Annals of Clinical and Analytical Medicine

Impact of Smoking Cessation Clinics on the Prevalence of Smoking: A Systematic Review

Thmer Hamad Hadi (1) *, Ali Muslih Nasser Al Hawkash (2), Dawas Salem Amer Al Yami (2), Mansour Ali Y Al Jarah (3), Naif Saleh Ali Al Jafilah (3), Ibrahim Mohammed Ali Alfarhan (3), Hadi Ali Hadi Alyami (4), Saeed Ali Yahya Al Jarah (5), Fahad Yasein (5), Rashed Mohammed Saleh Zabaid (6), Mohammad Jarallh Naje Alkabi (7), Abdullah Saleh Z Al Abbas (8), Abdullah Ali Saleh Balhareth (8), Rashed Yahiy Al Shahi (9)

(1) Health Administration, Public Health Department.
(2) Health Administration, King Khaled Hospital.
(3) Health Informatics, King Khaled Hospital.
(4) Health Administration, King Khaled Hospital.
(5) Public Health, King Khaled Hospital.
(6) Public Health, Yadma General Hospital.
(7) Public Health, Maternity and children hospital.
(8) Anaesthesia, Forensic Medical Services Center.
(9) Health Informatics Technician, Forensic Medical Services Center.

Received 17/9/2022; revised 11/10/2022; accepted 19/10/2022

*Corresponding author

Abstract

Introduction: The conceptual framework of smoking cessation showed that smoker firstly think to quit, plan to quit, try to quit and finally sustain quitting or relapse. Clinics of smoking cessation aim to help smokers to plan, quit and sustain the healthy life style. This review aimed to collect the evidence about the impact of smoking cessation clinics.

Methods: An electronic databases was searched including PubMed and Embase. Furthermore, the search was conducted in databases and repositories of grey literature such as Open Grey and OAIster. The databases of systematic review and clinical trials such as Cochrane libraries and Center for Reviews and dissemination was screened for eligible primary studies. The flow of the information through the different stages of a systematic review (primary screening, secondary screening, and inclusion stage) was followed. Full text of the eligible studies were retrieved to conduct in depth reading. The eligibility criteria were applied on the eligible studies which lead to exclusion of irrelevant studies.

Results: The findings of this review revealed that referral rate from primary health centers to smoking cessation clinics was significantly improved. However, this increase was not translated into improvement in smoking quitting rate. Lack of effectiveness was attributed to the service pitfalls including delay in referral, shortage of experts, and low awareness among smokers. In Saudi Arabi, working within the faith-based paradigm, a National Tobacco Control Program that focuses on primary prevention and supporting tobacco cessation has been adopted. Till 2009, more than 30 smoking clinics were established in Saudi Arabia.

Conclusions: There is a limited and contradicting data about smoking cessation rates in Saudi Arabia which highlight the importance of further research to objectively and accurately measure the cessation rate, and subsequently the effectiveness, of smoking cessation clinics.
Keywords: Smoking, Cessation, Relapse, Awareness, Saudi

Introduction

In the past 50 years, governments showed an increasing commitment to reduce smoking prevalence by banning advertisements, increase taxation on tobacco products, prohibiting smoking in public places, and conduction of educational campaigns (1). Smoking cessation is one of the main goal of public health efforts with proven health benefits including a significant reduction in the risk of cardiovascular diseases and cancer (2). The conceptual framework of smoking cessation showed that smoker firstly think to quit, plan to quit, try to quit and finally sustain quitting or relapse. Clinics of smoking cessation aim to help smokers to plan, quit and sustain the healthy life style.

Smoking is the leading cause of preventable deaths world widely with expected 8.3 million deaths in 2030 (3). Smoking has a well-established relationship with many serious diseases such as lung cancer, cardiovascular diseases and chronic obstructive pulmonary diseases (4). In 2015, the global age-adjusted prevalence of smoking was 25% in men and 5.4% in women which accounted for 28.4% and 34.4% decline in smoking prevalence from 2005, in men and women respectively (4).

