Factors Contributing to Tobacco Use Among Physician Assistants in Kansas

Submitted by

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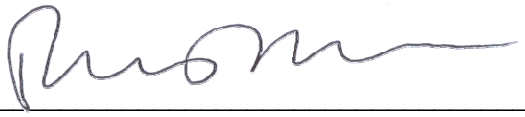
Department of Physician Assistant

We hereby recommend that the research project prepared under our supervision by Cameron Koster entitled Factors Contributing to Tobacco Use Among Physician Assistants in Kansas be accepted as partial fulfillment for the degree of Master of Physician Assistant.

Approved:



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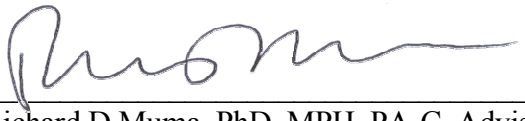

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Abstract

Introduction: Research has been conducted on the prevalence of tobacco use among physicians and nurses and whether or not these providers who use tobacco are more or less effective in promoting cessation counseling to their patients. Similar research has not been conducted among PAs. Methodology: The purpose of this cross-sectional study was to explore the prevalence of tobacco use among a convenience sample of physician assistants (PAs) in Kansas, factors contributing to their tobacco use, and whether or not their tobacco use affects their beliefs concerning tobacco cessation counseling. A survey was sent to Kansas PAs regarding these questions and results were analyzed using descriptive statistics and Chi-Square analysis. Results: The survey response rate was 46% (n=577). The number of PAs that smoked and used other forms of tobacco was 4.3 percent and 2.7 percent respectively. Beliefs concerning the health dangers of tobacco and the importance of tobacco cessation counseling, among others, were statistically significant among the tobacco users versus the non-tobacco users. Physician Assistants that were smokers believed that tobacco cessation counseling was less important than non-smokers. Also, PAs that smoked, believed counseling was less difficult than the non-smokers. Finally, PAs that use other forms of tobacco believed the health dangers of tobacco were less than those of non-tobacco users. Conclusion: This preliminary study represents the first evaluation of PA's smoking habits and their perceptions about tobacco cessation counseling. Findings were similar to other health care providers, in particular physicians. A large nationwide study is recommended before conclusions can be generalized to PAs.

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Acknowledgements

I would like to thank my family and friends for their support and encouragement. I would like to thank my wife Jessica for the support she provided throughout the length of my education.

Introduction

Over the past two decades there has been increasing evidence demonstrating that smoking is the leading cause of preventable death in Western Society.[1] According to "*Healthy People 2010*", smoking is the single most preventable cause of disease and death in the United States.[1] Smoking indirectly results in more deaths each year in the United States than AIDS, alcohol, cocaine, heroin, homicide, suicide, motor vehicle crashes, and fires—combined.[2] Smoking contributes to diseases such as cancer, atherosclerosis, osteoporosis, and heart disease, to name a few. These facts alone should provide significant incentive for individuals to stop smoking. The problem is that smoking is an addiction and individuals who desire to quit often need the help from a primary care provider, whether it be a physician, nurse or a physician assistant (PA). It is imperative for those who work in the health care professions to have a good knowledge base about smoking and avoid smoking themselves. It has been shown that physicians with poor health habits, such as smoking, are much less likely to counsel patients about the benefits of smoking cessation and possible health risks that they are exposed to.[3] This finding could also be extrapolated to the other health care professions such as nursing and PA. The physician assistant profession is of particular interest because the field is fairly new and there have been no studies conducted on them in this regard.

Since the birth of the profession in 1965, the number of practicing Physician Assistants (PAs) has been growing, particularly in rural states such as Kansas making them a vital link in the health care profession of today's time. With higher standards placed upon them, their role as health care providers has increased. Like other health

care professions, it is important for them to be knowledgeable and set good examples for their patient clientele and coworkers.

Literature Review and Purpose of Study

Because of the increasing awareness of the health risks associated with smoking, health professionals such as physicians, nurses and PAs, are on the front lines of counseling patients about the risks of smoking. According to Braun and associates, at least 70 percent of patients who smoke see a physician at least once a year.[4] This makes primary care offices excellent sites for smoking-cessation intervention. It has been shown that smoking abstinence was almost two times more likely when one type of clinician (e.g. physician, nurse, etc.) intervened with a patient than when no clinician intervention was given. Also, when two clinician types addressed tobacco cessation with patients, the odds ratio of cessation versus continued tobacco use increased to two and a half times.[5]

