Male	69	71.1
Female	30	27.8
Unwilling to disclose	1	1.0
Age		
15-20	9	9.3
21-25	20	20.6
26-30	26	26.8
31-35	17	17.5
36-40	10	10.3
41-45	6	6.2
46-50	3	3.1
50-above	6	6.2
Marital Status.		
Divorced	7	7.2
Married	35	36.1
Separated	7	7.2
Single	47	48.5
Widowed	1	1.0
Level of Education		
Junior Primary	12	12.4
Junior Secondary	20	20.6
None	3	3.1
Senior Primary	12	12.4
Senior Secondary	31	32.0
Tertiary	19	19.6
Key Informant Information N=16		
Gender		
Male	7	43.75
Female	9	56.25
Age		
25-30	14	87.5
31-35	1	6.25
36-40	1	6.25
Education Level		
College	16	100

Smoking Experiences.

In order to establish smoking experiences and quitting attempts, respondents were directed towards a set of questions which aimed at examining their smoking experience; health general view on smoking; quitting attempts; quitting success rates and quitting techniques. In this view, the research established that, 81.0% of respondents smoked at least a cigarette for the past 6 months, which was contrary to the 19.0% of the respondents who revealed that they had not smoked a cigarette for the past 6 months. As shown in figure 2 below:

The study revealed varying opinions among combustible cigarette consumers towards general health perspective of which 55.0% of the respondents revealed that they consider smoking as bad for their health, as compared to the 32.0% who considered it as good for health, while the other 7.0% of the respondents were unsure as in whether smoking is good or bad to their health, followed by 6.0% of the respondents who preferred not to provide any opinion towards this perimeter, while on the other hand, 100% (16) of key informants interviewed, revealed to have considered smoking as bad for human health. Figure 3 below, shows respondents smoking experiences and general health perspective towards combustible cigarette smoking.

Quitting Attempts of Consumers of Combustible Cigarettes.

In assessing the quitting attempts, 56.0% of the respondent, making up the majority indicated willingness to quit smoking combustible cigarettes, 29.0% of the respondents revealed that they were unwilling to quit smoking, , while 15.0% were not sure of their decision on whether to quit smoking or not. The study further revealed that 68.0% of the respondents have attempted to quit smoking as compared to the 32.0% who never tempted to quit smoking at an given point. Figure 4 below shows respondents willingness to quit and quitting attempts respectively.

Information on Knowledge of Tobacco Harm Reduction and Snus as A Tobacco Harm Reduction Product

Information on knowledge about snus as a tobacco harm reduction was collected and analysed in a manner that provide the research with a clear picture of the context in accessing other factors that are more likely to affect the availability, accessibility and affordability of snus in the country, hence knowledge of snus among combustible cigarette consumers was also considered.

The study revealed that out of 100 respondents who were considered for the study 52.0% highlighted that they have ever heard of Tobacco Harm Reduction as compared to the 48.0% of those who indicated not to have ever heard of the concept.

Despite this being the case, only 36.0% of the respondents indicated to have heard of snus as a tobacco harm product, while the majority of 64.0% were found to have not heard about snus as a Tobacco harm reduction product or safer nicotine product. Figure 5 below, highlights respondents who have heard of the concept of Tobacco Harm Reduction and Snus as a Tobacco Harm Reduction Product.

On the otherhand, 93.3% (14) of the key informants revealed that they have heard of Tobacco Harm Reduction while 6.67% (1) indicated to have not heard of tobacco harm reduction. Furthermore, 80.0% (12) further highlighted that they have heard of snus as a safer nicotine product. Figure 6 below highlight the knowledge of snus and tobacco harm reduction among key informants.

Availability of Snus as a Tobacco Harm Reduction Product

On the availability of snus as a tobacco harm reduction product, the study has revealed that out of the 100 respondents who were interviewed, 42 respondents indicated that they were not sure if snus as a tobacco harm reduction product was available on the market as none of them has ever come across it, on the other hand, 30 of the respondents revealed that snus was not available on the markets as compared to the 28 who indicated that snus was available on the market.

On the otherhand, out of 16 key informants who were involved, 10 indicated that snus was not available in the country, while 4 were not sure, 2 of the key informant indicated that snus was available in the country as highlighted in the figure 7 below:

Policies and Regulation Guiding Tobacco/ Cigarette Consumption or Smoking, and promotion of Tobacco Harm Reduction in Malawi

In order to better understand the factors that could affect the availability and accessibility of snus in the country, the study went further to analyse the context by learning about the existing policies and regulation that guide the use and consumption of cigarette and tobacco in the country.

Based on the interviews that were conducted, the study has revealed that 43.0% of the respondents indicated that they were not sure about the existence of any policy and regulation guiding the consumption of tobacco or cigarette in the country, furthermore, 36.0% of the respondents indicated that there were no such policies in the country as compared to the 21.0% who indicated that the country has such policies and regulations.

On the other hand, 41.0% of the respondents also indicated that they were not sure if the country has any policies and regulations set to promote tobacco harm reduction in the country, while 33.0% of these respondents indicated that the country has no policies and regulations to promote Tobacco harm reduction, this was in contrary to the responses provided by 26.0% of the respondents who indicated that such policies and regulations exist in the country. Figure 8 highlights responses on knowledge of Policies and regulation set to guide tobacco consumption and promoting tobacco harm reduction in the country.

