Lifestyle Related Risk Factor Assessment and Intervention Practices of Physical Therapists

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Research Question

What are the lifestyle-related risk factor assessment and intervention practices of physical therapists?

Background

The assessment and management of lifestyle related risk factors is crucial in health care settings around the world for the prevention of disease. These risk factors include but are not limited to smoking, diet, alcohol intake, and physical activity.[1,2] The importance of lifestyle modification in reducing the risk of conditions like diabetes and cardiovascular diseases cannot be underestimated, as even subtle changes in health behaviors can have major influences on chronic diseases. Ford et al[3] concluded that people who did not smoke were physically active for 3.5 hours/week, had a body mass index <30 kg/m2, and followed healthy dietary principles had a 78% lower risk of developing a chronic disease (e.g., diabetes, myocardial infarction, stroke, and cancer). More specifically, the risk of diabetes was reduced by 93% and myocardial infarction by 81%.[3] In another study, researchers evaluated the morbidity and mortality of individuals with different risk factor profiles. The following risk factors were assessed: cholesterol, blood pressure, smoking status, and diabetic status. The researchers found that a 45-year-old man with optimal levels of those risk factors has a 1.4 percent chance of having a major heart event or stroke during his remaining lifetime. Contrast that with a 45-year-old man who has two or more major risk factors, his lifetime risk would be 49.5 percent.[4] A thorough understanding of lifestyle risk factors, for both the patient and clinician, is important for optimal prevention and management strategies. Clinicians, specifically physical therapists in this case, can play an important role in risk factor screening.

Table 1: Respondents' views about the importance of lifestyle counseling, its priority, and patient acceptance [percentage (%) and frequency (n)].[3]

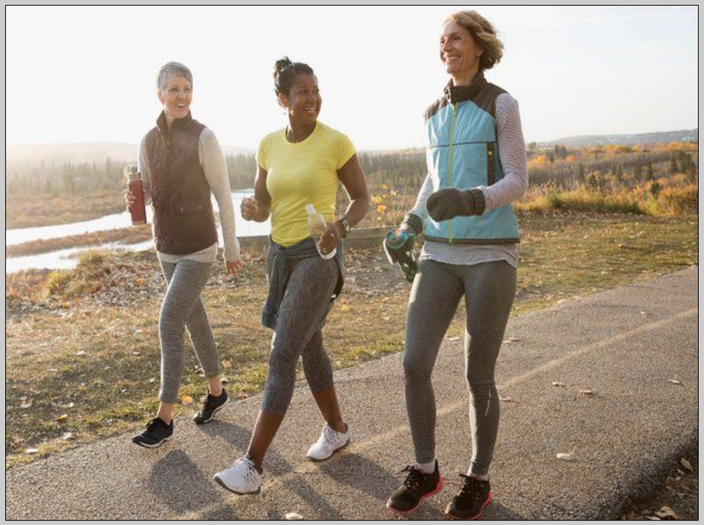
	Very important % (n)	Moderately important % (n)	Somewhat important % (n)	Not at all important % (n)
Importance to respondents of counseling patients with risk factors:				
Smoking cessation	86.1 (373)	7.2 (31)	3.0 (13)	3.7 (16)
Healthy diet	85.5 (372)	11.3 (49)	1.4 (6)	1.8 (8)
Alcohol moderation	79.4 (343)	13.2 (57)	3.9 (17)	3.5 (15)
Physical activity/exercise	84.4 (367)	9.7 (42)	2.8 (12)	3.2 (14)
	High % (n)	Moderate % (n)	Somewhat % (n)	Low % (n)
Professional priority reported by respondents to address lifestyle risk factors:				
Smoking cessation	62.4 (269)	27.1 (117)	7.2 (31)	3.2 (14)
Healthy diet	68.0 (293)	24.8 (107)	6.0 (26)	1.2 (5)
Alcohol moderation	60.9 (262)	27.0 (116)	8.8 (38)	3.3 (14)
Physical activity/exercise	75.2 (324)	19.3 (83)	4.2 (18)	1.4 (6)
	Very important % (n)	Moderately important % (n)	Somewhat important % (n)	Not at all important % (n)
Respondents' perceived patient acceptance of lifestyle counseling				
Smoking cessation	35.9 (152)	42.8 (181)	18.7 (79)	2.6 (11)
Healthy diet	56.3 (241)	33.7 (144)	10.0 (43)	0.0 (0)
Alcohol moderation	32.2 (136)	39.5 (167)	25.8 (109)	2.6 (11)
Physical activity/exercise	54.3 (232)	35.8 (153)	8.9 (38)	0.9 (4)

Table 2: Lifetime risks of fatal and nonfatal events among men according to aggregate burden of risk factors. Lifetime risks are reported as percentages, with 95% confidence intervals, to the age of 80 years for participants 45 or 55 years of age and to the age of 90 years for participants 65 or 75 years of age.[4]

