Why do Adolescents smoke? Investigating the Cognitive Determinants of Tobacco Smoking Behaviour among Secondary School Adolescents in Ilala District

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Abstract:
This paper is based on the study which explored the cognitive determinants of tobacco smoking among secondary school adolescents in Ilala district in Tanzania's largest city, Dar Es Salam. Specifically, the study sought to explore the relationship between smoking, self-esteem, and self-efficacy. A cross-sectional survey was conducted among 400 secondary school adolescents, aged between 12 and 22. The findings revealed that there was significant a strong positive association between smoking and Self- efficacy [r = .80 p<.01] and a weak positive relationship between smoking and Self-esteem [r = .11, p<.05]. The study concluded that adolescents with low self - efficacy is more likely to smoke tobacco and adolescents with high self-esteem are more unlikely to smoke tobacco. Based on the findings the paper recommended that self-efficacy and self-esteem must be taken seriously when considering intervention programs to prevent smoking. These intervention programs may include guidance and counselling services in and outside school settings.

Keywords: Cognitive, determinants, tobacco smoking, self-efficacy, self esteem

Introduction

The World Health Organization Framework Convention on Tobacco Control (WHOFCTC) was adopted unanimously by the 56th World Health Assembly on May 21, 2003. It became the first World Health Organization (WHO) Treaty under Article 19 of the WHO

constitution. The treaty came into force on the 27th of February 2005. It had been signed by 168 countries and is legally binding in 154 ratifying countries representing over 3 billion people. The United Republic of Tanzania (URT) signed the WHOFCTC treaty on January 27, 2004 and ratified it on April 30, 2007 (WHO, 2007). The objective of the WHOFCTC treaty is to protect the present and future generations from the devastating health, social, environmental and economic consequences of tobacco consumption and exposure to tobacco smoke. Moreover, the treaty provides a framework of national, regional and international tobacco control measures, including the setting of broad limits on the production, sale, distribution, advertisement, taxation, and government policies on tobacco.

In URT the implementation of the WHOFCTC raises some concerns about its effectiveness. One of the areas is on how the precautions against smoking are dealt with. For example, the warning *cigarette smoking is dangerous for your health*, shown on cigarette packets, is written in relatively small writings and people may not consider the warning since it is not stressed. However, even if the warning was legible, only a few people of the developing URT can afford to buy a packet of cigarettes. In fact, most smokers buy one or two cigarettes which do not carry the warning as it is written on the packet. This means that the warning is concealed from the smokers of cigarettes.

One of the major obstacles to tobacco-control measures is the economic importance of tobacco industries in many countries around the world (Altman, Levine, Howard, & Hamilton (1996). Tobacco industries have been an important sector in creation of employment opportunities let alone the foreign currency earned through exportation of tobacco products. The economic value attached to tobacco has led to this crop being grown in more than 100 countries, including about 80 developing countries. China, USA, India, and Brazil are the largest producers of tobacco in that order and they account for about two-thirds of production world-wide (Thun, and Luiza da Costa e Silva, 2003). The United republic of Tanzania (URT)

is one of the biggest producers of tobacco in Africa, ranked third after Zimbabwe and Malawi (Hammond, 1997). About 0.08 percent of URT's land (about 34,000 hectares) caters for growing tobacco (Mackay, Eriksen&Shafey, 2006). Tobacco is one of the cash crops that helps boost the country's foreign exchange earnings, contributing about 60 percent of the Gross Domestic Product (Jacobs, Gale, Gaperhart, Zhand, &Jha, 2000). URT's tobacco output increased seven-fold between 1975 and 1998 and continues to grow (Jacobs *et al.,* 2000).