It has also been shown by Dawley and associates that modeled behavior leads to increased smoking. This study evaluated smoking among individuals in a hospital waiting area among the presence of a "portrayed doctor" and a "regular hospital visitor", both of whom were played by the role of the same person. No smoking signs were place in view and personal data collectors were present in the waiting area. When the "doctor" started to smoke, the incidence of smoking by other individuals was much higher than when the "regular hospital visitor" began to smoke.[6]

But what other issues are apparent when the health professional is a smoker? According to several studies, both physicians and nurses that smoke are less likely to promote smoking cessation to their patients. One study of hospital ward nurses revealed

that only seven percent of nurses that smoked counseled their patients about smoking, versus 44 percent of the non-smoking nurses.[7] Another study by Brehm found that 70 percent of non-smoking physicians counseled their patients about smoking cessation and only 44 percent of physicians who smoked counseled their patients.[8] Finally in a study of British general practitioners, it was discovered that physicians who smoked were less likely than non-smoking physicians to offer smoking cessation advice and assistance.[9] Because of the lack of research that has been conducted on physician assistants in regard to smoking, further research in this area is warranted. The following research questions have been proposed to research this area:

- Question 1: What is the prevalence of tobacco use among Kansas PAs?
- Question 2: Does stress play a role with tobacco use among Kansas PAs?
- Question 3: Among Kansas PAs, what is their level of promoting tobacco cessation to their patients?

Methods

Design

This study was designed to take a cross-sectional view of tobacco use behaviors, factors that contribute to tobacco use, and beliefs about tobacco counseling among Kansas PAs. A survey consisting of 16 questions with multiple choice, dichotomous and Likert type questions was sent through United States mail to a convenience sample of PAs licensed in the state of Kansas. The survey asked for the subject's total years of practice and their practice specialty including an estimate of the total hours of direct patient contact they had per day and the number of their patients and co-workers who use tobacco. Subjects then rated their stress level and answered information about smoking

and tobacco use counseling. Additionally, subjects were asked to estimate their own use of tobacco, including their number of uses per day, if they have ever tried to quit in the past 12 months and the reasons for personally using tobacco. All subjects were required to complete additional information concerning personal beliefs about tobacco and tobacco cessation counseling, adapted from the physician health habits study[2].

Measurement

Smoking prevalence was determined by subjects indicating whether they were current smokers or users of other types of tobacco products; or past smokers or users of other types of tobacco products. The participants were also asked to rate on a five point Likert scale (defined at the poles by the words "strongly agree" and "strongly disagree") their perceptions regarding tobacco use counseling. The eight questions ranged from: "tobacco use is dangerous to your health", to "health care providers are not paid enough for counseling." Additionally, they were asked to rate their stress level (very stressed to not stressed at all).

Subjects

A mailing label list of all PAs licensed in the state of Kansas was obtained from the Kansas State Board of Healing Arts. Only those PAs that lived in or near the state of Kansas were asked to complete the survey. Subsequently, thirty-three names were excluded and 577 were mailed a survey. The Subjects were given four weeks to respond and return the survey.

Data Analysis

Question one was analyzed by determining means of tobacco use among known PAs. Research questions two and three required frequency statistics to determine stress

level and importance ratings of tobacco use counseling. Additionally a Chi-Square test was used to determine if there were relationships of importance and stress ratings between smokers and non-smokers and other forms of tobacco users and non-users of tobacco.

Results and Data Analysis

The primary purpose of this study was to determine the prevalence of tobacco use among PAs in Kansas, factors that contribute to their use, and their beliefs about tobacco cessation counseling. The target population of the study was all PAs licensed in the state of Kansas (n = 610). Surveys, consisting of multiple choice, dichotomous and Likert type questions were sent through United States mail to the sample population consisting of 577 Kansas PAs. Thirty-three of the 610 were excluded because their current mailing address was outside the state of Kansas.

Surveys were collected from May 23rd 2005 to June 17th 2005. A total of 265 PAs responded corresponding to a 46 percent response rate. The data from the surveys were manually entered into an Excel spreadsheet, edited and then imported into SPSS version 12.0 for analysis.

Descriptive Statistics

Demographic Profile

The survey was arranged to collect demographic data such as years in practice, practice setting and hours of direct patient contact. The survey also gathered the approximate percentage of the respondent's patients and co-workers use of tobacco products as well as whether or not the PAs themselves use or have ever regularly used tobacco products.

