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Review Article

Challenges in smoking prevention among healthcare workers

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ABSTRACT

Many diseases have been reported in association with smoking, including chronic obstructive pulmonary disease, lung cancer, and coronary artery disease. Healthcare workers (HCWs) play an essential role in such campaigns being in the first-line of management of the corresponding patients. Therefore, it is essential to investigate the smoking status among HCWs to make sure adequate interventions are appropriately delivered to their patients. Unfortunately, different studies in the literature indicate that the prevalence of smoking is high among HCWs. Furthermore, adopting restricting policies against smoking has been reported to be of limited efficacy in reducing the frequency of smoking. Therefore, other pharmacological therapies have been proposed. However, the duration of the effectiveness of these modalities does not allow for favorable long-term outcomes. Accordingly, psychological interventions, web-based campaigns, and person-to-person interviews can be the most appropriate modalities to achieve better outcomes. Further investigations are still needed for further validation of the most optimal and suitable intervention.

Keywords: Smoking, Intervention, Cessation, HCWs, Healthcare workers

INTRODUCTION

Estimates show that tobacco use is the 4th most common leading cause of health risk factors, and the second most common factor of health-related morbidities globally. Many diseases have been reported in association with smoking, including chronic obstructive pulmonary disease, lung cancer, and coronary artery disease.[1-3]

Current trends in developed countries show that their healthcare systems are adequately taking care of their health status and providing adequate management of the different diseases and pandemics. Accordingly, many countries have inaugurated many strategies and campaigns to eliminate tobacco use and smoking to enhance the health status of the public.[4-6]

Furthermore, Healthcare workers (HCWs) play an essential role in such campaigns being in the first-line of management of the corresponding patients. Therefore, it is essential to investigate the smoking status among HCWs to make sure adequate interventions are appropriately delivered to their patients.[7] Besides, studies have shown that non-smoking HCWs tend to provide better counseling approaches to their patients during a smoking cessation campaign over the HCWs smokers.[8] Unfortunately, different studies in the literature indicate that the prevalence of smoking is high among HCWs.[9-11] Therefore, many interventions have been proposed to reduce such rates and enhance the outcomes for patients. However, many challenges have been proposed as the rates of smoking are still high among HCWs. In the present study, we aim to conduct a discussion that is based on a thorough literature review on the challenges of smoking interventions that target smokers among HCWs.

METHODS

This literature review is based on an extensive literature search in Medline, Cochrane, and EMBASE databases which was performed on 26th August 2021 using the medical subject headings (MeSH) or a combination of all possible related terms. This was followed by the manual search for papers in Google Scholar while the reference lists of the initially included papers. Papers discussing smoking interventions that target smokers among HCWs were screened for relevant information, with no limitation placed on date, language, age of participants, or publication type.

DISCUSSION

Although it might be logical to expect that HCWs are well aware of the harmful effects and related complications of smoking, in addition to the expected roles that these workers should display, being a good example for patients and smokers from the public, many worldwide investigations concluded that the prevalence of smoking among HCWs is high despite the application of different preventive measures to reduce these rates.[9-13] Moreover, it has been previously suggested that the higher prevalence of smoking among HCWs, which was even reportedly higher than that of the general population, is probably attributable to the potential occupational stress that these workers might face, a critical factor that has been previously demonstrated to attribute to the development of addiction.[14,15] Juranić et al furtherly demonstrated that nurses that finished high school education are more prone to have higher levels of occupational stress as compared to other HCWs, as a result of the potentially-faced nursing shortage across the different healthcare settings.[16] Besides, they also demonstrated that reduced levels of education among nurses, increased frequency of working during shifts, and increasing frequency of having overtime shifts were also other factors that hugely contributed to occupational stress among HCWs. The effect of cultural norms is also an important factor to consider because in some cultures smoking is a specific status symbol and is generally accepted, while in others, smoking is a harmful habit and is not encouraged, especially within the Middle Eastern region.[17-20]

It is widely accepted to say that HCWs are well aware of the harmful effects and complications of smoking as compared to other members of the general population. Besides, it has been previously indicated that most HCWs think that it is ethical to warn non-smokers of their patients about the harmful effects of smoking. However, it has been demonstrated that smoking HCWs do not find it comfortable to provide counseling about smoking cessation to their patients.[21,22] Nurses and physicians are both important personnel within the healthcare systems and both play critical roles in the education of patients and adequately applying proper interventional approaches to smokers from the general population. Primary care physicians specifically play essential roles in this process and are considered the first line that can help patients decide regarding when to stop smoking and how to be keen on it. Accordingly, education of the HCWs is an essential part of achieving better interventions and reducing the frequency of smoking. Therefore, launching educational campaigns about the importance of smoking prevention among HCWs is essential to enhance the outcomes. Moreover, it can be suggested that reducing the rates of smoking among HCWs can be done by putting more strength in the guidelines regarding smoking in the public and healthcare settings.[23,24] Besides, efforts should be exerted to further expand the current approaches that aim to control smoking frequencies among HCWs based on the recent evidence-based research information to create smoke-free environments, where social acceptance of smoking is generally decreased. Moreover, it was previously suggested that conducting adequate surveillance programs would add much to the campaigns to adequately apply the control measures and try to enhance the associated guidelines by obtaining evidence from such programs and relevant research data. More informed and well-educated HCWs have a reduced risk of smoking and better smoking cessation practices.[25] On the other hand, less educated HCWs are not well aware of the harmful practices of reduced smoking cessation, in addition to not being able to conduct proper advice to their patients about the importance of smoking cessation.

