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## Survey on Addictions: Toward Curricular Change for Family Nurse Practitioners

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# Survey on Addictions: Toward Curricular Change for Family Nurse Practitioners\*

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## Abstract

The purpose of this paper is to describe the results of a survey of advanced practice nurses (APNs) to determine the activities they perform related to caring for patients with addictions and or co-occurring mental health disorders, the amount of addictions education in their graduate programs, and their perceptions of the value of addictions education for their role. Data were obtained from 233 APNs in New York State using a tool adapted from a previous job analysis survey. APNs reported the greatest amount of experience in history taking for various types of addictions and co-occurring mental health disorders and least amount of experience in performing objective exams, using standardized screening tools, ordering related diagnostic tests, prescribing pharmacological treatments, and making referrals for addiction treatment. Respondents reported a mean of less than three hours addictions education in their graduate programs in contrast to their high perceived importance of this clinical area.

**KEYWORDS:** addictions, mental health, advanced practice nursing curriculum, advanced practice nursing

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Three-fourths of all deaths among people in the United States aged 10 to 24 are related to accidents, homicide, and suicide and a majority of these deaths can be traced to substance use (Guiao, Blakemore, & Wise, 2004). Approximately 72.9 million Americans smoke cigarettes (Substance Abuse and Mental Health Services Administration, 2007), which is major risk factor for development and progression of heart disease, airway inflammation and compromised lung functioning that leads to the continuum of bronchitis, asthma, chronic obstructive lung disease, and sometimes lung cancer (Chalmers, G. W., et al. 2001; Mahmud & Feely, 2003; Piper et al., 2003; Tammenagi, Neslund, Simoff & Kvale, 2004). In addition to smoking, studies suggest that much of the morbidity and mortality in the country can also be attributed to health risks associated with poor diet and obesity, sedentary lifestyle, alcohol and substance use, and related risky sexual activities (Fan, Russell, Stranges, Dorn & Trevisan, 2008; Hasin, Stinson, Ogburn & Grant, 2007; Wu, Rose, & Bancroft, 2006). Issues related to the health consequences of individuals with multiple addictions also need to be acknowledged (Armstrong, Feigenbaum, Savage & Vourakis, 2006; Potenza, Fiellin, Heninger, Rounsaville & Mazure, 2002).

Addictive disorders include a spectrum of health problems commonly encountered in the primary care setting for which few providers are *specifically* prepared to provide prevention counseling and education, screening, initial diagnosis and treatment, and specialty care referrals. Consequently, addictions are frequently unrecognized and under treated in the primary care setting. Unfortunately, this reality is especially problematic for underserved populations that are more likely to be from ethnic and racial minorities (Bluthenthal, Jacobson & Robinson, 2007; Niv, Wong & Hser, 2007; Schmidt, Ye, Greenfield & Bond, 2007). Also apparent is the tendency for co-occurring mental health conditions—namely anxiety disorders, depression, and compulsive behaviors—to be under recognized and under treated (Moussavi et al., 2007; Wang et al., 2007). It is also important to note the significant association (41-65%) between patients with an addiction who also have at least one mental health disorder when considering diagnosis and treatment of addictions in primary care (Armstrong et al., 2006).

Advanced practice nurses (APN), especially nurse practitioners (NP) and clinical nurse specialists (CNS), in primary care are well positioned to assist in routine screening and initial assessment of addictions problems. However, there is no empirical evidence to determine if these practitioners receive adequate education in addictions care in their graduate curricula. The purpose of this paper is to report the results of a survey of APNs practicing in New York State that describe the types of addictions activities these nurses report using in their

practices, their reported educational preparation for this care, and their perceptions of the importance of addictions education to practice roles.

### ***Addictions in Primary Care Populations***

An addiction is a “complex neurobiobehavioral disorder characterized by impaired control, compulsive use, dependency, and craving for the activity, substance, or food” (Armstrong et al., 2006, p. iii). Addictions encompass (1) substance (illicit and prescriptive drugs, alcohol, and nicotine) use, misuse, and abuse/dependence disorders; (2) impulse control disorders ( e.g. problem gambling, sex addiction) that are characterized by a failure to resist an impulse, drive or temptation to perform an act that is harmful to the person or others; and (3) eating disorders that are characterized by inability to regulate eating habits, which interferes with bio-psychosocial and socio-cultural integrity (e.g. anorexia, bulimia, obesity) (Armstrong et al., 2006). The etiology of these chronic brain disorders parallels other conditions that involve both genetic predisposition and behavioral choices that induce a change in anatomy and biochemistry of the body (Wilcox & Erickson, 2000).