Variable	Risk-Factor Status				
	All Risk Factors Optimal	≥1 Risk Factor Not Optimal	≥1 Elevated Risk Factor	1 Major Risk Factor	≥2 Major Risk Factors
	percent (95% confidence interval)				
Risk at 45 yr of age					
Fatal coronary heart disease or nonfatal myocardial infarction	1.7 (0–4.3)	27.5 (15.7–39.3)	32.7 (24.5–41.0)	34.0 (30.4–37.6)	42.0 (37.6–46.5)
Fatal or nonfatal stroke	6.7 (1.4–11.9)	7.7 (5.0–10.4)	8.5 (6.9–15.6)	8.4 (7.5–9.4)	10.3 (9.0–11.7)
Death from cardiovascular disease	9.1 (0–18.6)	13.1 (9.9–16.3)	15.3 (13.3–17.3)	20.7 (19.4–22.2)	32.5 (30.5–34.5)
Total events related to atherosclerotic cardiovascular disease	1.4 (0–3.4)	31.2 (17.6–44.7)	35.0 (26.8–43.2)	39.6 (35.7–43.6)	49.5 (45.0–53.9)
Risk at 55 yr of age					
Fatal coronary heart disease or nonfatal myocardial infarction	3.6 (0.7–6.5)	15.6 (7.9–23.2)	24.7 (19.5–29.9)	26.8 (24.0–29.6)	37.5 (33.9–41.1)
Fatal or nonfatal stroke	2.3 (0–4.8)	3.7 (2.3–5.0)	5.5 (4.6–6.4)	6.1 (5.5–6.7)	8.3 (7.4–9.2)
Death from cardiovascular disease	4.7 (1.2–8.2)	8.8 (6.7–10.9)	13.0 (11.6–14.3)	18.4 (17.4–19.4)	29.6 (28.1–31.1)
Total events related to atherosclerotic cardiovascular disease	14.6 (1.0–28.3)	19.7 (11.9–27.4)	33.9 (27.9–39.8)	32.2 (29.1–35.2)	46.8 (43.0–50.7)
Risk at 65 yr of age					
Fatal coronary heart disease or nonfatal myocardial infarction	9.6 (0–21.6)	21.6 (12.5–30.6)	26.6 (21.5–31.8)	29.5 (26.1–32.8)	43.0 (38.6–47.4)
Fatal or nonfatal stroke		6.7 (4.4–9.1)	9.2 (7.7–10.8)	8.1 (7.1–9.0)	9.1 (7.9–10.3)
Death from cardiovascular disease		18.4 (14.5–22.0)	27.7 (25.3–30.2)	33.6 (31.9–35.3)	42.2 (40.0–44.4)
Total events related to atherosclerotic cardiovascular disease	29.5 (17.0–42.0)	29.4 (20.7–38.1)	38.2 (32.4–43.9)	37.2 (33.7–40.8)	49.5 (45.2–53.8)
Risk at 75 yr of age					
Fatal coronary heart disease or nonfatal myocardial infarction	9.2 (0–21.8)	12.5 (5.0–20.0)	22.1 (17.1–27.1)	29.3 (25.5–33.0)	34.6 (29.2–40.0)
Fatal or nonfatal stroke		9.1 (5.9–12.3)	10.6 (8.4–12.8)	9.1 (7.7–10.5)	9.6 (7.6–11.6)
Death from cardiovascular disease	20.7 (11.1–30.3)	18.7 (13.9–23.5)	28.1 (24.6–31.6)	32.2 (29.6–34.7)	39.3 (35.8–42.9)
Total events related to atherosclerotic cardiovascular disease	17.5 (3.0–32.0)	22.8 (14.4–31.2)	28.9 (22.7–35.2)	36.1 (31.6–40.5)	38.5 (32.0–45.0)

