

# PHYSICAL INACTIVITY AND COUNSELING PRACTICES AMONG MEDICAL DOCTORS: A REVIEW

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## ABSTRACT.

**Introduction:** Literature indicates that physical activity is a health practice that can prevent chronic diseases of lifestyle. It is recommended that medical practitioners, among them physicians, should hold the responsibility of counseling patients on physical activity. This review attempts to establish whether physical inactivity among physicians is a risk factor to counseling practices on physical activity.

**Methods:** Databases searched included Science direct, Pubmed, Eric, Health sources consumer edition, Health sources: nursing/academic edition, Sports discuss and Medline through January 2000 to February 2010. All studies testing if physical inactivity is a risk factor to counseling practices among physicians were included in the review. The "critical thinking tool for quasi experimental studies and the Joanna Briggs Institute Meta Analysis of Statistics Assessment and Review Instruments were used to evaluate quasi experimental and cross sectional studies respectively.

**Results:** Two quasi experimental studies and four cross-sectional studies met the inclusion criteria and were evaluated. There was strong evidence for an association between physical inactivity and counseling practices, indicating that physicians who exercised regularly were more likely to counsel patients on physical activity and vice versa. Levels of physical activity were seen to decrease as years of training progressed among resident physicians in one study while in another the levels were consistent. Lack of knowledge about details of physical activity prescriptions was also blamed for inadequate counseling.

**Discussion/ conclusion:** There is significant indication that inadequate counseling concerning physical activity by physicians may be related to their personal physical activity patterns. Measures around enhancing this health practice should be enhanced by all stakeholders including physicians and patients. Further reasons for failure to counsel and hindrances to participation on physical activity among medical doctors and other health professionals should be explored.

**Key words:** Physical activity, Physicians/Medical doctors, chronic diseases of lifestyle and counseling practices.

## INTRODUCTION

Chronic diseases of lifestyle are contributing to the highest level of mortality in the world today.

Currently, they account for 60% of all global deaths (Commonwealth, 2008) while four out of five deaths from CDL occur in the developing world (World Health Organization, 2005). These diseases which include cardiovascular conditions (mainly heart disease and stroke), some cancers, chronic respiratory conditions and type 2 diabetes are reaching epidemic proportions worldwide (Daar et

al., 2007) and are affecting people of all ages, nationalities and classes. During 2005, chronic diseases of lifestyle (CDL) accounted for over 35 million deaths worldwide and projections indicate a 17% rise in the next 10 years, with more than 80% such deaths occurring in low and middle income countries (Duperly et al., 2009).

Substantial evidence exists regarding the benefits of physical activity on cardiovascular disease (CVD) (Yung et al., 2008). The evidence is obtained

from different population groups where leisure time physical activity reduced the risk of coronary heart disease and cardiovascular mortality in both men and women. Physical inactivity and obesity/overweight are not only associated with a number of health related risk factors, but are considered to be independent risk factors for CVD, type 2 diabetes mellitus and hypertension (Yung et al., 2008). Furthermore, stimulation of creative thinking, increased energy, reduced stress, enhanced self-esteem, and quality of life are also by-products of regular physical activity (Kennedy & Meeuwisse, 2003).

Despite the overwhelming evidence that physical activity is beneficial to those with or without a health condition, only small proportions of most populations are active enough to benefit their cardiovascular health (Kennedy & Meeuwisse, 2003). This trend is not isolated. There is overwhelming evidence that the levels of physical activity in the majority of the populations globally do not meet the standard health benefiting level of physical activity. Sixty percent of the world's population is considered inactive (World Health Organization, 2010).

In order to increase the low proportion of adults who comply with current physical activity recommendations, it is recommended that physicians provide physical activity counseling to their patients (Frank, Tong, Lobelo, Carrera & Duperly, 2007). They are well positioned to provide physical activity counseling to their patients. They are a respected source of health-related information and can provide continuing preventive counseling feedback and follow-up; and it has been suggested that they may have ethical obligations to prescribe physical activity (Lobelo, Duperly & Frank, 2008).

Although the basis for infrequent counseling may be as a result of many factors, physician lifestyle habits are known to affect both the frequency and quality of physician counseling of patients about lifestyle change (Rogers et al., 2005). This review therefore attempts to ascertain whether physical inactivity among medical doctors is a risk factor to counseling practices.

