STRATEGIES FOR DISEASE PREVENTION, HEALTH PROMOTION, AND LIFESTYLE INTERVENTIONS IN FAMILY PRACTICE

Mohammad Salah Baothman[1]*, Ahmed Saleh Aljafen[2], Sarah Mohammed Alnassar[3], Ahmed Mohammed Althobaiti[4], Saleh Mohammed Alqahtani[5], Ali Abdallah Alshehri[6], Turki Mohammed AlQarni[7], Hussain Fuad Alsaffar[8], Suad Ahmed Jumah[9], Nawaf Hussein Alhabshi[10], Samar Abed Alharbi[11], Marwah Yakoop Abdullah[12]

Abstract

Human life expectancy has increased globally in recent times, yet preventable diseases and mortality continue to be major concerns. Preventive healthcare practices have become more important in a multitude of healthcare fields to alleviate these challenges. Its objectives are to uphold and enhance health, lower risk factors, identify diseases early and minimize repercussions. Health systems can provide primary healthcare, which includes disease prevention, treatment, palliative care, and other services, to meet an individual's health needs. Additionally, this strategy ensures that patients' needs and preferences are supported and that healthcare services are centred around them. If the healthcare system is to be effective, health promotion measures must be incorporated into regular treatment. Health promotion is an essential component of regular family healthcare practice. Health promotion aims to arm people with the knowledge they need to enhance and better manage their health. Family physicians are in the best position to promote and educate about health since they have direct access to the community. Family physicians are increasingly compelled to employ a specialty-centric strategy rather than one that is system-specific or general due to evolving real-world conditions. Various strategies are employed in family practice for disease prevention through health promotion and lifestyle interventions. Moreover, family physicians have a unique opportunity to practice lifestyle medicine and spearhead initiatives aimed at lowering the burden of chronic diseases. Through this review, we aim to elaborately analyze the distinct strategies employed in family practice for the prevention of diseases through health promotion and lifestyle interventions in light of existing literature.

Keywords: health, promotion, disease, prevention, family practice

[1]*King Fahad General Hospital, Jeddah, Saudi Arabia
[2]Buraidah Central Hospital, Buraidah, Saudi Arabia
[3]Primary Health Care, King Abdullah Medical Complex, Jeddah, Saudi Arabia
[4]Health Control Center, Taif International Airport, Taif, Saudi Arabia
[5]Primary Health Care, King Abdulaziz Hospital, Jeddah, Saudi Arabia
[6]Primary Health Care, King Fahad General Hospital, Jeddah, Saudi Arabia
[7]Department of Family Medicine, King Abdulaziz Hospital, Jeddah, Saudi Arabia
[8]Safwa and Rastanora Primary Healthcare Center, Ministry of Health, Qatif, Saudi Arabia
[9]Primary Health Care, Yanbu General Hospital, Yanbu, Saudi Arabia
[10]Department of Family Medicine, King Saud Medical City, Riyadh, Saudi Arabia
[11]Department of Internal Medicine, Al Thager Hospital, Jeddah, Saudi Arabia
[12]Department of Family Medicine, East Jeddah Hospital, Jeddah, Saudi Arabia

***Corresponding Author:** Mohammad Salah Baothman
*King Fahad General Hospital, Jeddah, Saudi Arabia, msbdhn@gmail.com

DOI: 10.53555/ecb/2023.12.5.526

Introduction:

In spite of the fact that life expectancy has increased dramatically worldwide in recent times, millions of preventable cases of disease and fatalities are reported annually. Chronic and acute diseases can both result in mortality and decrease a person's life expectancy. All of these diseases and medical conditions are preventable, or at the very least, their causes and effects are. The primary preventable causes of death include chronic non-communicable diseases such as cancer, diabetes, cardiovascular disease, cerebrovascular disease, chronic respiratory disorders, and unintentional accidents. The main factors influencing these diseases are individual lifestyles and activities, and preventative measures play a major role in mitigating their detrimental impacts (1).