On the other hand, 12 key informants indicated that they were not sure if there were any laws, policies and regulations in the country to guide consumption of tobacco and Harm reduction products, while 3 key informants indicated that the country has such policies and regulations, highlighting, tobacco control policy, smoke free zones and prohibiting smoking in public places, while on the other hand, 1 key informant indicated that the country has no such policies and regulations, as highlighted in the figure 9 below:

Bodies or Institutions Set to Monitor and Regulate use and Consumption of Tobacco in Malawi

In order to learn about the bodies or Institutions set to monitor and regulate the use and consumption of Tobacco and tobacco products in Malawi, the research further conducted in depth interviews of which out of 100 interviews that were conducted, 43 indicated that they were not sure about the existence of anybody or institutions that were set to monitor and regulate the use and consumption of tobacco and its related products.

On the other hand, 31 of the respondents were not aware of such bodies and institutions in the country, while 26 respondents indicated to have heard or know about such institutions in the country, citing the tobacco control commission, World Health Organization, United Nations Children Fund, Ministry of Health, and Malawi Bureau of Standard.

On the other hand, out of the 16 key informants who were involved in the study, 14 indicated that there are no such policies, bodies and institutions in the country, while 2 indicated that such institution and

bodies were present, citing the Ministry of Health, Ministry of Trade and the consumer association of Malawi. The results were summarized in the figure 10 below:

Government Efforts Towards Reducing Smoking as the Major Cause of Non-Communicable Diseases

The study further explored how individuals perceive government's efforts towards reducing non-communicable diseases caused by smoking in the country, out of the 100 respondents interviewed on this particular parameter, 39 were found to be not so sure of what the government is doing to reduce smoking as the major cause of non-communicable disease.

Furthermore, 36 indicated that there was nothing that the government was doing to reducing smoking as the major cause of non-communicable diseases in the country, highlighting lack of political will and commitment, government focus on communicable diseases and poverty reduction, lack of funds and other resources, poor access to accurate information on the subject, tobacco industry as the major source of revenue for the government and also the role is solely left in hands of cigarette manufacturing companies as resource for deterring government efforts.

Furthermore, 25 indicated that the government is putting up efforts to reduce smoking as the major cause of non-communicable diseases, citing awareness and sensitization campaigns by health experts on dangers of smoking combustible cigarettes, advertisement policy indicating health warning of smoking to human health as some of the efforts being put in place by the government.

On the other hand, 10 of the key informants indicated that they were not sure of the government is putting up efforts to reduce smoking as the major cause of Non-communicable Infections, while 2 indicated that the government is not putting up efforts, while 4 of the key informants indicated that the government is putting up efforts highlighting campaigns by the ministry of health through the NCD's section on dangers of tobacco smoking. Figure 11 below highlight the responses as revealed above.

Political willingness towards Tobacco Harm Reduction Reducing Harms.

In order to assess the political willingness of the country towards tobacco harm reduction as the means of reducing harms caused by smoking, 100 respondents were interviewed to get their perspective in order to understand the political landscape of the country towards tobacco harm reduction. The study revealed that 47 were of the view that there was no political willingness in the country, while 28 were found to be not so sure whether there was political willingness or not, on the other hand, 25 indicated that the country was willing to reduce the harm being caused by tobacco smoking.

On the other hand, out of the 16 key informants considered for the study, 11 (68.75%) indicated that there was no political willingness towards Tobacco Harm Reduction or address such related issues citing the inability of the government of Malawi to ratify to the Framework Convention on Tobacco Control (FCTC), while 5 (31.25%) of the key informants indicated that there was political willingness towards Tobacco Harm Reduction, as highlighted in 12 below:

Means of Increasing the Availability, Affordability and Accessibility of snus.

The respondents further provided feedbacks on way of increasing affordability of snus in the country of which 50.0% preferred that snus be sold at a lower price than the current cigarette price, 45.0% suggested that snus should be sold at a slightly lower price than current cigarette to facilitate affordability, 15.0% suggested that for snus to be affordable, it must be sold at the same price as the current cigarettes price, while 5.0% suggested that snus must be sold at a slightly higher price as compared to the current cigarette price, 1.0% of the respondents suggested other unspecified means.

On the other hand, in order to ensure, accessibility of snus in the country, the study further reveals that, 74.0% of the respondent were of the opinion that snus must be sold in both pharmacies, shops and places such as drinking joints, while 32.0% suggested that snus should be made accessible at both wholesalers and retail shops, 19.0% of the respondents were of the view that snus should be sold alongside various cigarettes brands in various places, while 8.0% suggested that snus should be sold in pharmacies only for easy accessibility and availability.

Furthermore, the study has revealed that in order to make snus available in the country, 60.0% of the respondents suggested that government must accommodate Tobacco Harm reduction in its policies which will further facilitate the availability of snus in the country, while 45.0% suggested that government must provide a conducive environment for local snus manufacturers and market protection from aggressive competitors. Furthermore, 26.0% suggested that snus must be fairly taxed below combustible cigarettes, while 16.0% further suggested that government must regulate the availability, accessibility and use/consumption of both Tobacco Harm Reduction products and combustible cigarettes.

