Do as I say, not as I do

Lifestyles and counseling practices of physician faculty at the University of Alberta

Douglas Klein MD CCFP Carmen Guenther MD Shelley Ross PhD

Abstract

Objective To describe the dietary, exercise, smoking, and alcohol use habits among physician faculty to determine if physician lifestyle behaviour is related to attitudes about and practices of patient lifestyle counseling.

Design An electronic cross-sectional survey distributed by e-mail.

Setting The Faculty of Medicine and Dentistry at the University of Alberta in Edmonton.

Participants Physician faculty.

Main outcome measures Physicians' dietary, exercise, smoking, and alcohol use habits and the correlation between physician lifestyle behaviour and counseling practices.

Results A total of 176 responses were received, for a response rate of 24.0%. Of the physician faculty respondents, 63.3% believed they were role models for a healthy lifestyle. Smoking was rare among the respondents, while 86.2% reported alcohol consumption. Only 10.8% of respondents reported consuming the recommended daily servings of fruits and vegetables. Only 47.2% (83 of 176) reported doing vigorous physical activity on 3 or more days in the past week, while 33.0% (58 of 176) reported doing moderate physical activity on 3 or more days in the past week. Statistically significant links exist between poor lifestyle behaviour and low levels of counseling in medical practice. Physicians who viewed themselves as role models for healthy lifestyles reported that they consumed more fruit and vegetables, exercised more often, and felt comfortable counseling patients about healthy lifestyle habits.

Conclusion This study demonstrates that lifestyle habits among physician faculty do not routinely meet recommended guidelines, and that physicians might counsel patients less frequently on lifestyle guidelines that they themselves are not meeting.

EDITOR'S KEY POINTS

- Counseling patients on their lifestyle behaviour is an important component of preventive medicine. Despite evidence showing lifestyle interventions could substantially reduce health care costs and medical complications, implementation of these interventions into care has been low. Part of the barrier to achieving best practices related to lifestyle intervention counseling might be physicians' personal lifestyle behaviour.

- The results of this study suggest a relationship between the personal health practices of physicians and their patient counseling practices, in terms of both frequency and topics of counseling.

- A low level of fruit and vegetable consumption was correlated with a low level of moderate exercise ($P<.001$) and low levels of counseling for smoking ($P=.009$), alcohol use ($P=.001$), and diet ($P=.007$). A low level of exercise was significantly correlated with low levels of counseling for smoking ($P=.041$) and alcohol use ($P=.008$).

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Faites ce que je dis et non ce que je fais

Modes de vie et habitudes de counseling du corps professoral médical à l'Université de l'Alberta

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Résumé

Objectif Décrire les habitudes des membres du corps professoral médical en matière d'alimentation, d'exercice, de tabagisme et de consommation d'alcool pour déterminer si les comportements personnels des médecins sont reliés aux attitudes et aux pratiques en matière de counseling des patients sur leur mode de vie.

Conception Un sondage électronique transversal distribué par courriel.

Contexte La Faculté de médecine et de chirurgie dentaire de l'Université de l'Alberta à Edmonton.

Participants Le corps professoral médical.

Principaux paramètres à l'étude Les habitudes des médecins sur les plans de l'alimentation, de l'exercice, du tabagisme et de la consommation d'alcool, et la corrélation entre le mode de vie des médecins et leurs pratiques en matière de counseling.

Résultats Quelque 176 sondages complétés ont été reçus, constituant un taux de réponse de 24 %. Parmi les répondants du corps professoral médical, 63,3 % estimaient être un modèle à imiter en ce qui a trait au mode de vie sain. Le tabagisme était rare parmi les répondants, tandis que 86,2 % signalaient consommer de l'alcool. Seulement 10,8 % des répondants rapportaient consommer les portions quotidiennes de fruits et de légumes recommandées. Seulement 47,2 % (83 des 176) disaient avoir fait de l'activité physique vigoureuse 3 jours ou plus durant la semaine précédente. Des liens statistiquement significatifs existent entre un mode de vie peu sain et de faibles niveaux de counseling en pratique médicale. Les médecins qui estimaient être des modèles de rôle sur le plan du mode de vie sain signalaient consommer plus de fruits et de légumes, faisaient de l'exercice plus souvent et se sentaient à l'aise de conseiller leurs patients sur de saines habitudes de vie.