Prevalence of Tobacco Smoking in United Republic of Tanzania

In 2011 the World Health Organization revealed that there were about one billion smokers worldwide. It is estimated that current smokers consume about six trillion cigarettes annually. Information about tobacco use in URT is described as "sparse", with data on smoking prevalence available only from scattered surveys in a few regions (Jagoe, Edwards, Mugusi, Whiting, &Unwin 2002; and Kaduri, 2008). This implies that the surveys are not nationally representative. Bovet, Ross, Gervasoni, Mkamba, Mtasiwa, Lengeler Whiting and Paccaud (2002) found that the prevalence was 11.8 percent in men and 1.1 percent in women in Temeke district, while Jagoe *et al.,* (2002) observed that the prevalence was 27 percent in men and women in Ilala district. Furthermore, Kaduri (2008) found that the prevalence was 10.3 percent among male adolescents and 3.4 percent among female adolescents in Kinondoni district.

In 2003the Global Youth Tobacco Survey (GYTS) of Dar Es Salaam-Tanzania, conducted a school-based survey of students in Class 6 & 7, and revealed that 17.9 percent of boys and 8.5 percent of girls had smoked cigarettes. Furthermore, 19-31 percent of students reported living in homes where other people smoked in their presence, and 26-38 percent reported that they were used to being exposed to tobacco smoke in public places. The prevalence of tobacco smoking seems to be higher among males than among females. However, the low prevalence of smoking by females found in these studies should not encourage complacency because there is a substantial evidence of

aggressive tobacco marketing in URT (Jagoe, *et al.*, 2002). The tobacco companies are increasingly targeting women in developing countries at a time when many cultural prohibitions on women are easing with the effects of globalization, putting these women at risk of becoming regular smokers (Jagoe *et al,* 2002).

Problem Relating to Tobacco Consumption

Health related problems caused by tobacco use are not only associated with direct use of tobacco but also the exposure to the second-hand smoke. Almost 6 million people die from tobacco use and exposure. It is reported that 6% of all female and 12% of all male die each year in the world, in other words about 600000 deaths are associated with second-hand smoke and about 5 million deaths are directly associated with tobacco use (WHO, 2011). By 2020, tobacco-related deaths are projected to increase to 7.5 million, accounting for 10% of all deaths in that year. Smoking is estimated to cause about 71% of all lung cancer deaths, 42% of chronic respiratory disease and nearly 10% of cardiovascular disease. Smoking is also an important risk factor for communicable diseases such as tuberculosis and lower respiratory infections (WHO, 2011).

Health problems related to the use of tobacco are even less well documented in URT. Tobacco smoking seriously threatens sustainable development of the world's poorest nations through disability and premature death. In URT, for instance, the Ocean Road Cancer Institute estimates that there are over 20,000 new patients diagnosed with cancer and three out of the diagnosed cancers are known to be tobacco related (ORCI,2009). It is estimated that deaths from tobacco use occur among persons in their most productive years (35-69) (Kaduri 2008) and the overall mortality rate for URT from such cancers is unknown. The fact that about 60 percent of cancers are related to tobacco makes it a matter of serious concern for public health and the general economic development of URT.

The onset and Phases of Adolescent's Smoking Tobacco

More often smoking starts during adolescence and the longer the onset of smoking is delayed, the less likely a person is to become addicted (Santrock, 2005). Young people who smoke may acquire the habit of smoking and become addicted before reaching adulthood. Experimenting remains a characteristic of adolescence and as a young person moves through this period the likelihood of smoking increases (McCool, Cameron & Petrie, 2003). Tobacco use among adolescents is a critical indicator not only of the beginning of tobacco use, but also of future trends in tobacco addiction and tobacco-related disease in adults. Smoking may occur during pre-adolescence and those who become smokers usually do so before the end of adolescence. The transition from being a non-smoker to becoming an addict is viewed as a process rather than a single event. This process generally takes place in five stages; preparatory, trying, experimenting, regular, and finally addiction. For those who become addicted smokers, progression through these stages is seen to occur over a two-to-three-year period, regardless of age (Ling &Glantz, 2002).