On the other hand, 7.0% of the respondents suggested that snus must be highly taxed above combustible cigarettes, while 4.0% suggested that snus must be taxed equally with combustible cigarettes. Table 2 below, highlights the projected responses towards snus availability and means of increasing snus availability, accessibility and affordability in the country.

Table 2: Projected Responses Towards Snus Availability and Means of Increasing Accessibility, Affordability and Availability

Variables	Frequency	Percentage
Increasing Snus Affordability		
Be sold at a lower price than the current cigarette price.	50	50
Be sold at a slightly higher price than the current cigarette price	45	45
Be sold at the same price as the current cigarette price	15	15
Be sold at a higher price than the current cigarette price	6	6
Be sold slightly higher than the current cigarette price	5	5
Other means. (unspecified)	1	1
Increasing Snus Accessibility.		
Be sold in both pharmacies, shops and other places	74	74
Be made accessible at wholesale and retail shops	32	32
Sold alongside tobacco cigarettes brands in various places	19	19
Be sold in pharmacies only	8	8
Increasing Snus Availability.		
Government must accommodate Tobacco Harm Reduction in its policies	45	45
Government must provide a conducive environment for local snus manufactures and market protection against aggression	26	26
Snus must be fairly taxed below combustible cigarettes	60	60
Government must regulate the availability, accessibility and consumption of snus and combustible cigarettes	16	16
Snus must be highly taxed above combustible cigarettes	7	7
Snus must be taxed equally with combustible cigarettes	4	4

Attitudes Towards Snus as a Harm Reduction Product

The study has further revealed that, out of 100 respondents considered for the study, 88 perceived snus as good for health, while 6 were of the perspective that snus is not good for health, and 6 were found to without responses. Furthermore, out of 16 key informants, 10 were of the opinion that snus can help

could help to reduce the risks to consumers since it is good for health, while 5 key informants were not sure, and 1 key informant indicated that snus would not reduce the risks. Figure 13 below highlighting respondents' perspective towards snus.

Chapter summary

This chapter presented the findings obtained from the analysis done on the data collected. The findings were organized in line with the objectives of the study. Chapter five will dwell much on the discussion of the findings presented in this chapter.

Discussion

5.1. Demographic Characteristics

The results from the study revealed that the majority of the respondents who were making up about 67.0% were falling between the age group of 21-25, to 31-35. The highest age recorded among the respondents was 50+ registering 6.0% of the respondent, while the lowest age recorded was between 15-20 years with 9.0% of respondents found in this group. On the other hand, 81% of the respondent were found to be consumers of tobacco products such as combustible cigarette. This is similar to the study conducted in Tanzania which revealed that the peak age for consuming snuff was between 15-40 years. (Critchley & Unal, 2008). A study conducted in Pakistan, further revealed that people between the age of 13-15 years use some form of tobacco product, with others being initiated to smoking at the age of 10 years, (Hameed & Malik, 2021). Furthermore, the study also found that, the majority of the respondents were single making up 47.0% of which 20.0%-31.0% of them have attained secondary school education, representing the majority.

On the other, the majority (87.5%) of the key informants were within the age range of 25-30, with all (100%) having acquired university education. 12.5% of the key informants were found to be working in tobacco sector, while 87.5% of the key informants were in other sectors such as economic, political and social.

These demographic characteristics implies that the respondents were matured enough to provide credible information in regards to the objectives of the study. Furthermore, their education levels of the respondents implied that the respondents had good understanding of the information surrounding smoking and harm reduction as well as able to make informed choices regarding the substances they consumer and related health impacts, as well as socio-political and economic policies and regulations.

5.2. Quitting Attempts and General Health Perspective

The study revealed that 81.0% of the respondents were found to have had consumed combustible cigarette for the past 6 months, while the results from figure 4, shows that 56.0% of the respondents showed willingness to quit smoking, while 68.0% of the smokers attempted to quit smoking mostly using will-power but failed to complete quit smoking tobacco citing nicotine craving, stress, lack of nicotine substitute and alcohol as some of the reasons for failed quitting attempts. Furthermore 55.0% of the respondents indicated that consumption of combustible cigarette was bad for their health hence willing to quit as indicated in figure 2. While on the other hand, 100% of the key informants also revealed that they considered smoking tobacco as bad for human health.

This is also similar to the study by (Hameed & Malik, 2021) which indicated that most the smokers are keen to quit smoking, and they know that combustible cigarette smoking is carcinogenic, but smoking cessation success rate is less than 3%. Furthermore, peer pressure, anxiety, stress, mood swings and tobacco dependence were found to be the most observed reasons for not giving up smoking, (Irfan, et al., 2016). On the other hand, (Shaheen, et al., 2018), highlighted that despite being aware of the dangers of smoking, consumers of combustible cigarettes are unable to quit.

Therefore, it worth indicating that as much as most consumers of combustible cigarette are willing to quit smoking, upon having knowledge of the negative health impacts of smoking, but there are no mechanisms available around them in the country to successfully help them to quit smoking or switch to safer alternatives for those on high nicotine dependency. Therefore, the negative health impact of combustible cigarettes and the willingness of individuals to switch or quit can act as driving forces towards promotion and ensure the availability based on demand.