Preventive care is linked to lower rates of morbidity and death, particularly in the domains of cancer, chronic diseases, infectious diseases, mental health, drug abuse, oral health, and vision. Reducing the incidence of chronic diseases and healthcare costs can be achieved by shifting from treating diseases to preventing them (2). Beginning in the 1990s, disease prevention and health promotion took precedence over disease diagnosis and treatment in medicine. Health promotion refers to actions that support the enhancement of one's state of health and include healthy eating, weight management, exercise, smoking cessation, limitation in alcohol consumption, restful sleep patterns, and minimizing stress. Within this framework, there is currently widespread recognition regarding the significance and efficacy of routine health examinations for early disease detection or prevention (3). Family physicians contribute significantly to the prevention of disease owing to their position in the healthcare system and their continued interaction and influence within community settings. To achieve superior outcomes, it is crucial for physicians to incorporate preventive practices into their regular practice (4).

Since individuals consider family physicians as the most reliable source of health information, health promotion counselling provided by clinicians is more successful than counselling performed by specialists or health coaches. Physicians are important health counsellors and role models who regularly interact with patients during potentially impressionable times. Most people believe that their physician is the best source of information when it comes to making healthy lifestyle choices, and they are more inclined to follow their physician's advice (5). Globally, family medicine is a vital specialization in primary healthcare. Family physicians are increasingly compelled to employ a specialty-centric strategy rather than one that is system-specific or general due to evolving real-world conditions. Family physicians can become a point of reference. Family physicians now have more extensive training in people, medicine, and social issues than in earlier times (6). To improve the physical and mental health of individuals as well as the well-being of society from a One Health perspective, family medicine represents the most inclusive, equitable, and effective approach, targeting an audience of patients distinct depending on macro-areas of clinical and healthcare requirements and represented in the various stages of life; childhood, adulthood, and old age (7).

Family physicians have a unique opportunity to practice lifestyle medicine and spearhead initiatives aimed at lowering the burden of chronic diseases. They are also specially trained to care for individuals and families for the entirety of their lives. As they mature, these enduring relationships with their patients and their families might support them in adopting and upholding healthy lives. Patient-centred, whole-person care is already valued by family physicians. The values of family medicine are in line with the tenets of lifestyle medicine, and family physicians who are proficient in using lifestyle modification as the first-line treatment not only broaden their scope of practice but also satisfy the needs of their patients. Although lifestyle medicine's concepts can be applied to any area of medicine, family medicine and primary care are good fits for it (8).

Family medicine is based on the principles of disease prevention and health promotion and strives to enhance the overall well-being of individuals and communities. Family physicians play a crucial role in helping patients adopt healthier lifestyles and reduce their risk of various diseases. Therefore, through this review, we aim to elaborately analyze the distinct strategies employed in family practice for the prevention of diseases through health promotion and lifestyle interventions in light of existing literature. Moreover, the findings will not only further signify the critical role of family physicians in this regard but will also guide clinical practice with further evidence.

Methodology

A comprehensive literature search in the PubMed, Web of Science, Science Direct, and Cochrane databases utilizing the medical topic headings (MeSH) and relevant keywords such as ‘strategies’, ‘guidelines’, ‘recommendations’, ‘programs’, ‘disease’, ‘prevention’, ‘management’, ‘screening’ ‘health promotion’, ‘awareness’, ‘lifestyle intervention’, ‘modification’ and a combination of all available related terms was performed on

January 22, 2024. All relevant peer-reviewed articles involving human subjects and those available in the English language were included. Using the reference lists of the previously mentioned studies as a starting point, a manual search for publications was conducted through Google Scholar to avoid missing any potential studies. There were no limitations on date, publication type, or participant age.

Discussion

Non-communicable disease mortality and prevalence are on the rise globally, making it imperative to take a proactive approach to preventing non-communicable diseases, including diabetes and heart disease. The ability and viability of future healthcare systems may be in jeopardy if proactive measures to avoid non-communicable diseases aren't taken, such as focused population promotion of healthier lifestyles, especially in light of aging populations and declining labour forces (9). In addition, 1 in 8 people worldwide suffers from mental disease, which is associated with markedly higher rates of preventable mortality and morbidity. This results in a 30-year reduction in life expectancy relative to those who do not suffer from it (1).