Conclusion Cette étude démontre que les habitudes de vie au sein du corps professoral médical ne se conforment pas systématiquement aux lignes directrices recommandées et que les médecins pourraient conseiller leurs patients moins fréquemment concernant des lignes directrices sur le mode de vie auxquelles ils ne se conforment pas eux-mêmes.

POINTS DE REPÈRE DU RÉDACTEUR

- Le counseling des patients à propos de leur mode de vie représente un élément important de la médecine préventive. En dépit des données probantes démontrant que les interventions entourant le mode de vie pourraient réduire considérablement les coûts des soins de santé et les complications médicales, la mise en œuvre de telles interventions dans les soins est faible. Les comportements personnels des médecins sur le plan du mode de vie feraient partie des obstacles à l'application des pratiques exemplaires à cet égard.

- Les résultats de cette étude font valoir l'existence d'un lien entre les habitudes personnelles des médecins sur le plan du mode de vie et leurs pratiques en matière de counseling, tant en ce qui a trait à la fréquence qu'aux sujets abordés.

- Une faible consommation de fruits et de légumes était corrélée à un faible niveau d'exercice modéré ($p < ,001$) et à de faibles niveaux de counseling au sujet du tabagisme ($p = ,009$), de la consommation d'alcool ($p = ,001$) et de l'alimentation ($p = ,007$). Un faible niveau d'exercice était significativement corrélé à de faibles niveaux de counseling sur le tabagisme ($p = ,041$) et la consommation d'alcool ($p = ,008$).

Cet article a fait l'objet d'une révision par des pairs.
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Factors related to modifiable behaviour that carry a large burden of disease in Canada include smoking, alcohol consumption, excess weight, suboptimal diet, and physical inactivity. Almost 80% of Canadians exhibit at least 1 of these risk factors.[1,2] These risk factors are associated with important chronic disease conditions, including chronic obstructive pulmonary disease, diabetes, and heart disease, which account for more than 30% of health care costs in Alberta.[1]

Smoking has been definitively linked to many serious medical conditions,[3,4] and in Canada the important medical illnesses associated with smoking are ischemic heart disease and lung cancer.[5] Smoking is associated with a high burden of disease, and it was estimated that Canadian health care expenditures on smoking-related conditions were in excess of $2.5 billion in 2002.[6]

Alcohol misuse is defined as consumption of alcohol above the level that is recommended.[7] Studies have demonstrated a link between 14 or more drinks per week for men or 9 or more drinks per week for women and an increased risk of overall mortality.[2] In Canada, *heavy drinking* is classified as the consumption of 5 or more drinks for men and 4 or more drinks for women on 1 occasion at least once a month during the past year.[8] Consumption of alcohol below these levels is considered an average, safe level of intake in Canada.[9] The important medical conditions associated with alcohol misuse in Canada are neuropsychiatric conditions, unintentional injuries, and cardiovascular disease.[3,10] The burden of disease related to alcohol misuse in Canada is high, and an estimated $2.29 billion was spent on alcohol-related medical conditions in 2002.[3]

Exercise has been proven to be beneficial in the prevention and treatment of various diseases including hypertension,[11] coronary artery disease, obesity, diabetes, cancer, depression, and anxiety.[12] The Canadian Society for Exercise Physiology provides guidelines on physical activity for Canadians, and the current recommendation is that adults get at least 150 minutes of moderate to vigorous aerobic exercise weekly, completed in intervals of at least 10 minutes, and strength or resistance training on at least 2 days per week.[13] Low physical activity levels are an important predictor of overweight status in Canada.[14] Additionally, sedentary behaviour, such as screen time, has been associated with a greater likelihood of being obese for Canadian adults.[15] Approximately one-quarter of adult Canadians are obese, 42% of men and 28% of women are overweight, and both of these rates are increasing.[16,17]

Similarly, diet is an important factor in the development of many types of cancer and cerebrovascular disease.[18-22] Most Canadians eat fewer than the recommended daily servings of fruits and vegetables[23] and low levels of fruit and vegetable consumption are important predictors of obesity in Canada.[14] Important complications of obesity include coronary artery disease, osteoarthritis, and type 2 diabetes mellitus.[17] In 2011, these complications combined with excess weight accounted for 5.6% of total health care expenditure in Alberta, or $1.67 billion in total.[24]

Such modifiable risk factors are important targets for prevention counseling, yet many physicians do not regularly counsel their patients on healthy lifestyle habits.[25-28] It has been shown that physicians who have healthy lifestyle habits are more likely to counsel their patients[26,29] and that patients are more motivated by physicians who disclose personal healthy lifestyle habits.[30]

Differences exist between physicians in clinical and in academic environments: physicians who work under service contracts, in academia, or in research units are less likely to counsel patients on lifestyle factors.[26] Unique challenges of faculty positions have been identified, including research-related stress and competing demands, which have been reported to interfere with work-family balance and quality of patient care.[31-34]

Few studies have specifically addressed the lifestyle habits of academic physicians. The purpose of this study was to describe the dietary, exercise, smoking, and alcohol use habits among our physician faculty to determine if their lifestyle behaviour is associated with their patient counseling practices on such behaviour.