Sexual and substance use risk-taking behaviors in teens are strongly associated with mood and interpersonal problems. Adolescents who have the highest risk profiles across a spectrum of behavioral activities are those who also report the most depressive symptoms and this is especially significant in females as compared to males with the same risk profile (Waller et al., 2006). Teens are also more prone to unhealthy eating behaviors. There is evidence, especially in older adolescents, that maladaptive dieting strategies, such as vomiting or laxative use to lose weight, are associated with substance use. Although these risky dietary behaviors are more common with females than males (Garry, Morrissey & Whetstone, 2002), high risk behaviors in both sexes suggest the need for early screening in the primary care setting to detect addictions and related health problems.

Older individuals who use alcohol and other drugs are particularly vulnerable to the negative effects of substance abuse. The aging process results in a decrease in body mass, liver and kidney function, and alcohol dehydrogenase—an enzyme that breaks down alcohol in the stomach—which puts older people and especially women at more risk from drinking compared with younger adults (Blow, 2001; Boyle & Davis, 2006). This situation is greatly complicated by the relatively high number of prescription drugs used in older populations with multiple chronic diseases (Fick et al., 2003; Fink et al., 2002). Other factors, such as the shrinking social network related to death of a spouse and friends, and

functional problems that preclude involvement with activities outside the home, can also increase the use of alcohol and psychoactive prescription drugs in older adults. It appears that there is a need to rethink the nature of primary care in ways that will encourage more practice emphasis on early detection, brief interventions within the primary care visit, and referral to specialty care of patients who are abusing substances and or experiencing problems with impulse control and eating disorders.

### ***Why Educate Nurse Practitioners in Addictions Care?***

The prevalence of addictions and related health problems in all clinical settings calls for a re-evaluation of the separation of mental health and addictions issues from primary care nursing practice (Campbell-Heider, 2006). Unfortunately, scholars have identified the lack of addictions education and dearth of specialty addiction curricula for nurse practitioner (NP) and physician (MD) primary care providers (Banta & Montgomery, 2007; Fornili & Haack, 2005; Haack & Adger, 2002). For example, a review of the graduate programs in nursing in New York State lists no programs specializing in addictions (Office of the Professions, New York State Education Department, 2007). The American Association of Collegiate Nursing (AACN) website (<http://www.aacn.nche.edu/index.htm>) directs inquiries about addictions nursing to Psychiatric Mental Health Nurse Practitioner programs. Core competency documents consider addictions disorders to be a *subset* of mental health:

Mental health problems include symptoms and issues which do not fully meet the criteria for a psychiatric disorder but may compromise functioning and impact mental health. Because substance-related disorders are one of the *DSM-IV-TR* Axis I diagnoses, they have been included as a psychiatric disorder for this document. (National Panel for Psychiatric and Mental Health NP (competencies, 2003).

There is no *specific* inclusion of *DSM-IV-TR* (American Psychiatric Association, 2000) diagnoses in adult and family nurse practitioner core competencies but there are references to screening for addictions and mental health problems. The competencies for Adult Nurse Practitioner (ANP) programs include "... screening evaluations for mental health, substance abuse, and violence" (Department of Health and Human Services; DHHS, 2002, p. 17), while FNP competencies are less specific, "... performs screening evaluations for mental status and mental health" (DHHS, 2002, p. 21). The early detection and brief office treatment strategies in primary care nursing roles are well suited to APN (NP and CNS)

education and clinical skills. Brief office interventions and motivational interviewing techniques typically take only a few minutes and have proven useful in primary care settings (Rubak, Sandbæk, Lauritzen & Christensen, 2005). APNs are educated to be culturally competent and sensitive interviewers, which are necessary skills to detect complex health problems. APNs also obtain the requisite knowledge and skills needed to tailor health education to patients' ethnic backgrounds, educational levels, and motivational readiness for behavior change within the context of establishing the requisite therapeutic nurse-patient relationship. These APNs are also strategically placed to address the needs of individuals who are experiencing co-occurring addiction and depression problems (Fowler, 2006). However, to accomplish this goal, APN primary care providers need education that will better prepare them to identify problems related to addictions and initiate health teaching, counseling, motivational interviewing, and provide pharmacological, educational, and referral interventions. The recognition of this need in primary care nursing practice led to the development of this research to underscore the need for a new curriculum to address these problems.