The mean years of practice of the study population was 9.11, +/- SD 7.78. The majority of the respondents practiced in the family practice setting (39%, n = 101) and surgical subspecialty (20%, n = 52). A summary of these demographic characteristics is found in Table 1. Regarding hours of direct patient contact, the majority of the respondents spend eight or more hours per day managing patients (64%, n = 165). The mean percentage of patients use of tobacco was 38.4, +/- SD 19.23 and the mean percentage of co-worker use of tobacco was 16.24, +-/ SD 15.38.

Table 1

Demographics (n=259, 6 subjects left practice setting blank)

	%	Mean	SD(+/-)
Years in Practice	—	9.1	7.78
Practice Setting			
Family practice	39	—	—
Internal medicine	3.8	—	—
Internal medicine subspecialty	7.2	—	—
OB/GYN	1.1	—	—
Pediatrics	3.4	—	—
Emergency medicine	8.3	—	—
General surgery	1.5	—	—
Surgery subspecialty	20.1	—	—
Other	13.6	—	—
Not in clinical practice	1.5	—	—
Hours of Direct Patient Contact			
8 or more hours	64	—	—
5-7 hours	31.4	—	—
1-4 hours	4.7	—	—
Less than one hour per day	0	—	—
Mean Percentage of Patients that use Tobacco	—	38.4	19.23
Mean Percentage of Co-workers that use Tobacco	—	16.2	15.38

Research Questions

The remaining portions of the survey were used to answer each research question beginning with questions pertaining to the prevalence of tobacco use among Kansas PAs,

factors associate with their tobacco use, and ending with their beliefs about promoting smoking cessation to their patients. Quantitative data were used to answer and analyze each research question.

Research Questions

- Question 1: What is the prevalence of tobacco use among Kansas PAs?
- Question 2: Does stress play a role with tobacco use among Kansas PAs?
- Question 3: Among Kansas PAs, what is their level of promoting tobacco cessation to their patients?

In attempting to answer question one, PA's were asked if they currently smoke or have ever regularly smoked in their lifetime. Additionally the subjects were asked if they currently use other forms of tobacco or have ever regularly used other forms of tobacco in their lifetime. For research question two, PA's were asked their current, stress level. Question three was addressed by asking questions regarding the subject's beliefs about tobacco and tobacco cessation counseling.

Non-Parametric Data

The percentage of respondents who were currently smokers was 4.3 percent (n =11) and the percentage that currently used other tobacco products was 2.7 percent (n =7). The percentage of PAs that have ever regularly smoked in their lifetime was 15.4 percent (n = 40) and the percentage of PAs that have ever regularly used other tobacco products in their lifetime was 5.4 percent (n =14). Table 2 summarizes the percentage of Kansas PAs that use or have regularly used tobacco products.

Table 2

Tobacco Use (n=259)

	%
Percentage of PAs that admit have ever regularly smoked	15.4
Percentage of PAs that admit have ever used other tobacco products	5.4
Percentage of PAs that admit currently smoke	4.3
Percentage of PAs that admit currently use other tobacco products	2.7

Stress levels were compared between non-smokers and smokers. Physician assistants that smoked had reportedly more stress in their lives than non-smokers. Of the smokers, 36.4 percent (n = 11) reported that they were very stressed compared to 6.5 percent (n =245) of non-smokers. Table 3 summarizes the data gathered regarding stress levels among Kansas PAs.

Table 3

Percent Stress Level Among Smokers and Non-Smokers: Smokers (n=11) versus. Non Smokers (n=245)

	Very Stressed			Not Stressed		
Group	1	2	3	4	5	χ^2 15.566*
Smokers	36.4	45.5	18.2	—	—	
Non-Smokers	6.5	35.9	36.3	18.8	2.4	

*d=4, $p < 0.01$

The third research question was addressed by evaluating questions regarding personal beliefs about tobacco and tobacco cessation counseling. All current smokers were compared against non-smokers (Table 4).

Both smokers and non-smokers displayed similar beliefs concerning the health dangers of tobacco, whether if health care providers are obligated to counsel patients about tobacco use and whether they knew how to counsel patients about smoking cessation. The two groups were also similar in how they felt about how effective their

tobacco counseling was and their beliefs about the time it takes to counsel patients. Lastly, they were similar in their views about whether health care providers were paid enough for counseling.