METHODS

At the University of Alberta in Edmonton, a cross-sectional survey of the self-reported lifestyle habits of teaching faculty was conducted to investigate lifestyle behaviour including smoking status, eating habits, alcohol use, and physical activity based on previous work completed by O'Cathail and O'Callaghan[35] and Frank et al.[26] The questionnaire was created on the SurveyMonkey Web-based platform and took approximately 10 minutes to complete. The survey was composed of 37 questions that addressed topics such as lifestyle behaviour (ie, smoking, alcohol use, and physical exercise habits), food consumption habits, and physician, student, and resident attitudes toward lifestyle behaviour counseling. Results for the medical residents and students will be reported separately.

At the time of the survey, there were 732 teaching faculty within the Faculty of Medicine and Dentistry at the University of Alberta. Owing to the low participation rates that are characteristic of Web-based surveys, we decided to pursue distribution of our survey to the entire population of faculty physicians at the University of Alberta.

Subsequently, the survey was pilot-tested with 4 faculty members to ensure readability and ease of completion. Revisions were made to our survey based on responses from this pilot test.

Introductory cover letters were created inviting faculty members to participate in our study and advising them that participation was voluntary. Cover letters also outlined our background and objectives, the benefits and risks of participation, and our ethics approval process and status. These letters contained a link to access our survey and detailed that consent to participate was implied through survey completion. The cover letters were sent by e-mail to the administrative representatives of each department with a request for distribution to their departments as well as for a reply indicating whether they did so.

A follow-up letter was sent out 1 week after the initial mailing as a reminder to complete the questionnaire and to thank individuals who had already done so. A second follow-up letter was sent 2 weeks after the first follow-up letter. Our survey was closed 4 weeks after the second follow-up letter. Program directors were also sent repeated requests for distribution at the same time intervals as the above follow-up letters if no reply had been received.

No identifying information was collected. Upon completion of each survey, the results were electronically forwarded to the co-investigators. Data were downloaded into SPSS, version 21, to facilitate analysis. The data from the questionnaire were compiled and frequencies for each item were calculated. The correlation between physician lifestyle behaviour and counseling practices was calculated. The Health Research Ethics Board at the University of Alberta granted ethics approval for this project.

RESULTS

The response rate to our survey among physician faculty was 24.0% (176 of 732). **Table 1** presents the demographic characteristics of the faculty respondents. More male physicians responded to the survey (106 of 176; 60.2%), which is consistent with the sex distribution of the entire faculty population.

Table 2 presents the self-reported lifestyle behaviour of the physician faculty. With regard to individual lifestyle habits, most respondents were non-smokers (173 of 176; 98.3%). Alcohol consumption was reported by 150 of 174 respondents (86.2%), with only 53 of 174 (30.5%) reporting drinking regularly. Most respondents reported eating 5 or fewer daily servings of fruit and

Table 1. Demographic characteristics of physician faculty respondents

CHARACTERISTIC	n/N (%)
Male sex	106/176 (60.2)
Age, y	
• 30-39	46/174 (26.4)
• 40-49	51/174 (29.3)
• 50-59	55/174 (31.6)
• ≥ 60	22/174 (12.6)

Table 2. Smoking, alcohol use, dietary, and exercise habits among physician faculty at the University of Alberta in Edmonton