Different studies have previously investigated the efficacy of certain interventional approaches that aim to reduce smoking habits among HCWs. Some of these approaches include policies that restrict smoking at public workplaces, the administration of Bupropion sustained-release (SR), supportive interviews, transdermal nicotine patches, and internet assisting programs. In an investigation by Bloor et al the authors reported that making policies to limit smoking is effective in reducing smoking exposure and can help build a smoking-free environment.[26] However, such approaches are not

significantly effective in reducing the frequencies and prevalence rates of smoking among HCWs. The authors reported that only 34.3% (11/32) of the included nurses in this study reported that they planned to stop smoking secondary to such policies. Moreover, most of the included smoking nurses (71.8%) reported that putting such restriction policies was not an adequate motivation for these nurses to quit smoking. In the same context, 82.5% reported that HCWs can freely smoke at the workplace. On the other hand, 82.6% of the included population also believed that non-smokers should not be in direct contact with other smoking personnel during work. The same findings were also reported in another investigation by Etter et al after investigating the effectiveness of partial ban strategies before applying total restriction of smoking.[27] They reported that exposure to tobacco smoking was significantly reduced after applying partial restriction approaches, and was furtherly reduced following the total ban. On the other hand, it has been estimated that more than half of the included HCWs (59.6%) reported that partial restriction was better because the total ban was too restricting. Besides, they also indicated that total ban measures were not associated with a significant reduction in the prevalence rates of smoking among the included HCWs. On the other hand, Kannegaard et al reported better findings in their observational investigation.[28] They indicated that the prevalence rate of smoking among HCWs significantly decreased from 33 to 26%, two years after informing the participants about a novel hospital-based strategy to reduce smoking frequency. However, it should be noted that among the population that did not quit smoking, they reported that they were unlikely to accept such policies and were less likely to quit smoking. This indicates that further approaches are indicated to increase awareness among HCWs about the importance of sticking to the announced policies in their workplaces.

The high prevalence of smokers is a real challenge itself when planning to apply adequate interventions among this population. Besides, it is also challenging to reduce the associated costs of smoking cessation and the effect on healthcare services.[29-31] If the approaches of interventions against smoking are rigorous, it has been reported that they are usually significantly efficacious.[32] However, applying these interventions in a population where smoking is highly prevalent is not enough to control smoking among them.[33] Moreover, evidence also suggests that during academic studies within healthcare settings, the prevalence of smoking is increasing. Accordingly, policies to prevent smoking for this sector should be more specific than the ones applied to other sectors because of the aforementioned factors, in addition to the harmful outcomes that might be associated with the patient's health. In a previous study, Chiatti et al suggested that the type of occupation should be considered when planning an interventional campaign to reduce smoking rates.[34] Population characteristics, working conditions, and smoking habits should be initially evaluated and assessed to apply a proper interventional plan. In another investigation by Eriksen et al, the frequency of smoking cessation decreased when the working hours increased for smoking HCWs, unlike what has been previously reported that occupational stress is significantly associated with smoking.[35] However, this can be explained by the fact that increased working hours might reduce the free time that is usually associated with the practice of bad habits, including smoking. Besides, it has been reported that HCWs that are <30 years old, smoke <10 cigarettes/day, and are married, and have preschool children usually tend to stop smoking. Furtherly, HCWs do not usually tolerate banning policies of smoking, although they are more likely to support such policies in the public and within hospitals also.[26-29] As demonstrated by previous investigations, policies against smoking as interventions for HCWs are not usually associated with favorable outcomes. Therefore, these should not be considered as appropriate interventional approaches and other measures should be considered.[26-29] Although the investigation by Kannegaard et al indicated favorable findings that can support this strategy, the authors reported that it was not a true one, and participants were only told that the hospital is "about to" conduct this strategy.[28]

The effectiveness of pharmacological-based approaches was also investigated by previous investigations. A previous randomized controlled trial previously indicated that the application of transdermal nicotine patches was associated with a significant improvement in smoking cessation among the included HCWs as compared to the placebo group. However, they reported that the outcomes were not significantly maintained over the years. Therefore, the long-term effects of these interventions have been questioned.[36] Another trial by Dalsgareth et al also reported that the administration of bupropion SR was also effective in reducing the prevalence rates of smoking among HCWs more significantly than the placebo group.[37] However, recurrence rates were also observed to be high among these patients indicating that the modality is of minimal efficacy on a long-term basis. These results were also indicated in a previous study by Zellweger et al.[38] Therefore, these modalities can be used to initiate smoking cessation. However, further long-term interventions should be used. In this context, previous studies demonstrated that supportive interviews and internet-based assistance programs can aid the long-term outcomes of smoking cessation among HCWs. In a comparative investigation by Rowe and Clark, the authors reported that supportive interviews were an efficacious interventional approach in reducing the frequency of smoking among nurses as compared to the control group.[39] Moreover, Sarna et al reported that internet-based assistance programs were efficacious in reducing the rates of smoking among the included nurses.[40] They reported that such strategies are cost-effective, provide participants with appropriate education and information support based on evidence-based approaches, and also provide participants with person-to-person counseling activities. Therefore, these approaches can be considered

ideal for applying adequate interventions against smoking habits among HCWs. However, further evidence for proper validation is still needed by additional relevant investigations.

CONCLUSION

Adopting restricting policies against smoking has been reported to be of limited efficacy in reducing the frequency of smoking. Therefore, other pharmacological therapies have been proposed. However, the duration of the effectiveness of these modalities does not allow for favorable long-term outcomes. Accordingly, psychological interventions, web-based campaigns, and person-to-person interviews can be the most appropriate modalities to achieve better outcomes. Further investigations are still needed for further validation of the most optimal and suitable intervention.

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