Table 4

Beliefs About Patient Counseling: All Current Smokers (n=11) versus All Non-Smokers (n=245)—Percent

	strongly agree				strongly disagree	
	1	2	3	4	5	χ^2
Tobacco use is dangerous to your health						1.053
All Current Smokers	90.9	9.1	—	—	—	
All Non-Smokers	96.7	3.3	—	—	—	
Counseling in general is important						13.051*
All Current Smokers	54.5	27.3	18.2	—	—	
All Non-Smokers	75.9	22.4	1.6	—	—	
Health care providers are obligated to counsel						0.198
All Current Smokers	63.6	27.3	9.1	—	—	
All Non-Smokers	62.7	31.1	6.1	—	—	
Health care professionals know how to counsel						2.367
All Current Smokers	27.3	36.4	27.3	9.1	—	
All Non-Smokers	12.2	36.3	35.9	15.1	0.4	
I am effective in counseling						3.498
All Current Smokers	36.4	45.5	9.1	9.1	—	
All Non-Smokers	17.6	50.6	25.7	5.7	0.4	
Counseling is difficult						10.896**
All Current Smokers	9.1	18.2	27.3	27.3	18.2	
All Non-Smokers	13.1	53.5	12.7	17.6	3.3	
Counseling is time consuming						9.256
All Current Smokers	—	63.6	—	36.4	—	
All Non-Smokers	23.7	51.4	11	11.8	2	
Health care providers are not paid enough for counseling						4.829
All Current Smokers	—	30	10	50	10	
All Non-Smokers	13.5	21.3	25.8	25.8	13.5	

*df=2, p<0.01 **df=4, p<0.05

There were two questions that were statistically significant in the two groups. The first question concerned the importance of tobacco cessation counseling. The subjects that were smokers felt that counseling is less important than the non-tobacco users (current smokers that strongly agree = 61.5 percent and non-users that strongly agree = 76 percent). All current users of other tobacco products (other than smokers) were compared to all non-users of tobacco. The results were similar to the previous comparison of smokers versus non-smokers. The statistically significant differences in beliefs concerned the importance of counseling, the obligation of health care providers to counsel and the health dangers of tobacco. On the question regarding the importance of counseling, 42.9 percent of other types of tobacco users strongly agreed that counseling was important and 75.9 percent of non-users of tobacco believed that tobacco cessation counseling was important. Of the users of other types of tobacco, 14.3 percent moderately agreed and, of non-users of tobacco, two percent moderately agreed. None of the subjects answered disagree or strongly disagree.

On the question concerning the obligations of health care providers to counsel about tobacco cessation, 42.9 percent of current users of other types of tobacco strongly agreed and 63.3 percent of non-users of tobacco strongly agreed. Of these current users, 28.6 moderately agreed and 5.6 of the non-users moderately agree. Neither group disagreed or strongly disagreed.

On the question concerning the health dangers of tobacco, 71.4 percent of current other types of tobacco users strongly agreed that tobacco is dangerous to your health, compare to 97.2 percent of non-users of tobacco. Of these current users that agreed

accounted for 28.6 percent and of the non-users 2.8 percent. No one selected the choices neutral, disagree, or strongly disagree (Table 5).

Table 5

Beliefs About Patient Counseling: All Current Users of Other Tobacco Products (n=7) versus Non-Users of Other Tobacco Products (n=249)--Percent

	strongly agree				strongly disagree	
	1	2	3	4	5	χ^2
Tobacco use is dangerous to your health						13.32*
All Current Users of Other Tobacco Products	71.4	28.6	—	—	—	
Non-Users of Other Tobacco Products	97.2	2.8	—	—	—	
Counseling in general is important						6.667**
All Current Users of Other Tobacco Products	42.9	42.9	14.3	—	—	
Non-Users of Other Tobacco Products	75.9	22.1	2	—	—	
Health care providers are obligated to counsel						6.170**
All Current Users of Other Tobacco Products	42.9	28.6	28.6	—	—	
Non-Users of Other Tobacco Products	63.3	31	5.6	—	—	
Health care professionals know how to counsel						4.563
All Current Users of Other Tobacco Products	—	71.4	28.6	—	—	
Non-Users of Other Tobacco Products	13.3	35.3	35.7	15.3	0.4	
I am effective in counseling						1.514
All Current Users of Other Tobacco Products	14.3	52.9	42.9	7.7	—	
Non-Users of Other Tobacco Products	18.5	50.6	24.5	6	0.4	
Counseling is difficult						6.44
All Current Users of Other Tobacco Products	14.3	42.9	42.9	—	—	
Non-Users of Other Tobacco Products	12.9	52.2	12.4	18.5	4	
Counseling is time consuming						2.403
All Current Users of Other Tobacco Products	—	71.4	14.3	14.3	—	
Non-Users of Other Tobacco Products	23.3	51.4	10.4	12.9	2	
Health care providers are not paid enough for counseling						9.024
All Current Users of Other Tobacco Products	—	—	71.4	14.3	14.3	
Non-Users of Other Tobacco Products	13.4	22.3	23.9	27.1	13.4	

*df=1, p<0.01, **df=2, p<0.05

Prior use of tobacco in lifetime was compared to no use of tobacco in lifetime. Tobacco users were broken down into smokers and non-smokers. Prior smokers views on tobacco and counseling were similar to that of those who never smoked in regards to the health dangers of tobacco, the importance of counseling and the obligation of health care providers to counsel. They were also similar in their beliefs about the knowledge of tobacco counseling that health care providers possessed and the amount of time it takes to counsel. Lastly they expressed similarities about whether or not health care providers were paid enough for counseling.