5.3. Knowledge and Information on Snus as a Tobacco Harm Reduction Product/Safer Nicotine Product (SNP)

The study has further revealed that 64.0% of the consumers of combustible cigarette in the country lack knowledge and information on Snus as one of the recognised tobacco harm reduction means for Low- and Middle-income countries despite the fact that the majority (81.25%) of the key informants having information regarding snus. Only 24.0% of the respondents indicated to have knowledge on the usage of snus in reducing the harms associated with combustible cigarette consumption, citing friends/ relative

and social media have become the most recognised and reliable source of information regarding tobacco harm reduction in the country.

This is also similar to the study conducted in Pakistan which indicated that most smokers do not know about Tobacco Harm Reduction products, however, the main source of information about these products are friends with some using them out of curiosity, (Hameed & Malik, 2021). This lack of information on Tobacco Harm reduction products has resulted in smokers being trapped into the habit despite their observable willingness to switch or/ and quit, therefore providing the necessary (accurate and adequate) information regarding Tobacco Harm Reduction and affordable associated products such as snus in low- and middle-income country such as Malawi can prove to be a greater milestone and considered to be the way out among consumers who are willing to quit smoking.

5.4. Availability and Accessibility of Snus as A tobacco Harm Reduction Product

It has been indicated from results in table 4 that the majority of the respondent were either not sure if snus was available on the market as highlighted by 42.0% of the respondents, while 30.0% of the respondents indicated that snus was not available on the market. The study has further revealed that most of the respondents from Balaka, the southern region of Malawi, and Rumphu, the northern region of the country was of the point that snus was not available or were not sure about the availability of snus in the country. while on the other hand, respondents from Mchinji district, the central and boarder district of Malawi and Zambia indicated that snus was available on the market.

This was the case due to the availability of snuff in Zambia which is being consumed as alternative to combustible cigarette hence it's availability in the country. Most people consume snuff to reduce depression, stress, and anxiety (Chimbala, et al., 2020) which are also the major signs of nicotine dependency. However, this study has further revealed that as much as snus may seem to be available in one part of the country but it's not known by the majority of the smokers in the country.

However, as much as the majority of Tobacco Harm Reduction products may seem to be expensive to most consumers, the high prices of THR products are a major barrier to combustible smokers interested in switching over, (Hameed & Malik, 2021). This study has revealed that 30.0% of respondent who indicated that snus (snuff) is available in Malawi, also indicated that the product is highly accessible and affordable at less than \$0.50 per cube.

This implies that there is a possibility to promote snus as a Tobacco Harm Reduction product based on its affordability, so that it is known to many smokers willing to switch, since majority of the respondents indicated willingness to quit smoking, where some attempted to quit smoking but failed because of nicotine dependency and lacking other affordable means of consuming nicotine other than combustible

cigarette. Additionally, based on the findings of the study, it can also be emphasized that since Zambian snuff (snus) was indicated as affordable by some respondents, it means that if made available in the country, most smokers are more likely to adopt it since one of primary barrier towards the majority of Safer Nicotine Products (SNP) is the high price charged on it (unaffordability).

5.5. Factors that May Affect the Availability and Accessibility of Snus in Malawi

5.5.1. Political will.

Based on this study, there are a number of political factors that are more likely to affect the availability and accessibility to snus in Malawi. Considering the results highlighted in figure 9, 36.0% of the respondents were of opinion that the country has no policies and regulation to guide tobacco consumption while 43.0% were not sure if the country has policies and regulations guiding the consumption of tobacco put in place. On the same note, the majority (75%) of the key informants indicated that they were not sure if the country has laws, policies and regulations to guide tobacco consumption to reduce/ prevent the rise in cases of non-communicable diseases caused by combustible cigarettes as it emphasizes on curative measures than preventive measure.

Therefore, it is worth noting from the results of the study that the country lacks political will or commitment in reducing the consumption of combustible cigarette, promoting cessation and adoption of Tobacco Harm reduction strategies. This is evidenced by the fact that; the country has not made any political stride towards the direction by at least ratifying Framework Convention on Tobacco Control (FCTC) or adopt tobacco harm reduction strategies in its institutions.

Contrary to this is the case of Pakistan, where the country has been taking measures to contain the use of tobacco ever since 2004 when it ratified the FCTC, and working towards formulating national policy on tobacco control. Pakistan now offers Nicotine Replacement Therapy (NRT) to assist smokers to switch or quit smoking even though at a minimal level. Which indicate that countries can accommodate harm reduction strategies within the FCTC to ensure that they are achieve the objectives which Tobacco controls alone cannot manage to attain, (Hameed & Malik, 2021).

The need for political willingness and commitment in ensuring the availability and accessibility of snus and other tobacco harm reduction products need to be emphasized. Due to political will and commitment, Pakistan has witnessed a steady increase in the use of THR products such as Snus (Nicotine pouches) and E-cigs over the last five years, (ARI, 2020).