## **METHOD**

### ***Development of the Survey***

The survey used in this research was adapted from a job analysis instrument. This instrument was used to assess addictions nursing practices, which then provided a basis for development of the addictions nursing certification exam (Finnell, Garbin, & Scarborough, 2004). To address the goal of this study, the tool was adapted to a *primary care practice* setting by an expert panel of APNs. Activities that were determined to be related to specialty addictions care, such as monitoring patients during detoxification, were dropped from the survey. Content validity was established using a panel of addictions experts from nursing and psychology disciplines. The revised tool resulted in 68 items, reflecting activities that APNs working with patients with addictions in primary care likely encounter. A 4-point scale was used to rate each activity on the frequency of use ("not at all" to "very frequently") and importance ("not at all" to "very important"). The survey was pilot tested on 11 family nurse practitioner (FNP) student volunteers before mass dissemination. There was no variation in the level of importance, with all items rated as "important" across the respondents of the pilot study. Thus, importance ratings were dropped in the final version.

The final survey included 68 activities that APNs in primary care may likely undertake in caring for individuals with addictions and each item reflects a

*specific type of addiction* and/or a *specific aspect of care*. The specific categories of addiction included, alcohol use (13 items), drug use (12 items), nicotine use (4 items), poly substance use (more than one category of substances) (22 items), and impulse control disorders and eating disorders) (9 items). Eight items were not reflective of a *specific type* of addiction but rather addressed only an aspect of care. For example, item 25 asks the participants if they “identify risk and protective factors for the client.” This question could relate to any of the addiction categories listed and therefore did not fit the criteria for a specific type of addiction.

The second type of categorization of items was by *specific aspects* of care that included subjective assessment (6 items), objective assessment (12 items), diagnosis (19 items), and treatment (31 items). Four independent raters categorized survey items according to these two domains—specific type of addiction and specific aspect of care. Discrepancies between the raters were reviewed and discussed until there was 100% agreement. Table 1 provides sample items and response choices. Organizing the 68 items by specific type of addiction and aspects of care was done to better understand and organize study findings. It should be noted that neither factor analysis nor reliability estimates produced the categories identified.

**Table 1**

*Sample survey questions*

<b>Primary care activities</b>	<b>Perform Activity?</b>		<b>Frequency?</b>			
Assess degree of toxicity for drugs of abuse.	N	Y	Yearly	monthly	weekly	daily
Prescribe medication for management of alcohol withdrawal symptoms.	N	Y	Yearly	monthly	weekly	daily
Teach effect of alcohol, nicotine and other drugs on reproductive system and libido.	N	Y	Yearly	monthly	weekly	daily
Order laboratory tests to evaluate consequences of substance use.	N	Y	Yearly	monthly	weekly	daily
Utilize screening tools to assess drug use.	N	Y	Yearly	monthly	weekly	daily
Explore relationship of substance use to the functioning of the family.	N	Y	Yearly	monthly	weekly	daily
Refer client to addictions treatment program.	N	Y	Yearly	monthly	weekly	daily

The survey also included 11 questions related to the respondent’s practice specialty, gender, highest educational degree, number of years in practice,

ethnicity, age, current practice setting, age range of clients, hours of didactic content related to the spectrum of addictive disorders, perceived value of “increased” education in addictions disorders, and estimated percentage of clients currently seen with addictive disorders.

### ***Subjects and Data Collection Procedures***

The study protocol was approved by the University at Buffalo (UB), Social and Behavioral Sciences Institutional Review Board. Three groups of APNs were invited to participate in the survey: (1) 291 UB MS graduates in the previous 10 years (with 66 returned for a 22.7% return rate); (2) 273 members of the Nurse Practitioner Association Western New York (NPAWNY) (with 72 returned for 26.4% return rate); and (3) 110 attendees at the Nurse Practitioner Association New York State (NPANYS) Annual meeting in October 2003 (with 95 returned for 86.4% return rate). The UB alumni and the New York Nurse Practitioner Association of Western New York (NPAWNY) members’ lists were crosschecked to avoid duplications and individuals on both lists were assigned to the alumni cohort only. The first two groups were invited to participate through a mailing that included a cover letter and stamped self-addressed envelope for return of surveys.