Two questions were statistically significant on their differences in beliefs; the first being their views on the effectiveness of their tobacco counseling. Those who had a history of prior smoking in their lifetime believed that they were effective in counseling more so than subjects that never smoked in their lifetime believed. Of the prior smokers, 40 percent strongly agreed that they were effective in counseling compared to14.2 percent of the non-smokers (Table 6).

On the question regarding difficulty of tobacco counseling, the subjects that had prior smoking experience perceived that counseling was less difficult that what the non-smokers believed. Of those who were prior smokers in their lifetime,17.5 percent strongly agreed that tobacco cessation counseling was difficult compared to 11.9 percent of non-smokers. Of those that strongly disagreed, 12.5 percent had prior smoking experience and 2.3 percent had never smoked (Table 6).

Table 6

Beliefs About Patient Counseling: Prior Smoking in Lifetime (n=40) versus No Smoking in Lifetime (n=219)—Percent

	strongly agree				strongly disagree	
	1	2	3	4	5	χ^2
Tobacco use is dangerous to your health						0.328
Prior Smoking in Lifetime	95	5	—	—	—	
No Smoking in Lifetime	96.8	3.2	—	—	—	
Counseling in general is important						1.592
Prior Smoking in Lifetime	75	20	5	—	—	
No Smoking in Lifetime	75.3	22.8	1.8	—	—	
Health care providers are obligated to counsel						3.084
Prior Smoking in Lifetime	75	20	5	—	—	
No Smoking in Lifetime	60.6	33	6.4	—	—	
Health care professionals know how to counsel						1.215
Prior Smoking in Lifetime	17.5	35	35	12.5	—	
No Smoking in Lifetime	11.9	37	35.6	15.1	0.5	
I am effective in counseling						15.987*
Prior Smoking in Lifetime	40	42.5	15	2.5	—	
No Smoking in Lifetime	14.2	52.5	26.5	6.4	0.5	
Counseling is difficult						16.438*
Prior Smoking in Lifetime	17.5	32.5	10	27.5	12.5	
No Smoking in Lifetime	11.9	55.7	14.2	16	2.3	
Counseling is time consuming						6.129
Prior Smoking in Lifetime	20	42.5	10	25	2.5	
No Smoking in Lifetime	22.8	53.9	10.5	11	1.8	
Health care providers are not paid enough for counseling						0.462
Prior Smoking in Lifetime	15.4	25.6	12.8	30.8	15.4	
No Smoking in Lifetime	12.4	21.1	27.1	26.1	13.3	

*df=4, $p < 0.01$

The beliefs between those that used other types of tobacco in their lifetime were very similar to those who never used tobacco in their lifetime in all categories. The only

statistically significant finding was regarding the health care provider's obligation to counsel about tobacco use (Table 7).

Table 7

Beliefs about counseling: Prior Use of Other Types of Tobacco Products In Lifetime (n=14) versus No Prior Use in Lifetime (n=245)--Percent

	strongly agree				strongly disagree	
	1	2	3	4	5	χ^2
Tobacco use is dangerous to your health						5.157
Prior Use of Other Types of Tobacco Products in Lifetime	85.7	14.3	—	—	—	
No Prior Use in Lifetime	97.1	2.9	—	—	—	
Counseling in general is important						1.524
Prior Use of Other Types of Tobacco Products in Lifetime	71.4	21.4	7.1	—	—	
No Prior Use in Lifetime	75.5	22.4	2	—	—	
Health care providers are obligated to counsel						6.875*
Prior Use of Other Types of Tobacco Products in Lifetime	64.3	14.3	21.4	—	—	
No Prior Use in Lifetime	62.7	32	5.3	—	—	
Health care professionals know how to counsel						2.323
Prior Use of Other Types of Tobacco Products in Lifetime	—	42.9	42.9	14.3	—	
No Prior Use in Lifetime	13.5	36.3	35.1	14.7	0.4	
I am effective in counseling						1.764
Prior Use of Other Types of Tobacco Products in Lifetime	14.3	50	35.7	—	—	
No Prior Use in Lifetime	18.4	51	24.1	6.1	0.4	
Counseling is difficult						3.427
Prior Use of Other Types of Tobacco Products in Lifetime	14.3	42.9	28.6	14.3	—	
No Prior Use in Lifetime	12.7	52.7	12.7	18	4.1	
Counseling is time consuming						2.47
Prior Use of Other Types of Tobacco Products in Lifetime	7.1	64.3	14.3	14.3	—	
No Prior Use in Lifetime	23.3	51.4	10.2	13.1	2	
Health care providers are not paid enough for counseling						3.207
Prior Use of Other Types of Tobacco Products in Lifetime	7.1	7.1	35.7	28.6	14.3	
No Prior Use in Lifetime	12.8	22.6	24.3	26.7	13.2	