Therefore, it can be stated from the discussion that lack of government's willingness and commitment towards reduction of smoking caused diseases is more likely to negatively affect or limit the availability and accessibility of snus and entire tobacco harm reduction products in the country since tobacco control policies and regulation such as taxation may create unfavorable environment for Harm reduction products to be highly available, and accessible.

5.5.2. Health benefits of Snus and its Impact on Cigarette Consumption.

The results of the study further revealed that an increase in availability and accessibility to snus is more likely to result in reduction of cigarette consumption in the country. The study has revealed that 55% of the respondents considered smoking as bad for health, and all (16) of the key informants regarded smoking as bad for human health. Furthermore, 56% were willing to quitting smoking, and 68% of the respondents were found to have made attempts to quit smoking only to fail due to stress, and other alternative sources of nicotine apart from cigarette. Hence the increased availability and accessibility of snus is more likely to help the majority of smokers to switch from cigarette to snus which is a safer alternative.

This is similar to the findings by (Foulds, et al., 2003) that snus availability in Sweden appears to have contributed to the unusually low rates of smoking among Swedish men by helping them transfer to a notably less harmful form of nicotine dependence, with notably having a larger drop in male daily smoking from 40% -15% , and female daily smoking from 34% -20% from 1976- 2002, with a substantial proportion of around 30% of male ex-smokers using snus when quitting smoking within the same period. Another study conducted in Norway highlighted that as smoking rates decreased, the use of snus concordantly increased in the country, with indicators showing that snus contributed directly to the reduction of smoking, (Grotvedt, et al., 2019).

It is the health benefit that snus has to the public that makes it highly acceptable and preferable against the combustible cigarettes. The reduction in male smoking prevalence that have occurred in Sweden over the past 25 years have also indicated a notable reduction in the incidence of the major smoking caused diseases, as patterns show that there has been a pronounced reduction in lung cancer and low rate of oral cancer in Swedish men within the past 20 years while snus use has increased, (Foulds, et al., 2003). Therefore, based on these results, it implies that the health benefits of snus are more likely to positively impact/ affect the availability and accessibility of snus in a country where quitting attempts rates and demand for such products are high.

5.5.3. Taxation:

The study has further revealed taxation as one of the factors that may negatively affect accessibility and availability of snus in a country. Based on the results in table 7, 60% of the respondents were of the suggestion that in order for snus to be available and accessible, the government has to consider how to tax smokeless tobacco products since imposing high tax may directly lead to a decrease in the use of snus as it may not be affordable.

This is similar to a study conducted in India and Bangladesh which showed that tax increases resulted in a significant reduction in the use of smokeless tobacco. Furthermore, in India it was found that an increase in price of smokeless tobacco products discouraged users more especially among men and youth. In Bangladesh, it was observed that the negative effects of the increase in the tax that was presumably passed on to the price increase resulting in 51% decline in the use of smokeless tobacco since most of users found it unaffordable, (John, et al., 2018).

5.6. Measures to Increase the Availability and Accessibility of Snus

5.6.1. Policies, and Regulations.

In order to increase the availability and accessibility of snus in the country, it can be recommended based on table 7 that the government has to accommodate or include Tobacco Harm Reduction in its policies as one of the strategies to address an increase in cases of non-communicable disease caused by smoking. Adoption of Tobacco Harm reduction in its policies is a step towards achieving Sustainable Development Goal 3(SDG 3), targeting on reducing by one third premature mortality from non-communicable diseases through prevention and treatment and mental health and well-being, (United Nations, 2021).

However, it is urged that, the need to rapidly drive down death from smoking is clear, and there are a number of ways to pursue which include; smoking cessation, prevention of smoking initiation and harm reduction. Harm reduction, for people who cannot quit or do not want to quit using nicotine must be accommodated (Foundation for a smoke free world, 2018) in order to attain the SDG 3 first at national level.

5.6.2. Taxation and Pricing.

On the other hand, the results of the study further revealed (on table 2) that government needs to strategically consider on how tobacco and harm reduction products are taxed, of which on Tax, 60% of the respondents highlighted that the snus must be fairly taxed below combustible cigarettes, while other

respondents highlighted that snus must be taxed equally or high above combustible cigarettes. On the same, (Chaloupka & Tauras, 2020), urged that it is important to consider the relative harms of different tobacco products in taxation, where a harm reduction approach would apply differential taxation based on the relative harms associated with different products.

This implies that Tobacco Harm Reduction product will be more likely be taxed lower based on their potential to reduce the harm associated with smoking. This in turn will ensure that tobacco harm reduction products, such as snus are available and accessible at an affordable price. It has to be noted that 50% of the respondents in the study highlighted that to ensure affordability (price-based accessibility) snus was to be priced below the current cigarette price as highlighted in table 2.

5.7. Chapter summary

This chapter has discussed the findings of the study in relations to other research findings from other studies within the same area of focus. The discussion was organized in several headings and subheadings in relation with the research objective and questions. Chapter six will dwell on drawing the conclusion as well as the recommendations based on the research findings, and will highlight the significance of the research in the field of Tobacco harm reduction.