## **METHODS**

The following databases were searched between January 2000 and February 2010; Science direct, Pubmed, Eric, Health sources consumer edition, Health sources: nursing/academic edition, Sports discuss, Google scholar and Medline was conducted. The key terms that were used to begin the search were "medical doctors, physical inactivity and counseling practices". A secondary search was done using the mesh terms which were "physicians in place of medical doctors", "lack of exercise in place of physical inactivity" and advice in place for counseling practices". In order to exhaust the search databases among those selected, those which made provision for related articles were also explored.

Studies were included only if the participants were practicing medical doctors/physicians and containing information regarding physical inactivity among them as a risk factor to counseling practices on physical activity. Furthermore articles had to be published in the English language and full text had to be available. The relevance of each study for the review was determined by evaluating the abstracts according to the PICO (Population Intervention Comparison and Outcome) level of evidence and availability of full text scoring method. All the articles attaining a score of six out of 10 and above were selected for methodological quality assessment.

Various standardized tools were used to assess the methodological quality of each article. Each article was assessed using a tool constructed to suit its specific study design. The quasi experimental studies that were selected were therefore assessed using the "critical thinking tool for quasi experimental studies" (Guyatt, Sackett & Cook, 1993). This tool rated the articles as being of high quality if above six questions of the 13 were answered 'yes' and being of low quality if less than six questions were answered 'yes'. The cross-sectional studies were assessed using the standardized critical appraisal instruments from the Joanna Briggs Institute Meta Analysis of Statistics Assessment and Review Instrument (JBI-MASARI) (Joanna Briggs Institute, 2008: 152). The tool was used to rate a study as being of low quality if it scored below three out of nine, moderate quality if it scored between four and five out of nine and of

good quality if it scored between six and nine out of nine points. Following this appraisal, two quasi studies and four cross-sectional studies qualified

for the review. A professional independent review for the same articles was conducted to minimize bias.

**Table 1 Summary of search results**

<b>Article title</b>	<b>Database source</b>	<b>Level of evidence</b>	<b>Methodological quality</b>
A Physician Fitness Program: Enhancing the Physician as an "Exercise" Role Model for Patients. Rogers et al., (2005).	Medline	Quasi experimental study	11/13
Physician's disclosure of healthy personal behaviors improves credibility and ability to motivate. Frank, Breyan and Elon. (2000).	Google scholar	Quasi experimental study	10/13
Physical activity levels & counseling practices of U.S medical students. Frank, Tong, Lobelo, Carrera and Duperly, (2007).	Google scholar	Cross-sectional survey	6/9
Medical students' readiness to provide lifestyle counseling for overweight patients Foster et al., (2002).	Science direct	Cross-sectional survey	6/9
Personal exercise habits and counseling practices of primary care physicians. Abramson, Stein, Scchaufele, Frates and Rogan. (2000).	Google scholar	Cross-sectional survey	7/9
The association between Colombian medical student's healthy personal habits & positive attitudes towards preventive counseling. Duperly et al., (2009).	Medline	Cross-sectional survey	7/9
Physical activity promotion Are GPs getting the message? Ploeg (2007).	Google scholar	Cross-sectional survey	5/9
Physicians' advice and support for physical activity. Glasgow, Eakin, Fisher, Bacak and Brownson. (2001).	Science direct	Cross-sectional survey	5/9
Exercise counseling by family physicians in Canada. Kennedy and Meeuwisse. (2003).	Science direct	Cross-sectional survey	5/9
General Practitioner Advice on Physical Activity Who Gets It? Eakin, Brown, Schofield, Mummery and Reeves. (2007).	Google scholar	Cross-sectional survey	5/9

**RESULTS**

**A total of 10 articles were deemed suitable for inclusion in this review. These were subjected into a methodological quality rating and results are illustrated in table 1. Of the 10 articles assessed, six were finally included in the review as four articles were rated as being of low quality. The high quality rated articles are outlined in table 2.**

In the six articles that were selected, the relationship between the physicians' personal health habits including physical activity and the consequent counseling practice was investigated. In all the studies, physicians whose personal physical activity levels met the moderate or vigorous recommended standards were more likely to counsel patients on physical activity (Frank et al.,

2007). They had a positive attitude towards counseling Foster et al., (2002) or were more believable by their patients when they did counseling on physical activity participation (Frank, Breyan & Elon, 2000). This was in comparison to their physically inactive colleagues. Abramson et al., (2000) also indicated that those physicians that participated in aerobic exercises were more likely to counsel their patients on the benefits of physical activity compared to those that participated in strengthening exercises. However, some of these studies identified some other factors that the physicians perceived to have been of influence to their counseling practices. These included tight schedules of their other duties, lack of knowledge/experience and inadequate reimbursement for work done.