*df=2, $p<0.05$

Of the prior users of other types of tobacco products 64.3 percent strongly agreed that healthcare providers were obligated to counsel compared to 62.7 percent of the no prior

use of tobacco subjects. Of the prior users, 21.4 percent were neutral compared to 5.3 percent of those with no prior use. No one selected disagree or strongly disagree.

Discussion

In summary, the prevalence of tobacco use among Kansas PAs is low. Stress may possibly play a role in why they use tobacco and the views of certain aspects of tobacco use counseling differ among PAs that use tobacco and PAs that do not use tobacco.

This data must be interpreted with the caveat that they are based on a small sample, this is a preliminary study, and bearing in mind the possible biases inherent in the survey design. In considering the overall design and analysis of this study, efforts were made to identify possible threats to validity. In particular the small population size, which was a convenience sample (as opposed to a random sample), may have increased the risk of error when the data was interpreted. However, this study was descriptive and exploratory in nature and not intended for any other use. Another limitation of this study was that the variables selected for the study are only contributing factors to smoking and other forms of tobacco use. That is, they comprise a small piece of the larger picture. Furthermore, the chi-square data must be interpreted with caution since two-thirds of some of the cells had an expected count of less than five.

Summary of Results as Compared to the Literature

The prevalence of tobacco use among Kansas PAs, both smoking and use of other forms of tobacco is very low (4.3 and 2.7 percent respectively). When compared to studies of other health care professionals such as physicians and nurses, the prevalence of smoking among Kansas PAs was similar to that of physicians (3.3 percent). Smoking prevalence among registered nurses was found to be 18.3 percent.[10] Elkind found that

5.4 percent of physicians and 21.9 percent of nurses smoked nationally.[11] Another study by Olive found that 17 percent of physicians and 23 percent of nurses smoked nationally[12].

Differences in smoking prevalence between physicians nurses and PAs, may be explained by the level of education of each profession. From 1974 to 1985, level of education was the major sociodemographic predictor of adult smoking status in the United States.[10] Persons with higher college degrees tend to smoke less than those with lower or no college degrees. This may explain why nurses smoke more, since the majority of the nursing population has an associate degree, whereas the majority of PAs have the baccalaureate degree.

It has been thought that stress plays a significant role in the reasons why people use tobacco. The PA smokers that completed the survey expressed much more stress in their lives as compared to the non-smokers. This compares well to a study performed on nursing students and student teachers, both occupations considered to have high levels of stress, and found that more nursing students smoked than student teachers.[11] For this study it was also found that nursing students have a higher level of stress, but there were other factors that could have played a role, such a personality type. The study also revealed that among nurses who smoke, stress tends to prevent smoking cessation, while maladaptive coping techniques, together with the absence of available social support outside of nursing, can lead to greater smoking rates.[11]

There have been questions regarding the abilities of health care providers in tobacco cessation counseling, especially those that personally use tobacco products. Many believe that health care providers that use tobacco may not properly counsel their

patients about the dangers of tobacco use. When PAs where asked about the importance of tobacco counseling, both the current smokers and users of other tobacco products were less likely to believe that counseling was important. This also corresponds well to a study conducted by Stillman and associates concerning the attitudes and smoking behaviors among nurses and physicians. This study found that health care professionals who smoke are likely to be more lenient about enforcement of smoking cessation and less supportive of a hospital-wide smoke free policy. They also tend to respond less to the health risks of smoking for themselves and others.[13] The PAs that regularly used tobacco in their lifetime, but no longer continue to do so, shared similar views about the importance of tobacco cessation counseling as those of the non-users of tobacco.