The preparatory stage is when a prospective smoker forms attitudes and beliefs about the utility of smoking and advertising. The trying stage is characterized by the person taking a few puffs at the cigarette. The experimental stage is when the person smokes repeatedly but irregularly. During the fourth stage the person moves into the regular use of cigarettes, where they are smoking at least weekly, across a variety of situations and personal interactions. The final, stage is when the person becomes an addicted smoker; at this point the person has developed the physiological need for nicotine (Ling &Glantz, 2002).

Determinants of Smoking

The physiological, psychological and sociological challenges faced by adolescents put them at a greater risk of using tobacco as well as the use of other drugs. Once smoking has begun, and dependence is established, giving up is difficult (Santrock, 2005; Cobb, 2001; and Taylor, 2003).

Cognitive Factors

The Relationship between Self-Efficacy (SEF) and Tobacco Smoking

Looking at self-efficacy in relation to a range of health behaviours has been extremely useful to help explain addictive behaviours and how to treat them (Hasking & Oei, 2002; Staring &Breteler, 2004). Researchers have extensively examined the role of SEF in smoking cessation programs. Mudde & Strecher (1995) and Schwarzer& Fuchs (1995) posit that SEF has consistently been shown to have the stronger predictive strength when looking at the intention to quit smoking. The study by Staring &Breteler (2004) also confirmed previous findings which observed that perceived high SEF is the best predictor to those individuals quit smoking and consequently individuals with high SEF scores tend to be successful at quitting the use of tobacco. Likewise, individuals with lower SEF scores tend to be unrealistic in quitting tobacco smoking and relapses occur after failed attempts.

Frazier (2001) observed that students with lower levels of SEF reported smoking cigarettes more frequently and smoking greater quantities of cigarettes at any given time. In another study, Kear (2002) found that SEF significantly helped students to resist tobacco smoking. Kvis, Clark, Crittenden, Warneccke, Freels, (1995) found that increased high levels of SEF is an important predictor in helping 18-29-year-old to quitting smoking. The relationship between SEF and future smoking depends upon the population studied and the timing of the SEF assessment. For instance, the study by Gwaltney, Metric, Kahler, and Shiffman (2009) observed that the relationship between SEF and future smoking was modest when SEF was assessed prior to the attempt to quit. SEF scores were .21 standard deviation (SD) units higher for those not smoking at follow-up than for those who were smoking. The relationship was stronger (0.47 SD) when SEF was assessed after quitting. In another study, the factorial validity of the measures and the cross-sectional correlations among SEF, beliefs and intentions were examined among 9th–12th grade smokers (N=2767, mean age 16.2; 61.2 percent white, 6.2 percent Black, 17.8 percent Hispanic, 5.0 percent Asian, 3.5 percent other; response rate 70

percent from a convenience sample of 22 Texas schools). 13.8 percent of them reported smoking ≥1 cigarette in the previous 30 days and the confirmatory factor analyses supported evidence of factorial validity for the scales in this sample. Structural equation modelling analysis suggested that youth smokers have low confidence in their ability to avoid smoking, believe smoking offers emotional or social benefits, and intend to continue smoking (Shiffman, et al. (2007).

Furthermore, De Vries & Backbier, (1994) also observed that SEF was linked to smoking. This was demonstrated in a sample of 103 pregnant women smokers and relapsers were found to have the lowest SEF. Ludman, McBride, Nelson, Curry, Grothaus, Lando, (2000) echoed other findings on the relationship between SEF and smoking by asserting that those who continue to smoke have decreased confidence to quit. With regards to the relationship between SEF and smoking cessation, Mullen (1999) found that SEF is linked to smoking cessation and has been shown to predict smoking cessation as reported by Moore, & Gullone (1996). Since most of the studies linking SEF were conducted in developed countries, those findings do not show whether they can be generalized to adolescents across various cultures. What is more, SEF in relation to smoking has hardly been investigated in the Tanzanian context.

