

THE INTERNATIONAL JOURNAL OF HUMANITIES & SOCIAL STUDIES

Psychological Design-Based Intervention to Help Someone to Quit Smoking

Ayodele Oluwale Ojebiyi

Assistant Director, Department of Administration,
National Space Research and Development Agency, Abuja, Nigeria

Abstract:

The study aims to design a psychologically based intervention to assist individuals in quitting smoking. Smoking is said to add to many health challenges, such as cancer, lung diseases, and cardiovascular diseases. A critical review of some electronic databases such as Cinahl, Embase, Ovid Medline, Web of Science, and ProQuest Central was extensively searched to identify relevant scholarly journals until December 2022. Five 'A's model was adopted and aimed at assisting a smoker in quitting smoking. These are:

- *Ask (Do you use tobacco),*
- *Advise - Flawless, robust, tailored messages like 'I can be of assistance to you.'*
- *Assess - Could you consider quitting as a trial in the next 45 days?*
- *Assist- Will assist the patient via quitting provided counselling, increase quit motivation, and pharmacotherapy to assist them.*
- *Arrange - Follow-up sessions and/or attendance of the smoking cessation. Cognitive Behavioural Therapy (CBT), Motivational Interviewing (MI), Counselling and Telephone, and Smoking cessation support, among others, are part of behavioural interventions.*

Keywords: *Psychological design, intervention, people, and quit smoking*

1. Introduction

It is widely believed that one of the leading preventable sources of death in the world today is cigarette smoking. Smoking cuts across sex, age, race, educational attainment, socio-economic status, and professionals globally. World Health Organisation (2012) has affirmed that tobacco smoking results in over 6 million deaths a year, constituting a danger to public health internationally. Research has shown that putting an end to smoking by individuals on their own may be difficult to achieve; hence, putting various proactive and pragmatic well-distinct psychology interventions in place on a segment basis could assist greatly in guiding the treatment and evaluation. The development and propagation of robust and effective tobacco smoking prevention and cessation intervention will, no doubt, have an insightful influence on public health due to the distinctive health threats posed. Numerous researchers now see smoking as a protracted disease that requires chronic care models for its intervention.

It has also been revealed that smoking adds to many health challenges, including cancer, lung diseases, cardiovascular diseases, etc. For instance, smoking enhances the chances of emphysema, bronchitis, chronic obstructive lung disease (COLD), and pneumonia in lung ailments. Several medicines have been recommended for treating individuals willing to quit smoking, such as combining pharmacological treatments with psychological techniques. The effectiveness of this can be seen in patients with Chronic Obstructive Pulmonary Disease (COPD). In a study conducted by Lira-Mandujan, Miguez-Varela, and Cruz-Morale (2013), a combination and pharmacological interventions higher to none apply any cure was recommended.

Poor communication with healthcare professionals, lack of communication to quit smoking, and misleading information are health problems linked with relapse smokers. Stress, depression, and management of anxiety are more prevalent in COPD patients. Quitting smoking was horrendous for COPD patients. Most newly admitted patients to healthcare facilities for exacerbation of COPD continue smoking as extensive smoking history was discovered, greater tobacco consumption, carbon-oxide in the exhaled air at a higher level, a severe addiction to nicotine, and several unsuccessful quit attempts were experienced by these patients in the past. A study conducted by Yap, Lunn, Pang, Croft, and Stern (2015) showed that COPD smokers had a heavy smoking history and multiple past quit attempts. However, there was insufficient evidence to show that additional psychological intervention leads to higher quit rates. Quitting smoking triggers symptoms such as cough, shortness of breath, and immune response, resulting in fewer respiratory infections. Smoking causes impairment to defence mechanisms and hence affects human survival and quality of life. It was said that Fifty percent of individuals who smoke regularly die prematurely.