Methods

An electronic databases was searched including PubMed and Embase. Furthermore, the search was conducted in databases and repositories of grey literature such as Open Grey and OAIster. The databases of systematic review and clinical trials such as Cochrane libraries and Center for Reviews and dissemination was screened for eligible primary studies. The flow of the information through the different stages of a systematic review (primary screening, secondary screening, and inclusion stage) was followed. Full text of the eligible studies were retrieved to conduct in depth reading. The eligibility criteria were applied on the eligible studies which lead to exclusion of irrelevant studies.

Results and discussion

The findings of a large-scale study, conducted in the United States, revealed that referral rate from primary health centers to smoking cessation clinics was significantly improved. However, this increase was not translated into improvement in smoking quitting rate. Lack of effectiveness was attributed to the service pitfalls including delay in referral, shortage of experts, and low awareness among smokers (5). Another study conducted in the united states and used a new approach for smoking counselling by trained community pharmacists. A quarter of included smokers reported continuous quitting for more than 12 months, while 31.3% and 43.8% sustain quitting smoking for 3 and 1 month, respectively. There were no association between quitting rate and age, level of nicotine dependence, and method of cessation (6).

In Denmark, about 423 clinics of smoking cessation, with a total of 82,515 registered patients, are evaluated. After 6 months of follow-up, 24% of the monitored smokers were considered as a successful quitter. The comprehensive smoking cessation approaches was found significantly better than face-to-face interventions. Moreover, short interventions were more effective in smoking cessation among men than women (7).

A hospital-based approach for smoking cessation was evaluated in 243 smokers and 187 controls in a tertiary hospital in Australia. Smokers were subjected to intensive counselling on behavioral change and abstinence was assessed by level of exhaled CO. The prevalence of smoking quitters after 12 months was 32%, which was influenced by self-confidence, having a cardiovascular condition, and elevated number of pack-years (8). The outcomes of this study are more

reliable because it depends on objective assessment, namely level of exhaled CO.

A sample of 254 smokers, from smoking cessation clinics in Malaysia, were followed for 6 months after quitting smoking. About 17% of the study participants can sustain smoking cessation for the end of follow-up period (more than 6 months). Although a self-reported prevalence was assessed in this study, the abstinence

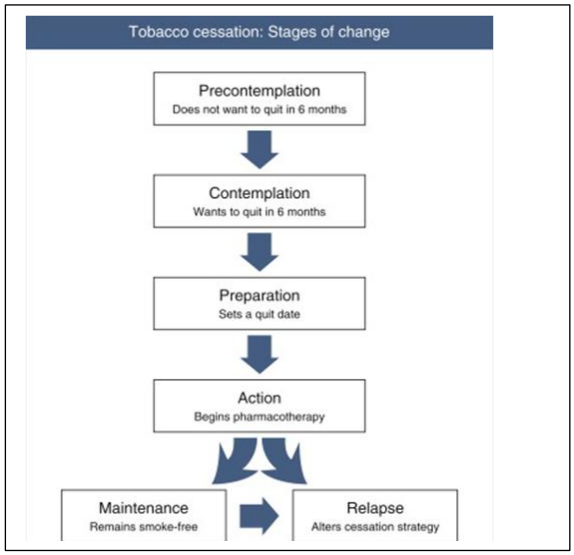

Figure (1): Stages of behavioral change in regards to smoking cessation.

rate was lower compared to other rates reported from cohort studies. Moreover, when the smoking status was confirmed by CO level, the abstinence rate was decreased to 15.3% (9). In China, a total of 220 young smokers underwent counselling sessions in the outpatient departments. A quitting rate of 24% was reported after 6 months of follow up but it was a self-reported rate. That means, no confirmation with CO level was obtained in this study (10). A slightly higher prevalence (27%) of smoking quitters was reported in Hing Kong, where a mixed intervention was used (counselling + nicotine replacement therapy). The mean cost per each smoking quitter was 339$, which make it a cost-effective intervention (11).

In Arabic countries, limited data are available about smoking cessation rate with a few studies aimed to evaluate the effectiveness of smoking cessation clinics. In Jordon, a cross-sectional study found only a half of the participants have heard about smoking clinics and hotlines with 2.4% had ever used these services (12).