To compel individuals to follow advice on behaviour meant for preventing disease, physicians initially started encouraging patient participation and self-help. This practice has been supported since the 1950s by Janz and Becker's health belief model. The late 1970s witnessed the introduction of the social learning theory, which merely introduced new methods of coercion. In practical terms, these strategies minimize the role of individual effort and control, treating health as the absence of disease. These approaches, while sometimes rigid and patronizing, have often failed. Such dictatorial approaches were no longer acceptable in social and cultural settings by 1980. Therefore, advocates of health promotion started searching for more practical approaches (10).

Modern health promotion strategies endeavour to provide patients with the tools they need to make their own decisions about what constitutes healthy behaviour. These tactics are more in line with modern concepts of well-being and health promotion. Some strategies support autonomy and self-management. However, the most current approach to decision theory overlooks the social and environmental factors that are out of an individual's control. The concept of shared health as a whole is disregarded. The decision-theory approach rejects the reality that behaviour is profoundly impacted by expectations, needs, and priorities that are established in social and cultural contexts. Moreover, it ignores the fact that social and economic factors influence health resources and limitations (10). Various strategies employed in family practice for health promotion and disease prevention are briefly discussed below.

I.Health promotion

A holistic approach to health promotion encourages health interventions to enhance health and wellbeing, such as appropriate diet and exercise, disease prevention, and the detection as well as preservation of the health of those with chronic medical conditions. The universal literature highlights the significance of physicians in improving the general public's health by effectively comprehending and implementing health promotion practices. A clinician's primary responsibility in health promotion is to screen patients for diseases and risk factors and to provide early treatment, guidance, counselling, and referrals. By taking up positions at the organizational, community, and governmental levels, family physicians can increase the scope of their influence (11). The process of health promotion described by McManus is illustrated in **Figure 1** (12).

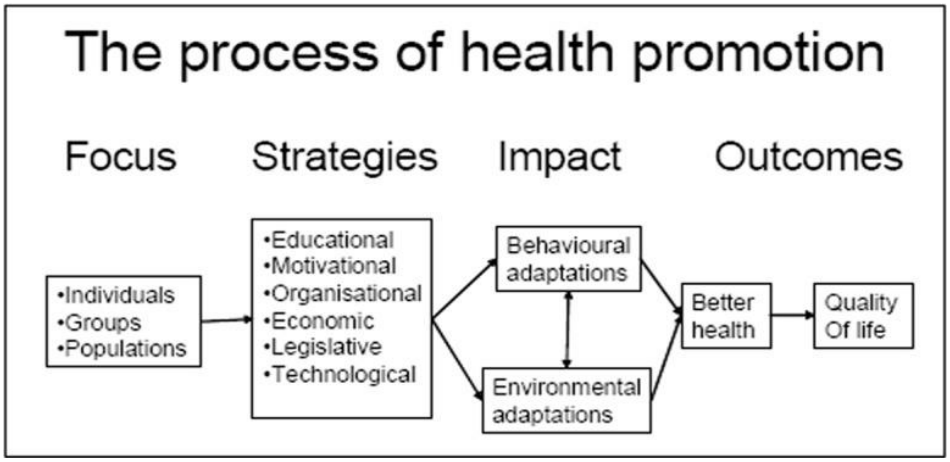

Figure 1: The process of health promotion

The conceptual framework for enhancing patient education involves the information-motivation behavioural skills (IMB) model and the health belief model (HBM). Fisher & Fisher's IMB model was developed to explain factors influencing how individuals engage in health-related behaviours. The IMB model is predicated on the premise that knowledge about certain methods for enhancing or preventing a health condition, in addition to the incentive to act, would function through behavioural skills that are essential for influencing a health habit. When used in a clinical context, the information construct can comprise a patient's understanding of the risk factors, etiology, natural history, and particular behavioural tactics the patient might use to attain the best possible health results for his or her illness. Affective shifts that result in positive attitudes and beliefs toward the knowledge acquired and the intended health promotion-disease prevention related behaviour are a component of motivation (13).