**Table 2 Studies included in the review (n=6).**

<b>OBJECTIVE</b>	<b>LEVEL OF EVIDENCE</b>	<b>SETTING &amp; SAMPLE DETAILS</b>	<b>FINDINGS</b>	<b>REFERENCE</b>
To determine the effects of a physician fitness program on resident physicians cardiovascular fitness, physical activity behavior and physical activity counseling behavior/attitude.	Quasi experimental study.	48 internal medicine residents of Medical College of Georgia in U.S.A.	Resident physicians' counseling confidence and perceived success significantly improved although there was no significant change in residents' physical fitness status.	Rogers et al., (2005).
		<b>Intervention:</b> A prospective pre and post intervention study design where a baseline for physical fitness, physical activity levels of knowledge and attitude and counseling behavior was established. This was evaluated twice in intervals of three months following an exercise program intervention.		
To establish whether physician's disclosure of healthy personal behaviors improves credibility and ability to motivate.	Quasi experimental study	Two groups of patients with 66 and 65 patients for group one and group two respectively at a waiting room in an Emory University general medical clinic in Atlanta U.S.A	Viewers of the physicians' healthy behavior disclosure video considered the physicians to be generally healthier, somewhat more believable and more motivating than did viewers of the control video.	Frank, Breyan and Elon. (2000).
		<b>Intervention:</b> Two brief health education videos		

		<p>about improving exercise and diet were produced and shown to subjects. In one video, the physician had an extra half minute to reveal information about her personal healthy exercise and dietary practices and had a bike helmet and an apple visible on her desk. In video two, personal health practices were not revealed and the apple and bike helmet were not included</p>		
<p>To establish the U.S medical students physical activity levels and factors predicting relevance and frequency of their physical activity counseling of patients.</p>	<p>A prospective Cross-sectional survey</p>	<p>2316 U.S. medical students from 16 medical schools sampled from a national population with public vs. private, number of students per school and underrepresented minorities balance considered.</p>	<p>More than half (61%) of the participants complied with the CDC physical activity recommendations and maintained this rate over the four years of training. The frequency of physical activity counseling of patients was consistently related to personal physical activity practices. The percentage of students perceiving that physical activity counseling would be highly relevant to their practices decreased during the four years of medical school from 69%-53%.</p>	<p>Frank, Tong, Lobelo, Carrera and Duperly (2007).</p>
<p>Assessing medical students' readiness to provide lifestyle counseling for overweight patients.</p>	<p>Cross-sectional study</p>	<p>290 Medical students in their first, second or third year of training at a Southern medical school in U.S.A.</p>	<p>Only 23% of the sample reported accumulating 30min of moderate activity or equivalent vigorous activity at least five days a week. The results also revealed significantly less vigorous activity reported by third year students than by first year or second year students.</p>	<p>Foster et al., (2002).</p>

			Consequently the attitude towards physicians providing lifestyle counseling was significantly more negative in the second and third year more than in the first year students.	
Assessing personal exercise habits and counseling practices of primary care physicians.	Cross-sectional study	298 U.S.A. primary care physicians, comprising 84 family practitioners, 79 pediatricians, 58 geriatricians and 77 interns.	Physicians who participated in aerobic exercises were more likely to counsel their patients on the benefits of exercise compared to those that participated in strengthening exercises. There were more of aerobic exercises counseling among all the groups of physicians compared to that of strength exercises.	Abramson, Stein, Scchafele, Frates and Rogan (2000).
To identify the association between Colombian medical student's healthy personal habits & positive attitudes towards preventive counseling.	Cross-sectional study	<b>A total of 661 first to and fifth-year Colombian medical students.</b>	Personal health habits among the medical students were significantly associated to their corresponding attitudes towards preventive counseling including physical activity.	Duperly et al., (2009).