Literature

Study	Participants	Methods	Results
❖ Abaraogu UO, Ogaga MO, and Dean E (2017).[1] **Purpose:** To describe lifestyle-related risk factor assessment and intervention practices of Nigerian physiotherapists, their perceived barriers to such practices, and education needs. [1]	• Six hundred and fifty questionnaires were sent out to Nigerian Physical therapists • The response rate was 69% (451) • Nigerian physiotherapists practicing part- or full-time in either the private or public health sector, who volunteered to participate in the study	• Questionnaire with 23 questions regarding respondent demographics, lifestyle risk factor assessment, and management practices; barriers to such practices; and related education needs • SIx hundred and fifty hard copy questionnaires were distributed to administrators and heads of physiotherapy departments in hospitals, medical/health centers, and clinics where physiotherapists practice, in 21 states and the federal capital territory in Nigeria between March and July of 2014	• Less than half of the respondents indicated that they "always" advised smokers to quit or heavy drinkers to reduce alcohol consumption • Most respondents viewed diet and anthropometrics as risk factors that warrant being addressed but few respondents did so • Changes need to be made within physiotherapy practice patterns to address the time concern, and continuing education is needed to teach essential competencies in health promotion practice • Nigerian physiotherapists regularly, but perhaps inconsistently, assess risk factors related to lifestyle
❖ O'Donoghue G, Cunningham C, Murphy F, Woods C, and Aagaard-Hansen J (2014).[2] **Purpose:** To provide a snapshot of current activities, barriers and perceived training needs for the assessment and management of behavioral risk factors in physiotherapy practice in primary care settings in the Republic of Ireland.[2]	• Two hundred and twenty primary care physiotherapists • Response rate of 74% (163/220)	• Questionnaire consisting of 23 questions within key sections • Risk factors asked included smoking, diet, alcohol consumption, physical activity level, blood pressure, family history of cardiovascular disease/diabetes and anthropometrics • Main focus is the risk factor management practices of physiotherapists • Physiotherapist's working in primary care in the Republic of Ireland (n=220)	• Level of physical activity was the most common risk factor assessed at initial and follow-up visits, followed by dietary status • Few respondents included smoking status and alcohol consumption in their assessment; however, the majority considered them as risk factors that should be addressed
❖ Ford ES, Bergmann MM, Kröger J, Schienkiewitz A, Weikert C, Boeing H (2009).[3] **Purpose:** To describe the reduction in relative risk of developing major chronic diseases such as cardiovascular disease, diabetes, and cancer associated with 4 healthy lifestyle factors among German adults.[3]	• A total of 23 153 participants aged 35 to 65 years from the European Prospective Investigation Into Cancer and Nutrition-Potsdam study	• The study identified previous studies that indicated modifiable risk factors such as smoking, diet, activity level, and diabetes and how they contributed to cardiovascular disease • The 4 factors that were included were never smoking, body mass index lower than 30 (calculated as weight in kilograms divided by height in meters squared), 3.5 h/wk or more of physical activity, and consistent healthy dietary principles (increased intake of fruits, vegetables, and whole-grain bread and low meat consumption) • Healthy was scored as 1 point and unhealthy was scored as 0 points • The score was summed to form an index that ranged from 0 to 4	• The study identified that the leading risk factors for cardiovascular disease are smoking, diet, and activity level • By altering modifiable risk factors in individuals, cardiovascular disease can be reduced and/or eliminated almost entirely • Those with all 4 "healthy behaviors" compared to those with none, caused a decrease chance for developing diabetes, myocardial infarction, stroke, or cancer • Additionally, the presence of just 1 healthy behavior as compared with none cut the chronic disease risk in half • Participants with all 4 healthy factors at baseline had a 78% lower risk of developing a chronic disease (diabetes, myocardial infarction, cancer) than participants without a healthy factor
❖ Berry JD et al (2012).[4] **Purpose:** Calculate the lifetime risk of cardiovascular disease according to age, sex, race, and other risk factors across multiple birth cohorts.[4]	• A total of 257 384 African American men and women and Caucasian men and women whose risk factors for cardiovascular disease were measured at the ages of 45, 55, 65, and 75 years	• Meta-analysis at the individual level using data from 18 cohort studies • Risk factors for cardiovascular disease were measured at the ages of 45, 55, 65, 75 years • Blood pressure, cholesterol level, smoking status, and diabetes status were used to stratify participants according to risk factors into five exclusive categories	• Differences in lifetime risks of cardiovascular disease were noted across risk-factor strata • Participants 55 years old with an optimal risk-factor profile (total cholesterol level, <180 mg per deciliter [4.7 mmol per liter]; blood pressure, <120 mm Hg systolic and 80 mm Hg diastolic; non-smoking status; and nondiabetic status) had considerably lower risks of death secondary to cardiovascular disease through the age of 80 years than participants with two or more major risk factors (4.7% vs. 29.6% among men, 6.4% vs. 20.5% among women)



Analysis

Abaraogu et al[1] determined that most physical therapists considered diet, smoking and alcohol intake to be risk factors; however, fewer than half of the respondents indicated that they "always" advised smokers to quit or heavy drinkers to reduce alcohol consumption. O'Donoghue et al[2] demonstrated that physical therapists may be knowledgeable regarding the risk factors; however, they are not assessing these risk factors these risk factors, or discussing them with patients on a regular basis. For example, few of the physical therapists assessed smoking status and alcohol consumption in their assessments. Ford et al[3] demonstrated the importance of practicing 4 healthy behaviors including never smoking, having a BMI lower than 30, performing 3.5 hours per week or more of physical activity, and adhering to healthy dietary principles. Berry et al[4] demonstrated that differences in risk-factor prevalence correlated with the morbidity and mortality associated with cardiovascular disease.

Conclusion

The management of lifestyle related diseases caused by lifestyle risk factors can significantly improve morbidity and mortality. Having health care providers assessing and intervening with these particular risk factors is indicated to help with controlling cardiovascular disease and other general health conditions. Physical therapists are qualified to not only play an important role in screening for but also educating patients on the risk factors that are related to these lifestyle related diseases; however, physical therapist's from Ireland and Nigeria have shown a lack of knowledge and proper management of the risk factors associated with these diseases. Further research is needed to determine if physical therapists in the United States are adequately screening for and addressing these risk factors.

References

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