While in healthcare, HBM is commonly employed to elucidate belief systems and perceptions linked to health behaviours, specifically those concerning chronic diseases. The foundation of HBM is the idea that six primary constructs are associated with an individual's perceptions of the risk factors that direct activities linked to health. Perceived vulnerability, perceived severity, perceived advantages, perceived obstacles, cues to action, and self-efficacy are some of these constructs. Every one of these key HBM ideas provides physicians with possible sites of action to assist patients in lowering risk and enhancing healthy habits (13). The authors further suggested a model of collaborative patient-physician care modified for disease prevention and health promotion with additional dynamic components **(Figure 2)** (13).

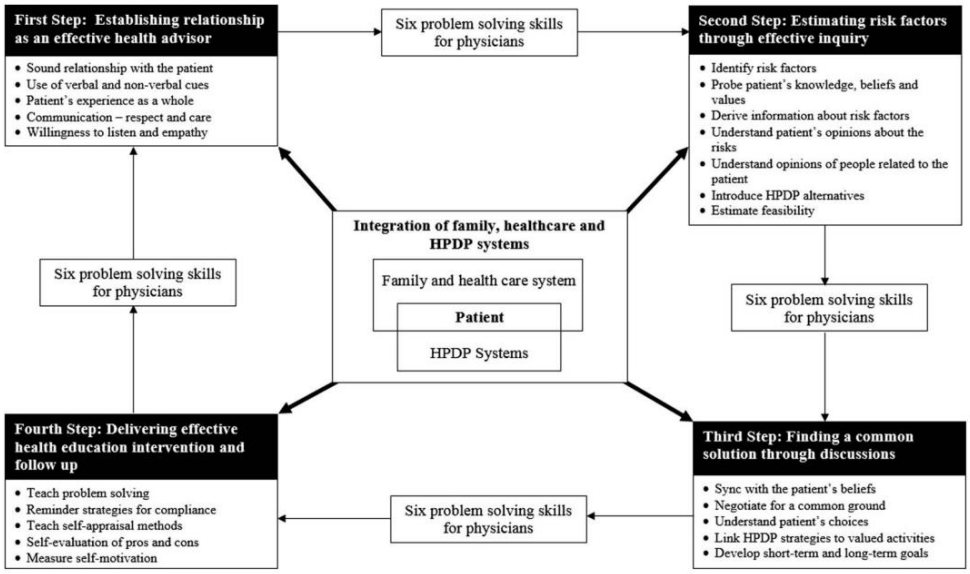

Figure 2: Model of collaborative patient-physician care modified for disease prevention and health promotion with additional dynamic components

Moreover, Barnes et al. described that since families are both a resource and a priority group in need of preventative and curative treatments throughout their lives, preliminary research suggests that family-oriented health promotion and disease prevention are promising strategies. However, despite an increasing number of effective initiatives, family health systems are typically neglected in health promotion activities. Strong evidence on family health has been difficult to gather due to this underutilization in practice and policy (14). While Sim and Khong narrated that preventive care is a regular aspect of general practice, despite time constraints and other obstacles to its execution, such as conflicting priorities. Long-term care for every individual necessitates blurring the lines between prevention and treatment because these are two interrelated concepts. From a practical standpoint, a practice requires a motivator to push for increased preventative efforts as well as tactics that work with the unique setup of the practice. For a variety of health promotion initiatives, such as opportunistic education, swift treatments for patients with disease risk factors, and targeted interventions for a particular patient, introducing short interventions and utilizing the practice team is a good place to start (15).

Effective health promotion is one of the key requirements for managing chronic diseases and preventing epidemics. Promoting health is a shared responsibility of individuals, community organizations, governments, healthcare providers, and health professionals. Physicians are essential in

integrating health promotion and disease prevention at all levels, including health improvement, risk reduction, early disease identification, and reduction of complications, even though they frequently focus on diagnosing and treating diseases after they have already occurred. They can do their role more successfully if they provide counselling services where they are required to be informed of relevant guidelines and ensure that their suggestions are supported by the best available evidence (16).