2. Objectives

The objectives of this research are to design psychologically based interventions to assist an individual in quitting smoking, explore a phase-based model of quitting smoking, describe the historical background of tobacco smoking dependence that presents basis, potential problems, and controversies in the itemized interventions or programmes, ascertaining the efficiency and effectiveness of these interventions, support my argument with theories such as behavioural theories, Social learning theory, Health Belief Model, Social Cognitive Theory, Transtheoretical Model of Health Behavior Change, etc., identifying the difficulties in ensuring abstinence and recommending strategies to remove these challenges, justification for the use of a phased-based model. This model will assist in advancing intervention development in health research, behaviour modification, and change, as well as enabling smokers to quit smoking on time (Conduct a needs assessment or problem analysis, identifying what, if anything, needs to be changed and for whom).

3. Discussion

Life-threatening problems are part of the underlying smoking factor. Smoking cigarettes enhances the danger of dying from all causes, most essentially ones not connected to tobacco usage, as the Centers for Disease Control and Prevention (CDC) states. Smoking cigarettes affects the skin, eyes, respiratory, circulatory, and reproductive systems and enhances numerous cancers risk. For this study, a '5As' model will be used as my design is aimed at assisting a smoker in quitting smoking. Successful intervention commences having to spot the users and appropriate interventions based upon the free will patient's willingness to quit.

- ASK: Present, do you use tobacco? Identifying and documenting tobacco use status for every patient at every visit. A vital signs sticker can be developed, which must have the following:

- Blood pressure,
- Pulse,
- Weight,
- Temperature,
- Respiratory rate,
- Tobacco use (current, former, never) circle one

The said chat can be placed on every tobacco user.

- ADVISE: Flawless, robust, tailored messages like:
 - I think you must abandon smoking for now.
 - I can be of assistance to you.
 - Quitting smoking is one of the best things you can do to safeguard your health.
 - Smoking impedes your psych medicines.
 - Stopping smoking can improve your mood.

The above messages in the form of advice should be clear, strong, and personalized, urging each tobacco user to

quit.

- ASSESS: Could you consider quitting as a trial in the next 45 days? Is the tobacco user willing to make a quit attempt at this time?
- ASSIST: Will assist the patient through quitting-provided counselling, increase quit motivation, and pharmacotherapy to assist them in quitting smoking. See counselling patients quitting smoking.
- ARRANGE: Follow-up sessions and/or attendance at the smoking cessation clinic will be put in place in person or by telephone, preferably within the first week after the quit date.

When such a patient is ready to quit cigarette smoking:

- I will assess his tobacco history
- To deliberate crucial matters
- Facilitating quitting process through practical counselling, problem-solving, and managing skills training
- Delivering social support as part of the treatment
- The patient's readiness to quit smoking will be praised

Tobacco usage history will be assessed:

- Present use: kind(s) of tobacco, quantity
- Previous use: period, latest changes
- Previous quit attempts: Quantity, date, distance, approaches used, compliance, period, the reason for relapse,
- Explaining reasons why the patient should quit: Health, Social, and financial concerns
- Confidence, inability to quit. How confident am I about the patient quitting smoking?
- Does the patient lack confidence due to prior failed attempts?

Now, let's consider the following 5-ethical principles in my study:

Principle A: Beneficence and Non-maleficence say psychologists should remove affiliations, prejudices, and biases capable of influencing the treatment.

Principle B: Fidelity and Responsibility is of the view that psychologists should ensure that the patient possesses a high level of ethical standards.

Principle C: Integrity argues that one should strive for transparency and uprightness while discharging responsibilities as a psychologist. Principle D: Justice emphasizes that psychologists should treat the person equally irrespective of race, ethnicity, religion, and so on. Principle E: Respect for People's Rights and Dignity says psychologists should have respect for the right to dignity, privacy, and confidentiality of the patient they work with.

Considering psychologically based intervention for such smokers without mental illness, both behavioural interventions such as appearing in person or via phone and pharmacotherapy like nicotine replacement (Kotz, Brown, and West, 2014) will be the best option. Cognitive Behavioural Therapy (CBT), Motivational Interviewing (MI), Counselling and Telephone smoking cessation support, educational strategies, coping skills training, behavioural skills training, and thought restructuring are different types of psychological intervention.