Conclusion And Recommendations

Most consumers of combustible cigarette in Malawi have a great desire to quit smoking but high levels nicotine dependency has resulted in most of them getting back to smoking despite innumerous quitting attempts. However, there is a great potential for promoting snus as a Harm reduction product with regards to its health benefits and affordability as compared to other Harm Reduction products. Despite this being the case, there is little political interest by the government to ensure that Tobacco Harm Reduction products are available and accessible by the general public.

There are no policies and regulation in the country to guide tobacco use/ consumption since the country has not ratify the FCTC, hence more likely to affect the availability and accessibility of snus in the country. Similarly, Taxation and pricing are also more likely to affect the accessibility and availability of snus.

Malawi, as one of the nations committed to attain the Sustainable Development Goal 3 aimed at reducing by one third premature mortality from non-communicable diseases through prevention and treatment and mental health and well-being, need to consider accommodation of Tobacco Harm reduction in its policies and strategies in order to attain the highlighted Goal while also making sure that Tobacco harm reduction products are fairly taxed in regards to the health benefits that they have to consumers in comparison to other nicotine contain combustible products.

The use of snus as a harm reduction product can be of greater importance in helping to attain the goal as evidenced in Pakistan. With regards to the socio-economic status of most rural based combustible cigarette consumers, snus tends to provide a better option for switching to safer nicotine as it is cheaper hence quite affordable by the majority which may directly contribute to a significant decline in combustible cigarette use hence improve the health well-being of individuals who have opted to switch thereby attaining the SDG 3.

6.1. Significance of the Research in the field of Tobacco Harm Reduction

This study was aiming at establishing factors that may affect the availability and accessibility of snus in Low-and-Middle income countries. The research also drew lessons from other countries such as Pakistan, and Norway based on research studies that were conducted in those country. In its analysis the study has bridged that knowledge gap that was in existence with the field of tobacco harm reduction regarding the major factors that are more likely to affect the availability and accessibility of snus in the country.

The study has revealed that political willingness, policies, regulation and taxation are some of the factors to be considered by tobacco harm reduction experts who are aiming at engaging the government as a key stakeholder on issues concerning the promotion of Tobacco Harm reduction in the country.

Therefore, the results of the research will help to determine the direction or focus of the upcoming project in the field of tobacco harm reduction in order to make a significant progress and contribution regarding the advancement of the field. On the other hand, other researchers may also build their studies on these findings to find better ways of advancing the field of tobacco harm reduction in the country having looked at the hindrances that may affect the availability and accessibility of tobacco harm reduction products.

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Declarations

Ethics Approval and Consent to Participate

Ethical clearance was obtained from National Health Science Research Committee of Malawi. During the distribution of questionnaire, respondents were informed that the information collected would be kept anonymous and the objective of the study was explained to the respondents to obtain oral consent. Respondents were also briefed about the confidentiality of their response and the importance of providing correct and accurate information, and that participation was voluntary.

Consent for Publication

Not applicable

Availability of Data and Materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Competing Interest

All authors declare that they have no conflict of interest associated with the publication of this manuscript.

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Authors Contributions

All the authors contributed in the conception and designing of the study, data collection, analysis and interpretation of the results. WJ drafted and critically review the draft manuscript. KS provided a critical

review of the manuscript. All authors approved and read the final manuscript. All authors participated in critical appraisal and revision of the manuscript.