II.Disease prevention and lifestyle modifications

Disease prevention is primarily classified into five distinct types: primordial, primary, secondary, tertiary, and quaternary prevention. Primordial prevention aims to avert the development and spread of risk factors by addressing the underlying causes and social determinants of disease. By putting measures like immunizations and health education into place, primary prevention seeks to halt diseases before they emerge. The intent of secondary prevention is to hinder diseases from progressing by detecting problems early and taking action. In order to manage the effects of diseases, tertiary prevention offers rehabilitation and health restoration. Subsequently, the purpose of quaternary prevention is to shield patients from harm resulting from over-medicalization and unnecessary medical procedures (1).

In primary care, the approach of chronic disease prevention is to identify high-risk individuals to whom personalized recommendations for disease prevention, such as lifestyle changes, screenings, or preventive treatment, can be offered. The risk of chronic diseases is currently assessed using a variety of parameters, such as biomarkers, physiological measures, family history, lifestyle, and demographics. In the United Kingdom, general practitioners are accustomed to employing computerized risk calculators, including the QRISK2 algorithm for primary cardiovascular disease prevention, to provide a personal risk score. Due to the increased risk of several cancers, type 2 diabetes, and ischemic heart disease in the presence of a family history, which rises with the number of affected family members, the family medical history is currently considered a significant factor in risk assessment for many diseases. Family history is still the most clinically useful genetic risk measure available to family physicians. It can be used as a proxy for environmental and lifestyle factors in addition to genetic susceptibility (17).

Similarly, Claassen et al. narrated that there have been suggestions that one strategy for preventing prevalent chronic diseases could be the systematic collection and evaluation of family history. This information could be used to identify people who are more likely to contract a disease, as well as to promote risk awareness and encourage risk-lowering behaviour. There is some evidence that cancer screening can influence behaviour after a family history risk assessment (18). Clinical guidelines support general practice's efforts to prevent by offering evidence-based recommendations for clinical management and the early identification and management of biomedical risk factors, including obesity, high blood pressure, high blood cholesterol, and impaired glucose tolerance (19).

Effective strategies for supporting the execution of guidelines in general practice have been identified, and these include external facilitation, audit and feedback, clinician prompts and decision aids, small group education for providers, and audit and feedback (20). In order to build internal capacity and enable the engagement in activities that provide support over time to achieve incremental and transformative improvement goals, practice facilitation is a supportive service that uses a variety of organizational development, project management, quality improvement, and practice improvement approaches (19). Practice facilitation, in which qualified external facilitators who are not directly involved in patient care are utilized to support practices in implementing changes that would improve the quality of care they offer, is a potential strategy to overcome organizational or systemic barriers to evidence translation (21-23).

Practice facilitation has the benefit of enabling programs to be customized to specific situations in practice and supporting practice redesign, which leads to more internal capability and sustainable work practices. Additionally, there is some evidence that practice facilitation raises the bar for preventative care and improves the quality of care (23-25). Moreover, to address lifestyle-associated disorders and bring about behavioural changes toward leading a healthy life that includes regular physical activity, a balanced nutritional diet, and stress-free living, lifestyle medicine intervention has emerged as a more recent field to supplement conventional medical management therapy. Thus, the goal of lifestyle medicine is to reduce the risks of acute and chronic diseases associated with an unhealthy lifestyle by implementing practical, evidence-based behavioural modifications. Hence, lifestyle interventions should be part of medical management; additionally, the patient should receive personalized feedback and briefings to aid in faster recovery from their diseases (26).

Petrides et al. described that physicians can help patients improve their overall quality of life by addressing issues related to substance abuse,

obesity, mental health, and tobacco abuse through regular screenings and ongoing guidance in the clinic. This will enable patients to make lifestyle changes and access necessary therapies. Additionally, physicians may encourage patients to make progress in their treatment by taking the time to comprehend the usual obstacles they put up for themselves while adjusting to lifestyle adjustments and by giving them access to resources in the community (27). Tunay et al. demonstrated in the findings of a pilot trial that significant weight loss and improvements in quality of life were attained. For the management of obesity, family physician-led group visits hold promise as an alternative to primary care consultations; however, additional evaluation is necessary due to the high dropout rate and varied outcomes (28).