Saudi Arabia was ranked 8th in the world regarding cigarettes smoking (13). Based on World Health Organization estimates, the prevalence of smoking in Saudi Arabia is not more than 20% (14). In Saudi Arabi, working within the faith-based paradigm, a National Tobacco Control Program that focuses on primary prevention and supporting tobacco cessation has been adopted (15). Till 2009, more than 30 smoking clinics were established in Saudi Arabia (16). Different cessation rates have been reported from various smoking cessation clinics. An interesting initiative was established by Qassim university in 2012 with fully-equipped smoking cessation clinics containing videos and models demonstrating health hazards of smoking, in addition to tools assessing lung capacity, CO and oxygen levels. Moreover, nicotine replacement therapy was available and administered by pharmacists who provided individual consultation. A self-reported 6-month cessation rate, in Buraidah, was as high as 38.3% (17), while it was 13% in different clinics, in Saudi Arabia, as reported by Bassiony (16).

Conclusions

There are a limited and contradicting data about smoking cessation rates in Saudi Arabia which highlight the importance of the current studies to objectively and accurately measure the cessation rate, and subsequently the effectiveness, of smoking cessation clinics.

Conflict of interests

The authors declared no conflict of interests.

References

1. Bonita, R., et al., Country actions to meet UN commitments on non-communicable diseases: a stepwise approach. The Lancet, 2013. 381(9866): p. 575-584.
2. Abuse, S., M.H.S.A. US, and O.o.t.S. General, The Health Benefits of Smoking Cessation, in Smoking Cessation: A Report of the Surgeon General [Internet]. 2020, US Department of Health and Human Services.
3. Mathers, C.D. and D. Loncar, Projections of global mortality and burden of disease from 2002 to 2030. PLoS medicine, 2006. 3(11): p. e442.
4. Reitsma, M.B., et al., Smoking prevalence and attributable disease burden in 195 countries and territories, 1990–2015: a systematic analysis from the Global Burden of Disease Study 2015. The Lancet, 2017. 389(10082): p. 1885-1906.
5. Yano, E.M., et al., Targeting Primary Care Referrals to Smoking Cessation Clinics Does Not Improve Quit Rates: Implementing Evidence-Based Interventions into Practice. Health services research, 2008. 43(5p1): p. 1637-1661.
6. Kennedy, D.T., et al., Results of a smoking cessation clinic in community pharmacy practice. Journal of the American Pharmaceutical Association (1996), 2002. 42(1): p. 51-56.
7. Rasmussen, M., E. Fernández, and H. Tønnesen, Effectiveness of the Gold Standard Programme compared with other smoking cessation interventions in Denmark: a cohort study. BMJ open, 2017. 7(2): p. e013553.
8. Fung, P.R., et al., Effectiveness of hospital-based smoking cessation. Chest, 2005. 128(1): p. 216-223.
9. Ezat, W., et al., Pattern and predictors of smoking cessation among smokers attending smoking cessation clinics in Peninsular Malaysia. J Community Health, 2008. 14(1): p. 17-23.
10. Zhu, W.H., et al., Characteristics of smokers and predictors of quitting in a smoking cessation clinic in Guangzhou, China. Journal of Public Health, 2010. 32(2): p. 267-276.
11. Abdullah, A.S.M., et al., Establishment and evaluation of a smoking cessation clinic in Hong Kong: a model for the future service provider. Journal of Public Health, 2004. 26(3): p. 239-244.
12. Jaghbir, M., S. Shareif, and M. Ahram, Quitting smoking and utilization of smoking cessation services in Jordan: a population-based survey. EMHJ-Eastern Mediterranean Health Journal, 2014. 20(9): p. 538-546.
13. Al-Doghether, M.H., Do we need national guidelines for smoking cessation? 2001, King Faisal Specialist Hospital & Research Centre.
14. Mackay, J., M. Eriksen, and M.P. Eriksen, The tobacco atlas. 2002: World Health Organization.
15. Moradi-Lakeh, M., et al., Tobacco consumption in the Kingdom of Saudi Arabia, 2013: findings from a national survey. BMC Public Health, 2015. 15(1): p. 611.
16. Bassiony, M.M., Smoking in Saudi Arabia. Saudi Med J, 2009. 30(7): p. 876-81.
17. Salih, M.A. and A.A.B. Farghaly, Determinants of outcome among smokers in a smoking cessation program. Journal of family & community medicine, 1996. 3(2): p. 22.


Emerging Sources Citation Index (ESCI)
Clarivate
Analytics
WEB OF SCIENCE™
THOMSON
REUTERS