The Relationship between Self-Esteem (SES) and Tobacco Smoking

Generally, SES is considered as an evaluative component of the self-concept, a broader representation of the self that includes cognitive and behavioral aspects as well as evaluative or affective ones (Blascovich & Tomaka, 1991). While the construct is most often used to refer to a global sense of self-worth, narrower concepts such as self-confidence or confidence or body-esteem are used to imply a sense of self-esteem in more specific domains (WHO,2005). It is widely assumed that SES functions as trait that is stable across time within individuals. SES is an extremely popular construct within psychology, and has been related to virtually every other psychological concept or domain, including personality (e.g., shyness), behavioural (e.g., task performance), cognitive (e.g.,

attribution bias), and clinical concepts (e.g. anxiety and depression) (Santrock, 2005). Much of the research about the relationship between SES and health appears to have been done in terms of its influence on health-compromising behaviour. According to the WHO (2005), SES, self-image and tobacco uses are directly linked. An adolescent often sees smoking as a way to cope with feelings of stress, anxiety and depression that stem from a lack of self-confidence. This implies that an adolescent who smokes tends to have low SES, and low expectation for their future development. Studies done in Taiwan explored the factors that lead adolescents to start smoking. Yen, Huang, Ma, Young, and Cho, (1996) directed a smoking survey in junior high school to determine the relationship between psychosocial factors and smoking. The results showed a strong association between SES and smoking.

Furthermore, Young & Werch (1990) posit that low SES caused adolescents to start smoking. Other studies in USA found smoking for black adolescents with low SES (Botvin, Dusenbury, Baker, James-Ortiz, Botvin, &Kerner, 1992) and for primarily black and Hispanic adolescents (Botvin, Epstein, Schinke, & Diaz, 1994). In the United States, Lewis, Harrell, Bradley, & Deng, (2001) surveyed 1,200 ten to fifteen-year-old living in three tobacco-producing countries in North Carolina. Among girls, smokers had significantly lower SES than non-smokers. Among boys, the smoking and non smoking groups did not differ in SES. A sample of more than 8,000 children (which shrank to 6,530 by the 4th year of the study) in Calgary, Alberta, Canada, was studied by Abernathy, Massad, & Romano-Dwyer, (1995). These researchers revealed that for girls, low SES in grade 6 predicted a substantially greater likelihood of smoking by grade 9. Indeed, girls with low SES were about 3 times more likely to try cigarettes than other girls. Among boys, SES had no relationship to smoking. In the study that investigated a large group of high school students using a multistep, stratified cluster sampling method and using a subscale analysis of SES, it was found that there was an important degree of low SES in current, predominantly male smokers in Switzerland (Diler, 2003). In a younger sample of about 1,500 third-grades and

fifth-grade students in central North America, studies have suggested that SES is linked to smoking, but unfortunately none of them shows that low SES clearly leads to subsequent smoking. Pederson, Koval, McGrady, and Tyas (1998) surveyed more than 1,600 Canadian eighth graders, distinguishing multiple categories of smokers. The current smokers had lower SES than the adolescents who had never smoked. The SES of ex-smokers was in between, and experimental smokers (i.e., those who tried smoking occasionally without becoming regular smokers) had nearly the same level of SES as the eighth graders who had never smoked. Jackson, Henriksen, Dickinson, & Levine, (1997) found that children with lower SES were more likely to admit to having smoked on occasion.

In one Scottish study of two cohorts of 13 to 14 years apart, examining for an association between SES and smoking produced inconclusive results (Glendinning & Inglis, 1999). In addition, a Canadian sample of more than 1,500 sixth graders conducted by Koval and Pederson (1999), observed no correlation between smoking and SES. As it appears to be the case in other countries, some studies show the relationship between smoking and SES while other studies fail to draw a conclusion. Most researches on adolescents' tobacco smoking focusing on relationship between tobacco smoking, self-efficacy and self-esteem have been conducted in developed countries. The findings emanating from these studies may seem to vary due to, among other things, the nature of the study, context, and methods and methodology employed. It may therefore seem impractical to generalize these findings to all adolescents across various cultures of the world. In particular, the findings may not seem to be generalizable to a developing country like Tanzania where SES in relation to adolescents smoking has hardly been investigated. Therefore, this paper explores the relationship between tobacco smoking, self-efficacy and self-esteem among secondary school adolescents in Tanzanian context in the Ilala district of the city of Dar es Salaam.