Several studies have demonstrated the beneficial impact physicians can have on their patients' lifestyles. When physicians discuss weight with obese patients, the patients are more likely to perceive themselves as overweight and make an effort to reduce their weight. It is observed that when physicians discuss weight reduction with their patients, the likelihood that they will try to reduce weight improves when they employ motivational interviewing techniques and empathy. Many different verbal and nonverbal communication styles, including empathy, humour, clarity, health education, and more, are linked to favourable health outcomes (29). Our review provides an in-depth analysis of the diverse strategies utilized in family practice, from historical contexts to modern times, and additionally highlights the critical role of family physicians in this regard. However, our literature search also signifies the dearth of literature in this aspect, which underscores the need for further research, especially targeting the advantages and disadvantages of the utilization of these strategies in clinical settings of family practice. Furthermore, in this paper, we could not assess the implementation of these strategies and the challenges associated with them since it was beyond the scope of this paper, although we aim to analyze them in our future research studies.

Conclusion

Integrating disease prevention and health promotion strategies into routine clinical care is necessary to establish a successful healthcare system that guarantees favourable health outcomes, efficiency, and effectiveness. As a person's initial point of contact with the healthcare system, family medicine practices play a crucial role in this domain and are noted for their continuity, comprehensiveness, and coordination. Moreover, through effective implementation of various strategies of health promotion and disease prevention, morbidity and mortality rates can be significantly decreased, leading to more individuals having an optimal quality of life and a reduced global burden of diseases.

References

1. AbdulRaheem Y. Unveiling the Significance and Challenges of Integrating Prevention Levels in Healthcare Practice. Journal of primary care & community health. 2023;14:21501319231186500.
2. Fowler T, Garr D, Mager NDP, Stanley J. Enhancing primary care and preventive services through Interprofessional practice and education. Israel journal of health policy research. 2020;9(1):12.
3. Seong HY, Park EW, Cheong YS, Choi EY, Kim KS, Seo SW. Health-promotion and disease-prevention behaviors of primary-care practitioners. Korean journal of family medicine. 2014;35(1):19-27.
4. Marijanović I, Kraljević M, Bevanda Glibo D, Buhovac T, Černi Obrdalj E. The Role of Family Physicians in the Prevention and Early Detection of Cancer in Herzegovina-Neretva and West-Herzegovina Canton. Psychiatria Danubina. 2021;33(Suppl 10):89-96.
5. Oberg EB, Frank E. Physicians' health practices strongly influence patient health practices. The journal of the Royal College of Physicians of Edinburgh. 2009;39(4):290-1.
6. Ohta R, Sano C. Implementation of the Principles of Family Medicine in Modern Family Medicine Education Needing System-Specific Approaches. Cureus. 2022;14(11):e31177.
7. Arghittu A, Castiglia P, Dettori M. Family Medicine and Primary Healthcare: The Past, Present and Future. Healthcare (Basel, Switzerland). 2023;11(15).
8. Bharati R, Kovach KA, Bonnet JP, Sayess P, Polk E, Harvey K, et al. Incorporating Lifestyle Medicine Into Primary Care Practice: Perceptions and Practices of Family Physicians. American journal of lifestyle medicine. 2023;17(5):704-16.
9. Ho YL, Mahirah D, Ho CZ, Thumboo J. The role of the family in health promotion: a scoping review of models and mechanisms. Health Promot Int. 2022;37(6).
10. McWilliam C. Health promotion. Strategies for family physicians. Canadian family physician Medecin de famille canadien. 1993;39:1079-85.