UB educates nurses for NP and CNS roles; however, the overwhelming preponderance of graduates are from NP specialties (family health, adult health, women’s health, pediatrics, psychiatric-mental health, and nurse anesthesia). The NPANYS annual meeting respondents were personally recruited from the approximately 600 attendees over a three day period by FNP faculty and students at a booth near the registration area. The student researchers prepared an educational poster and electronic poster to advertise the study and stimulate interest in participation. When inviting participation at the NPANYS meeting, attendees were first asked if they had previously completed the survey and if so were rewarded with a chocolate buffalo candy but not given another survey. As part of their role, the students were available after the surveys were completed to address questions about addictions care and or the survey itself. Attendees who returned their surveys were rewarded with chocolate buffalo candies and the opportunity to participate in a raffle for a basket of goodies that included UB memorabilia and a family sized chocolate buffalo. The three samples were chosen for both convenience and to obtain a representative view on APN experience with addiction disorders.



### ***Data Analysis***

Only descriptive statistics were used to characterize the sample, their reported and perceived value of addiction education, and responses to the 68 survey questions. Frequencies for each item on the survey were calculated and then grouped by type of addiction and aspect of care. The average percentage of “yes” responses to each item in the category were then averaged to yield the mean number of “yes” responses per category. Many participants did not rate the frequency of performing the activities (daily, weekly, monthly, yearly) as requested. Consequently, the large amount of missing data for this question precluded further analysis. Thus, only the activity performance data were ultimately used in the descriptive analyses.

## **RESULTS**

### ***Sample Characteristics***

The final sample included 233 individuals. The sample was predominantly females (93%) and those self-reporting as White, non-Hispanics (95%). The majority of respondents (92%) reported that their highest degree was an MS in nursing. There were also seven participants with a doctorate in nursing or another field. Respondents were an average age of 43 years ( $SD = 10.45$ ) with an average of 6.42 years of advanced nursing practice experience ( $SD = 5.77$ , range 0-23 years). Respondents reported that about one-quarter ( $M = 25.26$ ,  $SD = 23.44$ ) of their patients had an addictive disorder. The practice specialty question was open-ended in nature and proved problematic. Respondents listed a variety of descriptions for their practices and did not always include their clinical role credentials. This situation made it difficult to precisely describe the percentage of participants in primary care practices and nurse practitioner specialties, which is one of the identified limitations of the survey. For example, many included their subspecialties such as “cardiology,” “immunology,” “asthma allergy” rather than their practice credential, which did not provide an accurate assessment of primary care practice versus other clinical settings. Of the 233 participants, 200 provided sufficient data to classify them as follows: (1) FNP ( $n = 89$ , 44.5%); (2) Adult Nurse Practitioner (ANP) ( $n = 56$ , 28%); (3) Pediatric Nurse Practitioner (PNP) ( $n = 23$ , 11.5%); (4) Women’s Health Nurse Practitioner (WHNP) ( $n = 17$ , 8.5%); and (5) Certified Registered Nurse Anesthetist (CRNA) ( $n = 4$ , 2%); Geriatric Nurse Practitioner (GNP) ( $n = 4$ , 2%); and Psychiatric Mental Health Nurse Practitioner (PMHNP) ( $n = 1$ , 0.5%). Although the majority of these NP curricula are usually focused on primary care within the population of interest, there was no way to determine if indeed these NPs were in a primary care practice. However,

the majority (69%) were working in a clinical/ambulatory setting, 29% in hospitals, and 2% in long-term care.

On average, respondents reported receiving 1.67 (*SD* = 1.13) hours of didactic content related to addiction in their graduate programs; the modal response was that no addictions-related content had been included in the curriculum. Respondents identified the value of having increased curricular content related to addiction disorders. More than half (61%) identified that having the added content would be very valuable (38%) and moderately valuable (23%). A little over one-third (35%) considered the content to be of some value, while only a small percentage reported the content would not add value (4%).