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Abbreviations

FCTC: Framework Convention on Tobacco Control

LMICs: Low- Middle Income Countries

NRT: Nicotine Replacement Therapy

UNICEF: United Nations Children Fund

SPSS: Statistical Package for Social Scientists

SDGS: Sustainable Development Goals

SNP: Safer Nicotine Products

THR: Tobacco Harm Reduction

WHO: World Health Organization

Figures

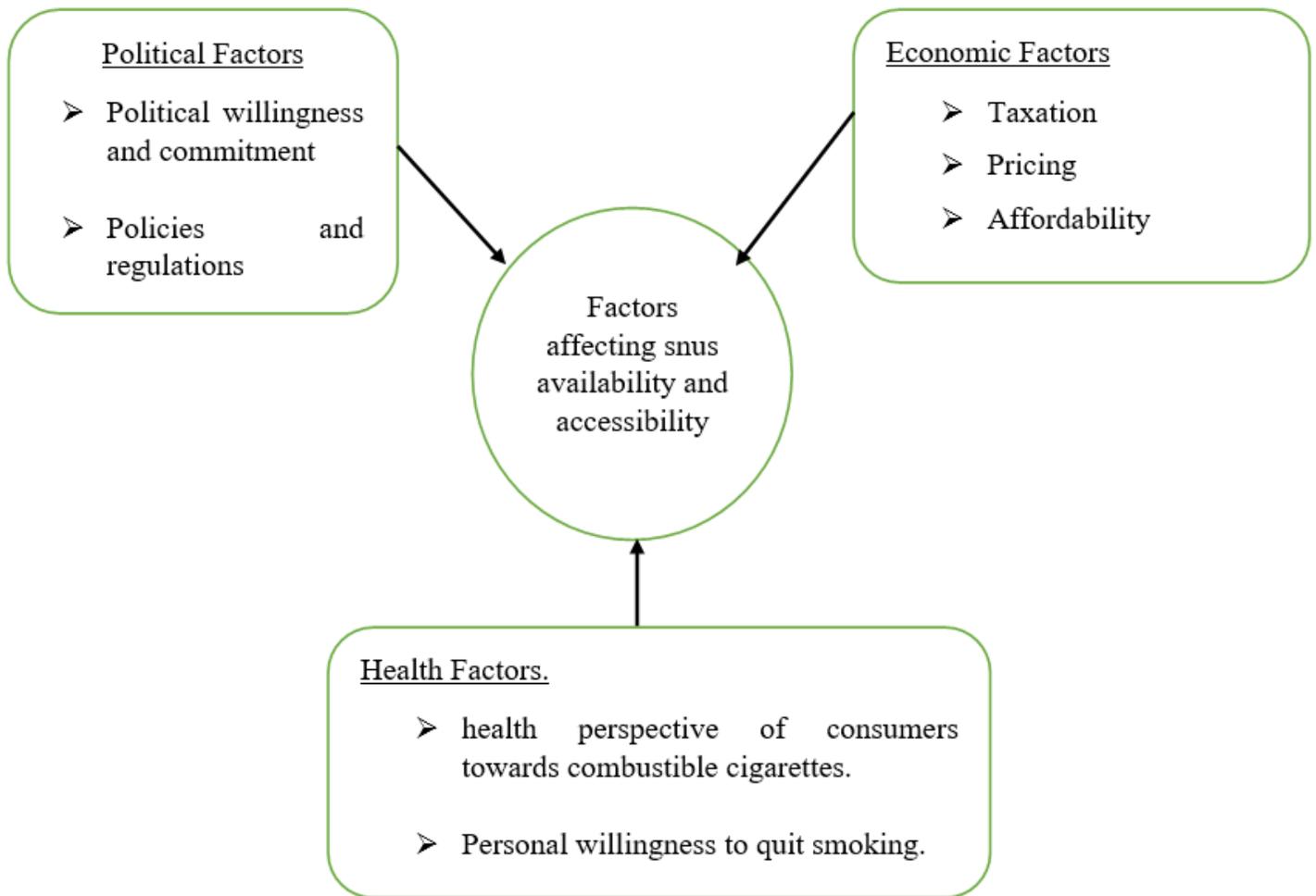


Figure 1

The Conceptual framework

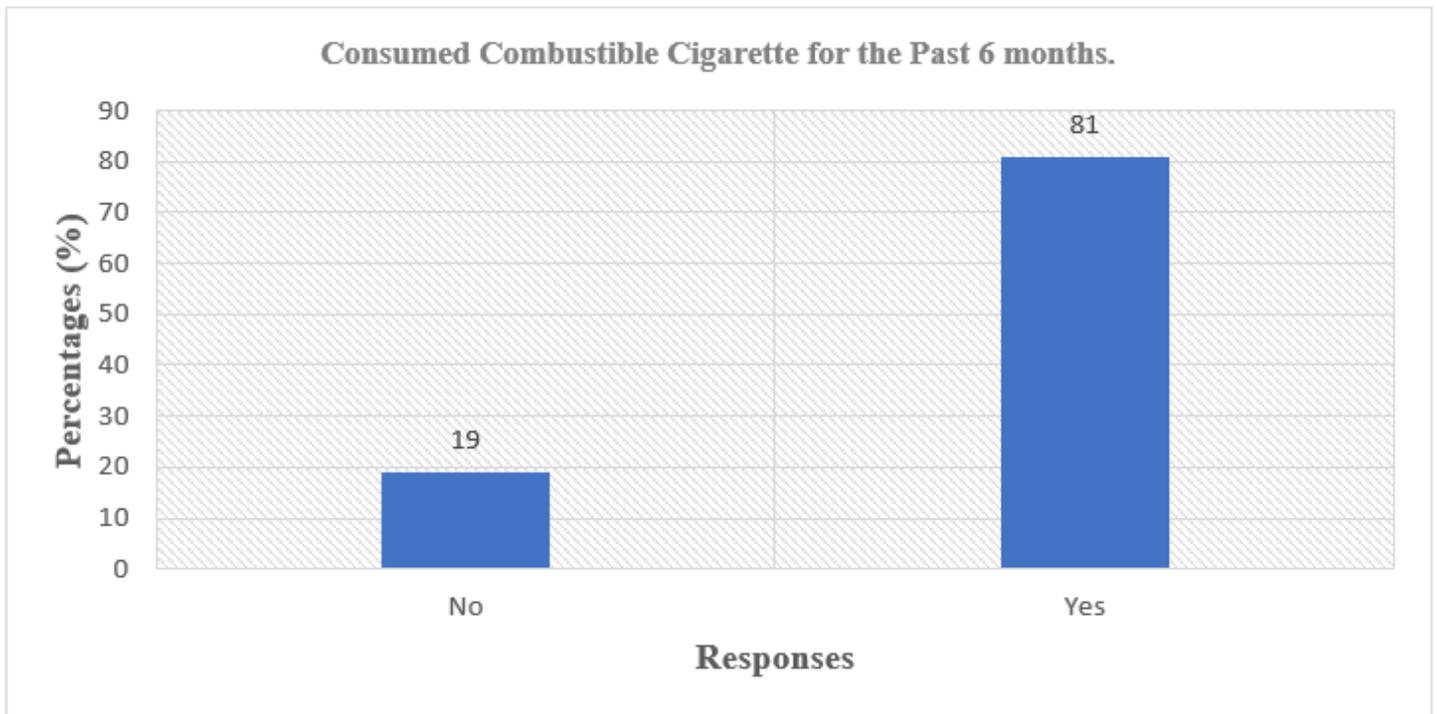


Figure 2

Smoking experience of respondents

Figure 3

General Health Perspective towards smoking among consumers of combustible cigarettes and key informants