11. Pati S, Chauhan AS, Mahapatra S, Sinha R, Pati S. Practicing health promotion in primary care - a reflective enquiry. Journal of preventive medicine and hygiene. 2017;58(4):E288-e93.
12. McManus A. Health promotion innovation in primary health care. The Australasian medical journal. 2013;6(1):15-8.
13. Rubens M, Ramamoorthy V, Attonito J, Saxena A, Nair RR, Shehadeh N. Health promotion and disease prevention strategies for today's physicians. The American journal of the medical sciences. 2015;349(1):73-9.
14. Barnes MD, Hanson CL, Novilla LB, Magnusson BM, Crandall AC, Bradford G. Family-Centered Health Promotion: Perspectives for Engaging Families and Achieving Better Health Outcomes. Inquiry : a journal of medical care organization, provision and financing. 2020;57:46958020923537.
15. Sim MG, Khong E. Prevention--building on routine clinical practice. Australian family physician. 2006;35(1-2):12-5.
16. Abdullah M, Alshehri S, Mahnashi H, Alshahrani S, Alkhaldi S, Alshammari S, et al. Role of primary care physician in health promotion and education. International Journal Of Community Medicine And Public Health. 2022;9:4705.
17. Walter FM, Emery J, Burton H. Chronic disease prevention in primary care: how and when will genomics impact? The British journal of general practice : the journal of the Royal College of General Practitioners. 2014;64(624):331-2.
18. Claassen L, Henneman L, Janssens AC, Wijdenes-Pijl M, Qureshi N, Walter FM, et al. Using family history information to promote healthy lifestyles and prevent diseases; a discussion of the evidence. BMC public health. 2010;10:248.
19. Harris MF, Parker SM, Litt J, van Driel M, Russell G, Mazza D, et al. An Australian general practice based strategy to improve chronic disease prevention, and its impact on patient reported outcomes: evaluation of the preventive evidence into practice cluster randomised controlled trial. BMC health services research. 2017;17(1):637.
20. Christl B, Lloyd J, Krastev Y, Litt J, Harris MF. Preventing vascular disease - effective strategies for implementing guidelines in general practice. Australian family physician. 2011;40(10):825-8.
21. Baskerville NB, Liddy C, Hogg W. Systematic review and meta-analysis of practice facilitation within primary care settings. Annals of family medicine. 2012;10(1):63-74.
22. Grunfeld E, Manca D, Moineddin R, Thorpe KE, Hoch JS, Campbell-Scherer D, et al. Improving chronic disease prevention and screening in primary care: results of the BETTER pragmatic cluster randomized controlled trial. BMC family practice. 2013;14:175.
23. Parchman ML, Noel PH, Culler SD, Lanham HJ, Leykum LK, Romero RL, et al. A randomized trial of practice facilitation to improve the delivery of chronic illness care in primary care: initial and sustained effects. Implementation science : IS. 2013;8:93.
24. Culler SD, Parchman ML, Lozano-Romero R, Noel PH, Lanham HJ, Leykum LK, et al. Cost estimates for operating a primary care practice facilitation program. Annals of family medicine. 2013;11(3):207-11.
25. Dickinson WP, Dickinson LM, Nutting PA, Emsermann CB, Tutt B, Crabtree BF, et al. Practice facilitation to improve diabetes care in primary care: a report from the EPIC randomized clinical trial. Annals of family medicine. 2014;12(1):8-16.
26. John NA, John J, Tarnikanti M, Kalpana M, Kamble P, Singhal A, et al. Implications of lifestyle medicine in medical practice. J Family Med Prim Care. 2023;12(2):208-12.
27. Petrides J, Collins P, Kowalski A, Sepede J, Vermeulen M. Lifestyle Changes for Disease Prevention. Primary care. 2019;46(1):1-12.
28. Tunay M, Kurdak H, Özcan S, Özdemir Ç, Özer ZY. Family Physician-Led Group Visits for Lifestyle Modification in Women with Weight Problems: A Pilot Intervention and Follow-Up Study. Obes Facts. 2018;11(1):1-14.
29. Dorn C, Phillips S, Nicol S, Russell H, Guenther E. Motivations Behind Lifestyle Changes. American journal of lifestyle medicine. 2023;17(3):443-7.