### ***Experience with Addiction in Clinical Practice***

When all of the items were examined individually, “assessment of drug use in history taking” (94.6%) was the highest reported item related to type of addiction. The “provision of education related to smoking” (94.1%) yielded the highest number of “yes” responses in the aspect of care categories. The least frequently cited activities related to the use of standardized instruments for assessment (9.5%) and prescription of medications to reduce craving from alcohol (17.5%). In relation to the objective assessment area, use of laboratory data explained the most common type of experiences for 63.5% of the respondents. The use of clinical observations and assessment tools were the least used objective measures by APNs in this sample, with 32.2% and 28.2% respectively. Table 2 shows the highest and lowest ratings for the two categories.

**Table 2**

#### ***Items with highest and lowest “yes” responses by type of addiction and aspect of care***

<b>Highest reported experience</b>	<b>Type of addiction</b>	<b>Aspect of care</b>	<b>% yes</b>
Include assessment of drug use in history taking	Drug	Subjective	94.6
Provide education related to smoking	Nicotine	Treatment	94.1
Include assessment of alcohol use in history taking	Alcohol	Subjective	93.7
Teach clients and families about the importance of exercise	NS	Treatment	90.6
Teach clients and families about nutrition	NS	Treatment	87.4

<b>Lowest reported experience</b>			
Utilize standardized instruments for assessment & evaluation	NS	Objective	9.5
Prescribe medications to reduce cravings from alcohol	Alcohol	Treatment	17.5
Utilize screening tools to assess impulse control disorders	Impulse control	Objective	18.2
Prescribe medications to reduce cravings from alcohol	Alcohol	Treatment	19.7
Collaborate with third-party payers for treatment referral	NS	Treatment	22.4

*Note.* NS means no type of addiction specified

Item responses were then grouped by addiction category and the percentage of “yes” responses for each item by category were averaged to yield a mean percentage of “yes” responses. Across the 60 items related to type of addiction category, the greatest exposure reported by respondents was related to four items focused on nicotine with an average of 70% of the respondents reporting “yes” to the items in this group; the lowest rated area was in activities related to impulse control (44%). Table 3 presents examples of the items for each addictions category and the mean percentage of “yes” responses for each type of addiction category.

**Table 3**

*Addiction category, sample items, and mean for “yes” responses by category*

<b>Addiction category &amp; number of survey items (N= 60 items)</b>	<b>Sample item from category (N = 60 items)</b>	<b>Mean % Yes</b>
Alcohol (n = 13)	Assess stage of withdrawal for alcohol use	58.1%
Drugs (n = 12)	Order lab tests to evaluate consequences of drug	61%
Nicotine (n = 4)	Assess stage of withdrawal from nicotine	70%
Poly substance (n = 22)	Teach effect of alcohol, nicotine, and drugs on reproduction system and libido	49%
Impulse-control/ eating disorders (n = 9)	Identify associated behaviors of eating disorders	44%

The second domain (see Table 4) organized responses by aspects of care. Six items were related to subjective assessment (e.g., history taking), the aspect of care for which APNs reported the greatest experience (76% “yes” responses). The least reported activities (39%) were in the use of objective screening tools and laboratory data. Table 4 describes the mean percentages of “yes” for the four aspects of care categories and sample items.

**Table 4**

*Aspect of care category, sample items, and mean “yes” responses per category*

<b>Aspect of care (N = 68)</b>	<b>Sample items (N = 68)</b>	<b>Mean % Yes</b>
Subjective (n = 6)	Assessment of alcohol use by history	76%
Objective (n = 12)	Utilize screening tools to assess alcohol use.	39%
Diagnosis (n = 19)	Differentiate symptoms related to psychiatric disorders and substance abuse for individual with both disorders.	61%
Treatment (n = 31)	Utilize motivational enhancement strategies.	55.2%

The items related to objective data collection and treatment received the lowest percentages of “yes” responses. Consequently, the researchers divided these aspects of care into sub-categories to further investigate the types of educational content needed to conduct objective assessments and provide treatment for addictions disorders in a primary care setting. These results are displayed in Table 5.