Behavioural therapy is often used by smokers considering quitting or preparing to quit. It solves historical learning processes directly pertinent to smoking and the recent contextual factors that make it difficult to quit (e.g., social, behavioural, and environmental factors). A study by Webb (2019) delivered psycho-education on nicotine addiction, the symptoms and duration course of nicotine withdrawal, identification and management of 'high risk' situations, cognitive and behavioural coping responses, stress management, weight control, seeking social support, behavioural contracting, and relapse-prevention strategies. According to the Center for Substance Abuse Treatment, 2006, a smoker was armed with behavioural treatment with practical strategies to circumvent and/or manage triggers, manage cravings, and reduce withdrawal symptoms. These interventions covered a wide range of topics, including:

- Instruction on quitting smoking,
- Assessment of prior quit attempts and lessons learnt from them.
- Assessment of present motivation to quit,
- Identification of cues and triggers for smoking and ways to avoid or manage them,
- Tips on ways to manage mood,
- Promotion of adherence to treatment engagement (such as using medications correctly), and
- Continued treatment engagement

Fiore et al. (2008) support self-managing withdrawal symptoms, accepting social support, and managing associated health issues like stress, moodiness, skill-building, and other substance use in promoting adherence to treatment engagement and continued treatment engagement. Quitting will help our mood and other related consequences.

Quitline has been used to achieve counselling clients by communicating via telephone. The client is asked questions about his smoking, motivation, and how they attempted to quit smoking previously. Such answer(s) can be used to personalize quitting plan.

Cognitive therapy means a psychotherapeutic approach entrenched in behavioural difficulties as ideas maintained by reasoning factors, including beliefs, that lead to automatic thoughts about particular situations. Smoking cessation finds treatments based on CBT techniques to be highly effective (Sykes and Marks, 2001). Denison et al. (2017) say Cognitive therapies result in a higher smoking abstinence rate for at least one year compared with other interventions like health awareness, exercise, and advice to quit going through six studies while Cognitive therapies plus medications increase smoking abstinence rates for a year compared with medication only for five studies. Zhou et al. (2017) revealed that psychological intervention and psychological plus drugs intervention exerted good effects on smoking cessation in a short time, at least 30 days. Benefits did not appear for a long time for a 180-day follow-up.

Motivational interviewing is provided by healthcare workers, counsellors, or quitline coaches aimed at assisting an individual in exploring and resolving any inconsistency about making a behaviour change, such as quitting smoking (Lindson-Hawley et al. 2015).

In considering pharmacologic therapies, subduing the intake of tobacco thereby helps the individual to abandon smoking. These particular therapies are in two categories viz-a-viz:

- Nicotinic therapies like nicotine transdermal patches, nicotine gum, and inhaler
- Non-nicotinic therapies such as bupropion, varenicline, and nortriptyline

The life expectancy of smokers globally is said to be 10 years shorter than non-smokers.

Quitting smoking can be challenging. Going through the procedure, reports from CDC as of today indicate individuals who do smoke in the past outweigh those who smoke at present. Anyone who ceases smoking enjoys improved oral health, steady hormones, a resilient immune system, a reduction in numerous types of cancers, and clearer skin. Other benefits of quitting are:

- After 20 minutes –720 minutes: Heart rate and carbon monoxide in the blood drop to normal levels.
- After 12 months: The risk of a heart attack is much lower, as is blood pressure. Coughing and upper respiratory problems begin to improve.
- After 2–5 years: The danger of stroke drops to that of someone who does not smoke, according to the CDC.
- After 5–15 years: The threat of mouth, throat, esophagus, and bladder cancer is reduced by half.
- After 10 years: The possibility of lung cancer and bladder cancer is half that of someone who currently smokes.
- After 15 years: The risk of heart disease is similar to that of someone who never smoked.

When a person stops using nicotine as an addictive drug, it can cause withdrawal symptoms. These are hunger, increased appetite, and a bad temper. Healthcare professionals like psychologists and doctors assist a person in taking positive steps to quit smoking.