HABIT	n/N (%)
Smoking	
• Non-smoker	173/176 (98.3)
• Smoker	3/176 (1.7)
Alcohol consumption	
• Yes, regularly	53/174 (30.5)
• Yes, sometimes	97/174 (55.7)
• No, never	24/174 (13.8)
Frequency of alcohol consumption	
• Daily	19/129 (14.7)
• Weekly	79/129 (61.2)
• Rarely (< 1 per month)	31/129 (24.0)
No. of alcoholic drinks consumed per occasion	
• 1-2	130/150 (86.7)
• 3-4	18/150 (12.0)
• ≥ 5	2/150 (1.3)
No. of servings of fruit and vegetables per day	
• 0-3	80/176 (45.5)
• 4-5	77/176 (43.8)
• 6-10	19/176 (10.8)
No. of times eating out per week	
• 0-1	90/173 (52.0)
• 2-3	56/173 (32.4)
• ≥ 4	27/173 (15.6)
Satisfied with diet	134/175 (76.6)
Screen time per day	
• ≤ 29 min	16/175 (9.1)
• 30-59 min	49/175 (28.0)
• 1-2 h	35/175 (20.0)
• > 2 h	75/175 (42.9)
No. of days in the past week that vigorous physical activity was done	
• 0	41/176 (23.3)
• 1-2	52/176 (29.5)
• ≥ 3	83/176 (47.2)
No. of days in the past week that moderate physical activity was done	
• 0	40/176 (22.7)
• 1-2	78/176 (44.3)
• ≥ 3	58/176 (33.0)

vegetables (157 of 176; 89.2%), with 80 of 176 (45.5%) eating 3 or fewer servings daily. In addition, 27 of 173 (15.6%) of the physicians reported eating out 4 or more times per week. Despite this, most physicians (134 of 175; 76.6%) reported feeling satisfied with their diets. Regarding physical activity, 23.3% (41 of 176) reported doing no vigorous physical activity during the previous 7 days, while an additional 29.5% (52 of 176) reported doing vigorous physical activity on only 1 or 2 days. Similarly, regarding moderate physical activity, 40 of 176 (22.7%) reported doing none and 78 of 176 (44.3%) reported 1 to 2 days of moderate physical activity in the previous 7 days.

Despite these numbers, the physician faculty reported believing that they were role models for a healthy lifestyle (107 of 169; 63.3%). Viewing oneself as a role model for a healthy lifestyle correlated with eating more fruits and vegetables ($P<.001$) and exercising more often ($P<.001$). Feeling comfortable with lifestyle counseling also correlated with providing counseling on diet ($P=.034$) and exercising more frequently ($P=.002$).

Table 3 presents the results of the analysis of the counseling practices of the physician faculty respondents. Most physicians (147 of 174; 84.5%) felt comfortable counseling patients, while only about half of the respondents reported counseling patients regularly about lifestyle behaviour.

The results show several connections between physician personal lifestyle behaviour and the reported counseling of lifestyle behaviour in their patients. A low level of fruit and vegetable consumption was correlated with a low level of moderate exercise ($P<.001$) and low levels of counseling for smoking ($P=.009$), alcohol use ($P=.001$), and diet ($P=.007$). A low level of exercise was significantly correlated with low levels of counseling for smoking ($P=.041$) and alcohol use ($P=.008$), but not diet ($P=.062$) and exercise ($P=.094$) (**Table 4**).

In addition, a low level of fruit and vegetable consumption ($P=.006$) and a low level of moderate exercise ($P<.001$) also correlated with lower comfort with lifestyle counseling. Physicians who viewed themselves as role models for healthy lifestyles reported that they consumed more fruit and vegetables, exercised more often, and felt comfortable counseling patients about lifestyle.

Table 3. Self-reported counseling practices and characteristics among physician faculty

CHARACTERISTIC OR PRACTICE	n/N (%)
Role model for healthy lifestyle	107/169 (63.3)
Comfortable counseling patients	147/174 (84.5)
Regularly counsels patients regarding ...	
• Smoking	113/172 (65.7)
• Alcohol use	76/174 (43.7)
• Diet	97/174 (55.7)
• Exercise	100/173 (57.8)

DISCUSSION

Our response rate of 24.0% is consistent with similar online surveys.[36,37] Smoking among faculty physician respondents was rare and much lower than the overall smoking rate of 14.6% reported in Canadian adults.[38] Conversely, a large proportion (86.2%) of our respondents reported some form of alcohol consumption compared with 77% of the Canadian population.[39] Among the faculty respondents who reported drinking, 86.7% reported consuming only 1 to 2 drinks per occasion. Considering most physicians reported drinking daily or weekly (75.9%), the alcohol consumption of most physicians falls within guidelines for safe intake.

As physicians follow guidelines for safe alcohol intake, they are credible counselors for patients on avoiding alcohol misuse. However, our study reported lower rates of physician counseling on patient alcohol intake. This suggests the need for further physician education on alcohol counseling to ensure patients are being counseled on safe alcohol intake and avoiding patterns of misuse.