Materials and Methods

Ilala district was selected for this study because of high prevalence of smoking in Ilala district as compared with Temeke and Kinondoni districts (Jagoe, et al 2002). This enabled the study to get rich information and hence revealed the determinants of smoking among secondary school adolescents. Another reason for selecting Ilala was because the relationship between self-efficacy, self-esteem and smoking tobacco among secondary school adolescents have hardly been investigated as compared to other districts, namely Temeke and Kinondoni. A cross-sectional survey design was considered to meet the demands of the study because it allowed the collection of various data from secondary school adolescents with different socio-demographic characteristics, such as age and form (grade level). It also helped in the collection of information on adolescents' self-efficacy and self-esteem within a relatively short period of time and at one point of time for establishing the relationships (Bryman, 2004; Gay, Mills, & Airrasinan, 2006).

Simple random sampling was employed in the selection of 4 schools and 400 participants for the study. This was done to ensure an equal chance of selection and representation of participants in the study at school and form levels (Leedy & Ormord, 2001; Koul, 1997). In addition, the simple random technique paved the way for the study to employ test of statistical significance that permit inferences to be made about the population from which samples were selected (Bryman, 2004). Questionnaires were used for data collection and the information obtained through questionnaires was coded and total scores computed. Statistical Package for the Social Sciences (SPSS) was employed in the data analysis. From the SPSS, descriptive statistics, t-test for independent samples, and Pearson's product moment correlation coefficient were obtained.

Findings and Discussion

Characteristics of Participants' Sample

Form one to form four students of all schools had a minimum age of 12 years and a maximum age of 22. The mean and standard deviation of age were found to be 16.65 and 1.68 respectively. This suggests that the majority of the participants were already in adolescent age when they start trying various things, including smoking (Santrock, 2005).

The Relationship between Self-Efficacy (SEF) and Tobacco Smoking

One of the objectives of this study was to explore the relationship between SEF and smoking. In exploring the relationship, smoking was treated as a dependent variable and SEF was treated as an independent variable. Pearson's product moment correlation was used to explore the bivariate relationship. In the two-tailed test of significance, the result showed that there was significant strong positive association between smoking and SEF [r = .80 p<.01]. This implies that those who had high SEF had the ability to control tobacco smoking when exposed to a smoking environment, while those with low SEF were likely to smoke tobacco when exposed to a smoking environment. This study provides further descriptive information about the scores of SEFs.

For example, 64.8 percent (259 adolescents) had high SEF, which implies that they were more likely to resist smoking. 35.3 percent (151 adolescents) were revealed to have low SEF, hence they were vulnerable in a tobacco-smoking environment. This observation is supported by Bandura (1997) who noted that SEF can have an influence on person's health through two different mechanisms, namely; bio-psychosocial responses (such as an individual's ability to control stress, etc.) and behaviour change (such as the ability to resist narcotic consumption). Moreover, this study found that there were different scores for SEF between smokers and non-smokers. An independent sample t-test was conducted to compare the SEF scores for smoking and non-smoking adolescents. The results showed that

there were significant differences in scores for smokers (M = 101.32, SD = 28.38) and non-smokers (M =36.02, SD = 20.08, p<.000). The magnitude of the differences in the means was large effect [eta squared= .6]. This implies that differences in the means scores of SEF between nonsmokers and ever smokers still prove that adolescents with low self-efficacy were more likely to smoke when exposed to a smoking environment than adolescents with high SEF who were likely to resist tobacco smoking when exposed to a tobacco smoking environment (refer to *M & SD* of smokers and non-smokers).