In discussing many factors capable of influencing the success or failure of quit attempts are:

- Physiological (e.g., level of nicotine dependence, withdrawal symptoms),
- Behavioural (e.g., slip-ups, the pattern of smoking),
- Environmental (e.g., working with smokers, having a smoker as a friend, etc.),
- Psychological (e.g., tension, despair, apprehension, psychiatric disorders),

- Cognitive (e.g., knowledge, self-exempting beliefs, perceived disadvantages, motivation, self-efficacy),
 - Obstacles to the entrance to interventions (e.g., cheap quitting medications, treatment plans),
 - Social context (e.g., poverty, social isolation, lack of perceived safety, social norms)
- Other individual emotional and demographic factors associated with success or failure in quitting smoking are:
- Duration of smoking,
 - Level of dependence,
 - Cruelty of withdrawal symptoms,
 - Genetic influences,
 - History of previous failed quit attempts,
 - Low confidence,
 - Poor self-efficacy,
 - Impulsivity, sensation seeking, and time perspective,
 - Concern about weight gain,
 - Disturbances of mood,
 - Stress and negative affect,
 - Depression

Compared to non-smokers, smokers report more depressive symptoms, more frequent and severe episodes of depression, and higher rates of suicidal ideation and suicide, Anxiety sensitivity. Success or failure in quit attempts is predicted by environmental factors, such as:

- Social factors,
- Cue reactivity, and
- Tobacco marketing

Cessation smoking reduces mortality risk, among other advantages. Often, people with or without mental illness are advised to quit smoking. Smoking is used as a relaxation and deploys effective stress management strategies. A study (Ramet, 2019) argued that self-efficacy for quitting smoking and self-control for quitting smoking were found to have increased in the experimental group. The number of cigarettes smoked in the past 24 hours decreased in the experimental group.

In a study conducted by Ainscough et al. (2017), support for contingency management and monetary incentives involving the use of inducements like money, gift cards, etc., encourage individuals to change health behaviours and maintain abstinence from substance use over an extended period. In a study conducted during clinical trials to confirm the efficacy of nicotinic therapies, smokers without chronic disease said these kinds of treatments enhance the likelihood of abstinence and are greater than placebo. On the other hand, non-nicotinic drug therapy in such a smoker that does not have a chronic disease, varenicline, and bupropion, are said to be most active due to the rate of abstinence, which is greater than any other treatment to quit smoking.

In considering some theories in support of my position, Behavioural Theories focus on how people learn to behave in particular ways. Using Classical conditioning, a person can learn to associate smoking with other feelings and events (like one in a stressful situation). These situations then automatically induce desires and 'cue' their smoking behaviour.

Operant conditioning suggests behaviour is shaped by its punishment. When nicotine is inhaled, it causes a rapid release of dopamine, in turn causing feelings of pleasure that reward and reinforce the behaviour. This pleasure and reinforcement drive the process of addiction. Behavioural modification approaches to smoking cessation are underpinned by these principles. Behavioural interventions review for smoking cessation found that most report moderate success in quitting at six months. Social Cognitive Theory suggests that people learn from one another through observation, instruction, or modelling. The social cognitive theory postulates that self-efficacy is fundamental to any behaviour change. A study (McDermott, 2010) describes a series of prospective analyses which determined that the core points of the negative reinforcement explanation for smoking were not associated either with urges to smoke or with abstinence.

The health belief model forecasts individuals' perceptions of tobacco use regarding:

- Vulnerability to tobacco-related diseases,
- Prices, benefits, and barriers to engaging in smoking or quitting behaviours, and
- Triggers to change the behaviour

McCabe (2014) found that there was partial support for decreases in smoking frequency and decreases in experiential avoidance (indicated by lower scores on the AIS) from baseline to follow-up.

The social-ecological model highlights the relationship between behaviours and social environments. Significance of public health experts using multi-level, multi-sectoral interventions in preventing tobacco use; interventions based on notions of individual decision-making are less effective and may unintentionally support the tobacco industry's framing of tobacco-caused diseases as the result of 'unfortunate but informed' individual choices.