**DISCUSSION**

This review has confirmed that a relationship exists between health behaviors practiced by medical doctors and the health education/counseling that they offer to their patients pertaining to physical activity. Similar findings were detected from both experimental studies and cross-sectional surveys hence emphasizing the assumption that physical inactivity is a risk factor to counseling practices among physicians/medical doctors. For instance, Rogers et al., (2005) assessed the effect of a cardiovascular fitness program on the counseling confidence and perceived success of resident physicians'. The results rendered a significant improvement in physicians' confidence and perceived success pertaining to physical activity

counseling. Furthermore, Frank, Breyan and Elon. (2000) sought to establish whether physician's disclosure of healthy personal behaviors improves credibility and ability to motivate patients on healthy behaviors through the use of videos. In video one, the physician revealed personal health behaviors and had an apple and a bike helmet visible on the desk. The physician had 30 seconds to mention two things to the patient. One was about the recommended amount of calories that should be taken from fat per meal (30 %). The physician expressed to the patient how serious he was taking the diet personally and that he was feeling much better. He also briefly stated how best the patient can achieve that. Secondly, the physician mentioned to the patient that it was recommended

that he accumulates at least 20 min of fairly vigorous exercise. He mentioned about riding his bike to work while pointing to the helmet. He also advised the patient to choose the exercise he would like to do and later discuss it with his physician. In video two, the doctor's personal health practices, apple and bike helmet were not included. The viewers of video one considered the doctors healthier and believable in terms of how they motivated their patients to have a healthy diet and to exercise than in the control video. Duperly et al., (2009) assessed the attitudes towards healthy behavior counseling practices among Colombian medical students and still realized that students who practiced healthy personal behaviors had a positive attitude toward counseling on various healthy practices including physical activity.

A study that used medical students as the sample also identified a decline in their levels of physical activity as years of training progressed and consequently their attitude towards providing lifestyle counseling was significantly more negative in the second and third year compared with the first year students (Foster et al., 2002). A similar study noted consistency in activity levels (Frank et al., 2007). Abramson et al., (2000) went further to find out whether participating in either aerobics or strengthening exercises had an influence in physical activity counseling. The study found out that US physicians who participated in aerobics were more likely to counsel their patients on the benefits of physical activity.

Several studies have been done to show that physical inactivity is a risk factor for chronic diseases of lifestyle; more so, the responsibility of facilitating the worlds populations to engage in physical activity to prevent disease has ethically and professionally been bestowed on medical professionals, including medical doctors (Lobelo et al., 2008). However, little has been done to find out what factors hinder the doctors from promoting health through physical activity. A change of attitude towards personal participation in physical activity will primarily improve their personal health; promote the motivation to discuss physical activity with patients as well as improve the believability of counseling which will come as a result of disclosure of personal practices. Motivation to be physically active as early as the first year of training has been

encouraged. Incorporation of physical education in medical school would be a positive step.

This review also revealed that doctors' knowledge on the details of physical activity such as designing an exercise program with the recommended frequencies to have been a hindrance to their counseling on physical activity (Foster et al., 2002). Issues of knowledge concerning physical activity may be addressed through collaborative training whereby medical personnel who are professionally trained in matters of physical activity, such as physiotherapists become involved in drafting curriculums and participating in medical training. Although medical doctors implement professional skills in patient management, matters concerning change of lifestyle behavior may as well be linked to a psychosocial model, therefore, the subject of modifying physical activity behavior will require the doctor to be a role model while counseling. Ethically, the subject becomes more effective when a doctor practices what he/she preaches.

Professional knowledge on the details of physical activity may be lacking among the medical doctors but at least the health benefits for physical activity are known to them though their physical activity levels remain low. Having identified a positive association between participation and counseling practices, further studies are necessary to find out possible motivation strategies that can get the medical doctors participating in physical activity and consequently improving their patient counseling.

## CONCLUSION

Physical activity is an important health behavior while inactivity is a health challenge. A significant portion of the population is at risk of disease unknowingly due to physical inactivity. All the stakeholders, including physicians and patients, should take a personal interest in ensuring an increase in physical activity participation. Among these should be role modeling by physicians and eventually effective counseling strategies.

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