Figure 4

Respondents Willingness and Attempts to Quit Smoking Combustible Cigarettes

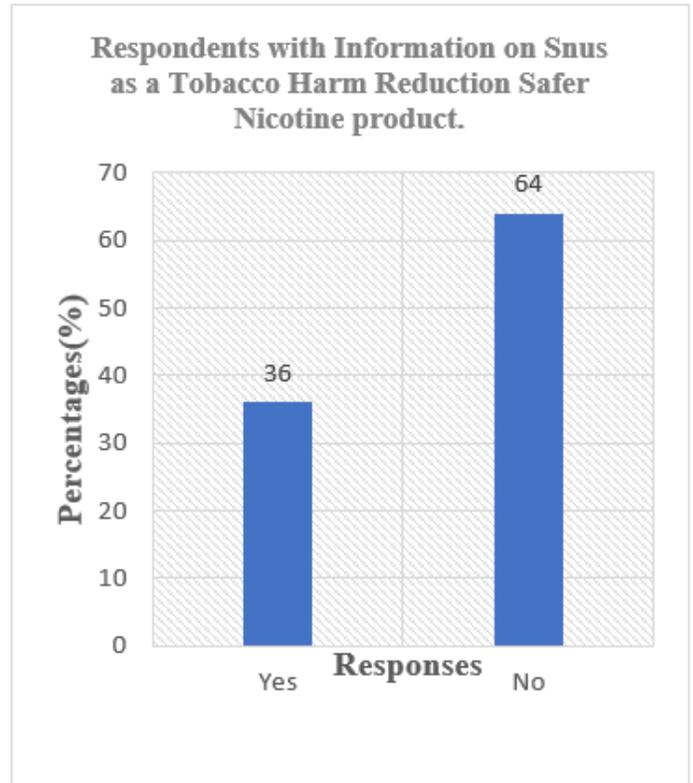
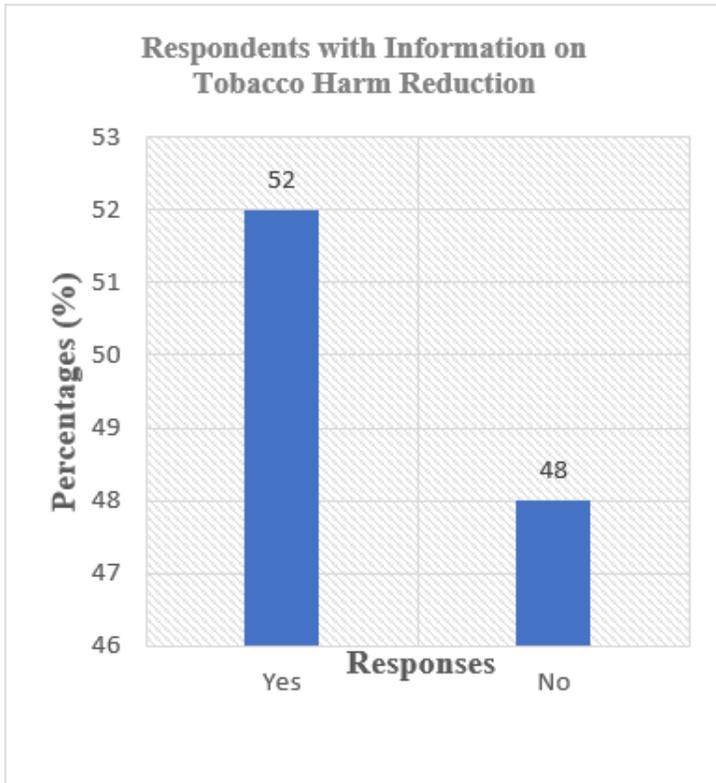


Figure 5

Respondents Knowledge on Tobacco Harm Reduction and Snus as a Tobacco Harm Reduction Product

Figure 6

Key informant's knowledge on Tobacco Harm Reduction and Snus as Safer Nicotine Product.

Figure 7

Availability of Snus as a tobacco harm reduction product in Malawi.

Figure 8

Responses based on Existence of Policies and Regulation to Guide Tobacco Consumption and Promote tobacco harm reduction

Figure 9

Key informants' responses on Policies, Laws and Regulation guiding the consumption of tobacco and Harm reduction products.

Figure 10

On the existence of Tobacco consumption Regulator Bodies in the country.

Figure 11

Government's Efforts to Reduce smoking as a major cause of NDCs.

Figure 12

Perceived Political willingness towards tobacco harm reduction.

Figure 13

Attitudes Towards snus as a Harm Reduction product.

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [Annex.docx](#)