The Transtheoretical Model (TTM) is vital in explaining and predicting changes in a range of health behaviours, including smoking cessation. The theory explains quitting successfully. Smokers will move from not thinking about quitting (pre-contemplation) to seriously considering quitting at some point (contemplation), to aiming to quit in the immediate future and making plans to do so (preparation), to quitting (action), to staying quit (maintenance). Tanya and Baker (2013) assess the efficiency of smoking interventions for smokers who are reluctant to make a quit attempt (motivation phase), who are eager to make a quit attempt (cessation phase), who have lately quit (maintenance phase),

and who have lately relapsed (relapse recovery phase). Multiple effective treatments exist for some phases (cessation) but not others (relapse recovery). Psychoanalytic Theory undertakes that unconscious psychological processes and early childhood experiences determine a person's personality and behaviour. Freudian theorists view smoking as caused by fixation at the oral stage. The oral personality regards the mouth as the utmost source of pleasure, leading to excessive consumption of food, alcohol, or drugs. A study (Simmons, 2004) indicated that a greater reduction in smoking and higher quit rates at follow-up were found for participants in both smoking conditions as compared to participants in the Nutrition control condition.

Physiological Models: Brain mechanisms that underlie addiction were explained. Release of dopamine, leading to feelings of reward and pleasure, all are caused by nicotine usage. Individual genes play a significant function in addiction, with certain genetic variants appearing to influence how greatly a person will smoke, how addicted to nicotine they become, and the possibility of reverting after quitting.

4. Conclusion

The study considers the '5As' model as a design for psychologically based intervention towards helping someone quit smoking, which is likely to affect the respiratory, circulatory, and reproductive systems, and so on, if urgent measures are not taken. The '5As' model design is: Ask, Advise, Assess, Assist, and Arrange. The Ask of the model ensures that the vital signs of every patient are taken, like blood pressure, pulse, weight, tobacco use, etc., and placed on them in the form of a sticker. Advice given should be clear, strong, and personalized. Assess ensures tobacco users' willingness to quit. Assist helps the patient through the use of motivation, counselling, and pharmacotherapy, and put a follow-up session in place when the patient is ready to quit. For an individual without mental illness, behavioural interventions and pharmacotherapy seem the best. The social support psychotherapeutic approach finds treatments based on CBT techniques.

Several studies were conducted to assist this individual. However, there are several good pieces of evidence of these psychologically based interventions recommended in treating this person. These are Cognitive Behavioural Therapy (CBT), Motivational Interviewing (MI), Counselling and Telephone, and medications enhancing smoking abstinence rates/cessation support, among others. Key interventions are behavioural counselling, personalized feedback as well as adequate monitoring. Pharmacologic therapies reduce tobacco intake hitherto enable individuals to quit smoking. CDC reports confirm that people used to smoke more in the past than in the present. There are also both psychological and physical side effects of these treatments. Once a person stops smoking, lots of benefits are identified, which include normality in heart rate and carbon monoxide, risk reduction of having a stroke, reduction in suicidal rates, lower anxiety sensitivity, clearer skin, improved oral health, stable hormones, a stronger immune system, and reduction in different types of cancers and so on.