With reference to this study's correlation coefficient and the t-test obtained, it is concluded that adolescent smokers among secondary schools in Ilala failed to resist tobacco smoking when exposed to a tobacco smoking environment. The adolescent non-smokers had the confidence to resist smoking when exposed to a tobacco smoking environment. The assertion that the first step in the role of SEF in changing an unhealthy practice to a healthy one is to believe that you have the ability to do so, may serve as the possible explanation of these findings. For instance, Bandura (1997) observes that often people are concerned about the health consequences of their smoking cigarette, but perceive themselves as unable to do anything about it. If an individual believes that he/she can resist smoking cigarettes, the next step is to believe that he/she can continue do so, because behaviour change does not matter unless the change is sustained.

Another possible explanation for the observed association of SEF and smoking is that the influence of significant others especially close friends may mould SEF. About 17 percent (67 adolescents) of the 154 secondary school adolescents who had smoked in Ilala district had reported that they were persuaded to do so by their close friends. This implies that the low SEF of adolescent smokers in Ilala district increased with pressure from close friends. This phenomenon supports Bandura theory that SEF can be created through reinforcement by others (Cobb, 2001; Santrock, 2002). Therefore, the interaction between adolescents and their close friends, who smoke cigarettes, may put adolescents at risk of starting to smoke. It follows

that, the significant strong positive association [r = .80] between smoking and SEF proves that low SEF among secondary school adolescents in Ilala district was likely to lead them to fail to resist smoking, while at the same time adolescents with high SEF are more likely to resist smoking cigarettes.

These findings are consistent with other previous studies done in developed countries that showed that there is a link between smoking and SEF. Frazier *et al.,* (2001) found that SEF emerged as the single most important predictor for tobacco smoking among students who reported lower levels of SEF reported smoking cigarettes. Similarly, Bovtin, (1994) found that youth smokers who have little confidence in their ability to avoid smoking, believe smoking offers emotional or social benefits, and intend to continue smoking. Ludman *et al.,* (2000) confirmed that high SEF is related to the decision to stop smoking and low SEF is related to a lack of control over smoking among adolescents. These findings provide empirical evidence to suggest that SEF has a strong link with secondary school adolescents who smoke. Hence attempts to explain the cognitive determinant of smoking among secondary school adolescents in Ilala district should pay attention to the association between smoking and SEF. Hence proper intervention program which focus on strengthening SEF are strongly recommended, whereby adolescent will learn on how to resist smoking when exposed to a tobacco smoking environment.

The Relationship between Self-Esteem (SES) and Smoking

The relationship between SES and smoking among secondary school adolescents in Ilala district was also explored by this study. The findings reveal that there was significant low positive correlation of [r = .11, p<.05] between smoking and SES. This implies that the relationship between smoking and SES is low. In other words, positive or negative evaluations of an individual (personal evaluation) had minimal correlation with tobacco smoking among secondary school adolescents in Ilala district. In addition, 62.3 percent (249 adolescents) who had high SES are more unlikely to smoke

tobacco, while about 38 percent (151 adolescents) who had low SES, are more likely to do so. Differences in scores of SES between smoking and non-smoking adolescents were also noted. These differences in scores support the fact that the relationship was weak between SES and smoking. An independent sample t-test was conducted to compare the SES scores for smokers and non-smokers. The findings show that there are significant differences in the score for smokers (M *=19.23, SD = 9.63)* and non-smokers (*M =17.12, SD = 8.17, p<.148*). The magnitude of differences in the means was small [eta squared= .01]. This implies that the differences of means and standard deviations of SES between those who smoked and non-smokers among adolescents were small. This attests that SES has little effect on secondary school adolescents' decision to smoke in Ilala district. In addition, the obtained SES t-test emphasizes the possibility that low SES may lead to adolescents deciding to smoke and high SES may encourage adolescents not to smoke (refer to *SD* and *M* of smokers and non-smokers).