Interestingly, PAs that currently smoke feel that counseling is less difficult than those that do not smoke. Since that the majority of the smoking population of Kansas PAs believed that tobacco cessation counseling is less important than the non-smoking population, the smoker's methods of counseling may be less involved than that of a non-smoker. This is reinforced by the study conducted by Hallett that found general practitioners who smoked were less likely to promote smoking cessation to their patients than practitioners who were non-smokers.[9]

It is also interesting to note that of the tobacco users in general and the users of other types of tobacco products shared a different view concerning the health dangers of tobacco as compared to that of smokers. The other types of tobacco group felt that tobacco use was less dangerous than all other subjects, smokers included. This could be due in part to the lack of public acknowledgement of the health dangers of smokless tobacco.

Overall Significance of the Study Findings and Opportunities for Further Research

The importance in this study is reflected by that fact that this is the first known study conducted on the tobacco use habits and beliefs about tobacco counseling among PAs. Results indicate PAs fit into a larger picture of the health care provider, along with physicians and nurses in regard to their belifs about smoking, patient counseling and smoking prevalance. Since health care providers and in particular PAs, are among those on the front lines of tobacco cessation counseling, it is essential for them to set a good example for their patients. Since this study was only administrated to Kansas PAs, the opportunity for future research among other states or even nationally is available. It would also be interesting to compare tobacco use and counseling beliefs of Kansas PAs to that of Kansas physicians and nurses.

Conclusion

Because of the increased health risks associated with tobacco use, it is a problematic behavior among Americans. There is a preponderance of evidence demonstrating that the reasons why people continue to smoke is a of lack of education. Tobacco users may know that there are health risks involved with tobacco use, but they may not know the extent of harm that they are causing themselves. Besides treating disease and illness, it is the role of the primary health care provider to help educate patients about the harms of unhealthy lifestyles and the benefits of healthy ones.

References

1. Healthy People 2010. Leading Health Indicators. **www.healthypeople.gov/Document/HTML/uih/uih_4.htm**. 11/27/2004.

2. Murray M, Swan AV, and Mattar N, The Task of Nursing and Risk of Smoking. *Journal of Advanced Nursing*. 1983, 8: 131-138.

3. Wells KE, Lewis CE, Leake B, Ware JE, Do Physicians Preach what they Practice? *Journal of the American Medical Association.* 1984, 252: 2846-2848.

4. Braun BL, Smoking-Related Attitudes and Clinical Practices of Medical Personnel in Minnesota. *American Journal of Preventative Medicine.* 2004, 27: 316-322.

5. Jenkins K, Nursing Students' Beliefs About Smoking, Their own Smoking Behaviors, and use of Professional Tobacco Treatment Intervention. *Applied Nursing Research*. 2003, 16: 164-172.

6. Dawley H, The Discouragement of Smoking in a Hospital Setting: The Importance of a Modeled Behavior. *The International Journal of Addictions.* 1981, 16: 905-910.

7. Goldstein AO, Hospital Nurse Counseling of Patients who Smoke. *American Journal of Public Health.* 1987, 77: 1333-1334.

8. Coe RM, Smoking Habits of Physicians and Preventive Care Practices. *HSMHA Health Report.* 1971, 86: 217-221.

9. Hallett R, Intervention Against Smoking and its Relationship to General Practitioner's Smoking Habits. *The Journal of the Royal College of General Practitioners*. 1983, 33: 565-567.

10. Nelson DE, Giovino GA, Trends in Cigarette Smoking Among US Physicians and Nurses. *Journal of the American Medical Association.* 1994, 271: 1273-1275

11. Elkind AK, Do Nurses Smoke Because of Stress? *Journal of Advanced Nursing.* 1988, 13: 733-745.

12. Olive K, Attitudes of Patients Toward Smoking by Health Professionals. *Public Health Reports.* 1992, 107: 335-339.

13. Stillman FA, Creating a Smoke-Free Hospital: Attitudes and Smoking Behaviors of Nurses and Physicians. *American Journal of Health Promotion*. 1994, 9: 108-113

Appendix

Tobacco Use Among Physician Assistants in Kansas

Survey

Graduate Student: Cameron Koster CPTA, PA-S
Wichita State University

Faculty Advisor: Richard Muma, PhD, PA-C
Wichita State University

Adapted with permission from: **McKenna H, Qualified Nurses' Smoking Prevalence: Their Reasons for Smoking and Desire to Quit.** ***Journal of Advanced Nursing.*** **2001, 35: 769-775.**

Dear Kansas Physician Assistant:

The following survey was developed for my Wichita State University PA Master Research Project to evaluate the factors associated with tobacco use among Kansas PAs. My PA faculty advisor is Dr. Richard Muma, Program Director. To reach either me or Dr. Muma, use the email listed on page 2 of this survey or call 316/978-3011. Since you have been identified as a Kansas PA, this survey will ask about your general characteristics, your tobacco use history, information about your practice, and your attitudes about counseling and wellness. Results of this survey will likely assist those interested in learning more about PA tobacco use and their attitudes about counseling patients in regard to wellness issues. Please indicate your responses using this survey. No identifying marks will be included on the survey. This process will likely eliminate harm to you, protect your privacy and prevent discrimination of any kind. You will not incur any personal expense, other than time, in connection with this research project. All data will be kept in my possession in a locked file cabinet. This survey has been approved by the WSU IRB.
Approximate time to complete the survey is 5 minutes.
Thank you. Cameron Koster, PA-S, Wichita State University

Section I: General Practice Information

1. How many years have you practiced as a PA? _____

2. What is your current practice setting for the majority of your work? (circle one)
   - A. Family practice
   - B. Internal medicine
   - C. Internal medicine subspecialty – please specify _____
   - D. OB/GYN
   - E. Pediatrics
   - F. Emergency medicine
   - G. General surgery
   - H. Surgery subspecialty – please specify _____
   - I. Other – please specify _____
   - J. Not in clinical practice (no need to complete the survey, please return in the envelope provided)

3. How many hours per day of direct patient contact do you have? (circle one)
   - A. 8 or more hours per day
   - B. 5-7 hours per day
   - C. 1-4 hours per day
   - D. Less than one hour per day

4. Approximately what percentage of your patients use tobacco? _____

5. Approximately what percentage of your health care co-workers use tobacco? _____

6. Rate your overall stress level (Including job stress, stress at home, etc…) (circle one)
   - A. Very Stressed
   - B. Moderately Stressed
   - C. Somewhat Stressed
   - D. Minimally Stressed
   - E. Not Stressed

Section II: Information on Tobacco

7. A. Have you ever regularly smoked? Y N
   B. Used other tobacco products regularly? Y N

If no to both, skip to 15

8. A. Do you currently smoke? Y N
   B. Use other tobacco products? Y N

9. If you **CURRENTLY** use tobacco, please fill in the information below (#s 9-13):

Current Tobacco Users	*Cigarettes*	*Cigars*	*Pipes*	*Smokeless Tobacco*
Average number of uses per day				
Total years of using				

10. On how many of the **past 30 days** have you used tobacco products? _____

11. During the past 12 months have you stopped using tobacco products for more than one day **because you were trying to quit smoking**? Y N
    If so, what is the primary reason for stopping?_____

12. Reason(s) for personally using tobacco (circle all that apply)

    A. Stress Relief
    B. Addiction/habit
    C. Relaxation
    D. Deal with anxiety/depression
    E. Work pressure
    F. Enjoyment
    G. To control weight
    H. Other _____

13. How many times have you attempted to quit using tobacco products? _____

14. If you have **QUIT** using tobacco, please fill in the information below:

Current Non-Smokers	*Cigarettes*	*Cigars*	*Pipes*	*Smokeless Tobacco*
Average number uses per day				
Total years of using				
Age quit				

Section III: Information on Counseling

15. Regarding tobacco use and cessation counseling, please answer the following questions by circling one answer.
    Key: SA=Strongly Agree; A=Agree; D=Disagree; SD=Strongly Disagree
    A. Tobacco use is dangerous to your health SA A Neutral D SD
    B. Counseling in general is important SA A Neutral D SD
    C. Health care providers are obligated to counsel SA A Neutral D SD
    D. Health care professionals know how to counsel SA A Neutral D SD
    E. I am effective in counseling SA A Neutral D SD
    F. Counseling is difficult SA A Neutral D SD
    G. Counseling is time consuming SA A Neutral D SD
    H. Health care providers are not paid enough for counseling SA A Neutral D SD

16. How many patients per day do you counsel on:

A. Nutrition: _____
B. Tobacco use: _____
C. Alcohol use: _____
D. Exercise: _____

Thank you for completing this survey!
Please return in the postage paid envelope.

If you have any questions regarding this survey, you can contact:
Cameron Koster, PA-S, Graduate PA student (cdkoster@wichita.edu)
Richard Muma, PhD, MPH, PA-C, Graduate Advisor (richard.muma@wichita.edu)

Vita

Name: Cameron Koster

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2004-2006	Master – Physician Assistant (M.P.A) Wichita State University, Wichita, Kansas
1999-2000	Associate – Physical Therapist Assistant Colby Community College, Colby, Kansas
1996-1999	Bachelor of Science in Health Science McPherson College, McPherson, Kansas

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