5. References

- i. Ainscough, T. S., BL. S., Strang, J. and McNeill, A. (2017). Contingency management for tobacco smoking during opioid addiction treatment: a randomised pilot study. *BMJ Open; London*, 7, 9. doi:10.1136/BMJ open-2017-017467
- ii. Centres for Disease Control and Prevention CDC (2016). Cancers linked to tobacco use make up 40% of all cancers diagnosed in the United States. *Health & Medicine Week; Atlanta* [Atlanta] 25, 1157.
- iii. Greenhalgh, E.M., Stillman, S. and Ford, C. (2016) Theories about smoking and quitting. In Scollo, MM, and Winstanley, MH (editors). Tobacco in Australia: Facts and Issues. *Melbourne: Cancer Council Victoria*. Available from: <http://www.tobaccoinaustralia.org.au/7-13-methods-services-and-products-for-quitting-co>
- iv. Greenhalgh, E.M., Stillman, S. and Ford, C. (2016) Factors that predict success or failure in quit attempts. In Greenhalgh, E.M., and Winstanley, MH (editors). Tobacco in Australia: Facts and Issues. Melbourne: Cancer Council Victoria. Available from: <http://www.tobaccoinaustralia.org.au/7-7-personal-factors-associated-with-quitting>
<https://www.health.harvard.edu/promotions/harvard-health-publications/healthy-eating-for-type-2-diabetes-apr2020>
<https://www.medicalnewstoday.com/articles/324644#quitting>
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3380445/>
<https://www.psychology.org.au/for-members/publications/inpsych/2017/oct/Psychologists-and-smoking-cessation-Reducing-the>
<https://www.publichealth.va.gov/docs/smoking/presentation-tobacco-cessation-medication.pdf>
https://www.who.int/mental_health/management/scalable_psychological_interventions/en/
- v. Lira-Mandujan, J., Miguez-Varela M.G. and Cruz-Morale, E. (2013). Psychological Approach to Increase Tobacco Abstinence in Patients with Chronic Obstructive Pulmonary Disease: doi: 10.5772/53265.
- vi. McCabe, A. (2014) A Mindfulness-Based Intervention to Decrease Cigarette Use in Young Adults. *Hofstra University, ProQuest Dissertations Publishing*. 3633833.
- vii. McDermott, M.S. (2010) The development and evaluation of a cognitive intervention for smoking cessation based on communicating the negative reinforcement explanation for smoking.
- viii. *The University of London, King's College (United Kingdom), ProQuest Dissertations Publishing*, U583329
- ix. Ramet, S. (2019) Examination of a Tai Chi-Based Smoking Cessation Program in Those Aged 50 and Older. *The University of Nebraska at Omaha, ProQuest Dissertations Publishing*, 13861901.

- x. Respiratory Tract Diseases and Conditions - Acute Respiratory Infections; Investigators at Centers for Disease Control and Prevention Detail Findings in Acute Respiratory Infections (Comparison of outpatient medically attended and community-level influenza-like Illness-New York City, 2013-2015). *Health & Medicine Week; Atlanta* 18 May 2018: 10.
- xi. Simmons, V.N. (2004) Smoking cessation in a university setting: The efficacy of an experiential, theory-based intervention for college students. *University of South Florida, ProQuest Dissertations Publishing*, 3182717.
- xii. Sykes, C. M., and Marks, D. F. (2001). Effectiveness of a cognitive behaviour therapy self-help programme for smokers in London, UK. *Health Promotion International; Oxford*, 16, 3.
- xiii. Tanya, R.S. and Timothy, B.B. (2013) Interventions for Tobacco Smoking. *Annual Review of Clinical Psychology*, 9, 675-702. <https://doi.org/10.1146/annurev-clinpsy-050212-185602>.
- xiv. Webb, M.H. (2019) Racial/Ethnic Differences in Physiological Stress and Relapse among Treatment Seeking Tobacco Smokers. *International Journal of Environmental Research and Public Health; Basel*: 16, 17. doi:10.3390/ijerph16173090.
- xv. WHO Report on the Global Tobacco Epidemic 2013: Enforcing bans on tobacco advertising promotion and sponsorship: Enforcing bans on tobacco advertising promotion and sponsorship. World Health Organization and World Health Organization.
- xvi. Yap, Su Yin., Lunn, S., Pang, E., Croft, C. and Stern, M. (2015). Psychological intervention for smoking cessation is delivered as a treatment for smokers with chronic obstructive pulmonary disease. *Chronic Respiratory Disease; London*, 12(3): 230-237. DOI: 10.1177/1479972315586198.
- xvii. Zhou, C., Wu, L., Liu, Q., An, H., Jiang, B., Zuo, F., Zhang, L. and He, Y. (2017). Evaluation of smoking cessation intervention in patients with chronic diseases in smoking cessation clinics. 96(42) p7459. doi: 10.1097/MD.00000000000007459.