The weak positive relationship between smoking and SES found in this study suggests that, since SES is the self-evaluation of an individual in different spheres of life, the majority of participants tend to evaluate themselves positively Feldman (1997), this may result in both smoking and non-smoking adolescents showing slight differences in the sample t- test. However, people with high SES claim to be more likable and attractive, to have better relationships, and to make better impressions on others than people with low SES (WHO, 2005). It follows that, if high SES could help prevent smoking, even among adolescents, that would be a valuable contribution to individual welfare and society at large. It is also possible that smoking affects SES rather than the reverse, because the SES of smokers who feel stigmatized may suffer. Smoking has generally been measured by self-report, and findings that people with high SES smoke less than others might be an artifact of self-report bias. Hence SES is either irrelevant to the question of why adolescents start smoking or it is a best weak risk factor in this regard. This study is consistent with previous studies which revealed that there is

significant relationship between SES and smoking. A longitudinal study by Andrews and Duncan (1997) tracked more than 400 adolescents, whose age at the start of the study was between 11 and 15, for 13 years. The researchers were particularly interested in whether SES and other variables would mediate the relationship between academic motivation and tobacco smoking (among other variables). SES did not mediate this relationship, but it was an independent predictor of smoking. When SES and smoking were measured at the same time, the correlation between them was found to be weak [r = .18]. This finding is similar to the weak correlation of [r = .11] between smoking and SES among secondary school adolescents in Ilala district.

In contrast, Yen *et al.* (1996) found that there is a strong association between SES and smoking in Taiwan, while other studies found no relationship between SES and smoking whatsoever. The possible link between SES and smoking was the specific and primary focus of research by Glendinning and Inglis (1999). They reported findings from Scottish surveys, which included nearly 3,000 young people, aged 13 and 14. The data showed no significant relationship between SES and smoking. Also, Koval and Pederson (1999) found that SES did not have significant relationship to smoking among a Canadian sample of more than 1,500 sixth graders.

Apart from having a positive relationship as found by other studies, the level of association of this study mirrored very closely the findings of Andrews and Duncan (1997). This may be linked with the methodological aspect, especially sample size and self-administered questionnaire and the slight differences may be due to, among other things, the differences in culture. This finding is also contrary to the study conducted by Yen *et al.* (1996) who found a strong correlation between SES and smoking. While this seem to suggest that the differences in findings may be attributed to differences in the context of the studies, further empirical investigations may ascertain the genuine cause of differences. Nevertheless, differences in methodology may also explain the inconsistencies of the findings. For

example, findings of by Glendinning & Inglis (1999) and Koval& Pederson (1999) are from longitudinal data, while findings of this study were from a cross-sectional survey. It therefore seems imperative that a longitudinal study is conducted in Ilala district to gather the evidence that will shed more light on the correlation between SES and smoking.

Conclusion and Recommendation

This study concludes that both SES and SEF have a role to play with regards to secondary adolescents in Ilala district smoking journey. However, special attention should pay to Self-efficacy, since the study has found to be the strong determinant of smoking among secondary school adolescents in Ilala district. Based on the research findings, this study makes the following recommendations for further actions by responsible practitioners and investigators. Due to self-efficacy being highly associated with smoking, it is imperative that there should be programs that focus on improving SEF as an effective tool for reducing the starting, frequency and amount of tobacco smoking among secondary adolescents in Ilala district. Through these programs, adolescents would be expected to learn how to resist smoking when exposed to tobacco smoking environments.

Organs responsible for designing the curriculum should strive to prepare a curriculum that will take care of adolescents' educational needs like psycho-educational intervention programs. The programs may comprise of various aspects like assertive behavior skills which are important in building confidence or self-control in adolescent period. Special attention should consider that adolescence is a period of experimentation of non-conventional behaviour including tobacco smoking. Since adolescent smoking is a problem that may prove difficult to control if joined efforts are not in place, it takes the efforts of governments, non-governmental organizations, religious groups, pressure groups, parents, and teachers etc., to successfully educate adolescents to avoid getting involved in experimentation and health-compromising behaviors.

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