Most of our respondents fell short of the Canadian Society for Exercise Physiology targets for physical activity. Only 47.2% (83 of 176) reported doing 3 or more days of vigorous physical activity in the past 7 days, and only 33.0% (58 of 176) reported doing 3 or more days of moderate physical activity in the past 7 days, compared with 85% of Canadians in the general population.[40] Nearly half (42.9%) of the respondents reported more than 2 hours of screen time per day, and although this could have been related to work, the deleterious health effects remain, as screen time generally reflects sedentary behaviour.[15]

Table 4. Association between physician personal lifestyle behaviour and self-reported counseling practices: P *<.05 indicates a significant association.*

	ASSOCIATION WITH SELF-REPORTED COUNSELING PRACTICE, *P* VALUE			
PERSONAL LIFESTYLE BEHAVIOUR	LESS COUNSELING FOR SMOKING	LESS COUNSELING FOR ALCOHOL	LESS COUNSELING FOR DIET	LESS COUNSELING FOR EXERCISE
Low level of fruit and vegetable consumption	.009	.001	.007	.056
Low level of exercise	.041	.008	.062	.094

Canada's Food Guide is an important authority for physician-provided and patient-sought dietary guidelines. The current guidelines recommend daily consumption of 7 to 10 servings of fruits and vegetables. It has been found that 77% of Canadians eat fewer than 5 daily servings of fruits and vegetables,[23] and our population reported even higher rates (89.3%) of those who consume 5 or fewer servings per day. Fruit and vegetable consumption is an important marker in overall dietary health.[14]

Our data show that our physician faculty members are not meeting the exercise and dietary targets set out by guidelines that they are to be recommending to their patients. In particular, for nutrition and physical activity, the physician might believe that patients should "do as I say" rather than "do as I do." Our cohort of physicians had comparable lifestyles to those reported in previous studies examining lifestyles among Canadian physicians.[29,41,42]

These results suggest that physicians who do not engage in healthy lifestyles might also not be counseling patients to "do as I say." The results suggest a relationship between the personal health practices of physicians and their patient counseling practices, in terms of both frequency and topics of counseling. The survey found low rates of dietary and exercise counseling among physicians who reported personal deficiencies in diet and exercise. These results are consistent with a 2010 survey of Canadian physicians that found a strong relationship between personal and clinical prevention practices for exercise, fruit and vegetable consumption, body mass index, smoking, and drinking alcohol.[26] Additionally, similar American studies have demonstrated the relationship between the personal habits of physicians and their attitudes toward, and likelihood of, patient counseling.[26,29,43]

Academic physicians also hold the responsibility of mentoring and teaching the next generation of physicians. Similar to their effects on patient counseling, personal physician habits have the potential to influence physicians' capacity to mentor and counsel future physicians in establishing healthy lifestyle behaviour. However, further studies will be needed to confirm this relationship, as this information was not directly captured by this study.

Limitations

This study had several limitations. First, the design of an electronic survey distributed by e-mail yields a low response rate. Additionally, our survey was not distributed to all faculty owing to the administrative barrier of relying on program directors for distribution. Other limitations included lack of definition of serving size, specifically regarding servings of fruit and vegetables, which are addressed in current guidelines but might not be inherent knowledge to our respondents. Additionally, we did not question physicians regarding knowledge of guidelines or counseling practices specifically on screen time, which would have added clarity and is an important area for future research.

One area consistently mentioned by many of respondents in the open commentary section of our survey was the need to address lack of sleep. Sleep issues frequently come up in physicians' offices, are an important area for patient counseling, and are a neglected area in the lives of physicians. Sleep habits of physicians and patient counseling regarding sleep is a potential area for future study. Finally, while our study focused on the unique role of faculty physicians', a comparative analysis between academic and non-academic physicians would be important to clearly delineate the personal lifestyle challenges faced by physicians.

Conclusion

Counseling patients on their lifestyle behaviour is an important component of preventive medicine. In Canada, suboptimal lifestyle behaviour is contributing to more patients being overweight or obese and is forecasted to be an enormous financial burden for health systems, patients, and families.[44,45] Despite evidence showing lifestyle interventions could substantially reduce costs and complications of these medical conditions,[46-49] implementation of these interventions into care has been low.[50] Part of the barrier to achieving best practices related to lifestyle intervention counseling might be physicians' personal lifestyle behaviour.[26,29,30]

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Contributors
All authors contributed to the concept and design of the study; data gathering, analysis, and interpretation; and preparing the manuscript for submission.

Competing interests
None declared

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