**Table 5**

*Objective assessment sub-categories and percentage “yes” responses*

<b>Objective sub-categories (N = 12)</b>	<b>Sample item from each sub-category</b>	<b>Mean % Yes</b>
Clinical observation (n = 5)	Assess degree of intoxication for alcohol by visualization or field sobriety tests.	33.2%
Laboratory data (n = 3)	Order labs to evaluate consequences of substance use.	63.5%
Clinical tools (n = 4)	Utilize screening tools to assess alcohol use.	28.2%

The treatment category was sub-divided into types of treatment (pharmacological, educational/counseling and referral) and further analyzed to reveal the most prevalent treatment practices. As expected, teaching and counseling patients (23 items) ranked the highest with 55.3% of the respondents reporting experience with this area, while only 37.6% used pharmacological treatments (6 items) to reduce cravings and symptoms related to withdrawal from substances. There were three items related to referral and consultation with a mean report of 45.9 % endorsing these activities.

The educational/counseling group contained 23 items. Three of these items asked about motivational interviewing and cognitive behavioral strategies. A little over half (54.8%) of respondents utilized these strategies, slightly lower than the use of all educational interventions. Most of the respondents (94.1%) reported providing education for smoking. Conversely, the lowest report of experience in the educational treatment area was providing education about the risks of eating disorders in pregnancy (27.5%).

**Table 6**

***Treatment sub-categories and percentage “yes” responses***

<b>Treatment sub-categories (N = 31)</b>	<b>Sample item from each sub-category</b>	<b>Mean % Yes</b>
Pharmacological care (n = 5)	Prescribe medications for pain management for clients with substance use disorder	37.6
Educational/counseling strategies (n = 23)	Provide education regarding substance use disorders across the life span	55.3%
Referral and consultation (n = 3)	Refer clients to addictions treatment programs	45.9%

## DISCUSSION

The data from this study suggest that APNs practicing in New York State receive little specific education about addictions in their graduate programs and that 61% perceived addictions education to be moderately or very valuable to their practice. The greatest exposure in practice relates to activities related to nicotine (70%), followed by illicit drugs (61%), alcohol (58.1%), polysubstance (49%), and impulse control and eating disorders (44%). It appears APNs in New York State across specialties and clinical settings, are performing many clinical activities related to the spectrum of addictions.

The data also suggest APNs are often engaged in obtaining historical data related to addiction but are less apt to utilize clinical findings, standardized screening tools, and objective laboratory data to support their subjective findings (both individual and collateral reports) related to addictions. It is especially interesting that APNs do not report using more objective measures in light of their propensity to diagnose and treat selected addiction problems. The lack of reliance on objective data suggests that APNs are comfortable making a diagnosis and beginning treatment based primarily on history. It might also be that APNs have not received specific education in using standardized tools or clinical findings for addiction assessment. However, enhanced skills and knowledge in all types of objective assessments will increase the precision and reliability of addiction diagnoses. Specifically, data to identify use, misuse, and dependence on substances are an important distinction that can alter the diagnosis, treatment plans, and re-evaluation patient status at future visits (Armstrong et al., 2006).

Since initial treatment of many addictions involves education, and motivational strategies intended to promote behavior changes, these types of treatments are well suited to the APN role, domain, and standard academic preparation. On average respondents endorsed a mean of 55.2% of the activities associated with the treatment category. There were 31 treatment items, with 23 of these related to teaching patients, families, and using motivational interviewing strategies to effect lifestyle changes. These skills should be common to all types of APN practice and so one might expect a much higher response rate to these items than was actually encountered in this study population. Unfortunately, there was limited experience related to use of evidenced –based educational and treatment strategies for three items that addressed this issue (32.9%). This situation might be expected in a group of providers with an average age of 43 as curricular emphasis on evidenced-based practice has only gained prominence in the last few years. More research is needed to determine if the current graduates of APN programs are more likely to use evidenced-based practices than their predecessors.

Six of the items related to pharmacological types of treatment that would be appropriate to a primary care setting, and three items related to referral and or consultation with specialists. These sub-categories highlighted limited use of pharmacological approaches as well as consultation and referral for addiction treatment. Since these two areas were not as commonly used as the educational and counseling strategies, one might assume that APNs might be less prepared to administer these treatments relative to the educational and counseling dimension. It might also be that in this sample of APNs, patients with addictions were being

treated elsewhere or that their patients were reluctant to accept pharmacological treatment or referral. More data are needed to explain these deficits relative to various types of APN practice settings.

The analysis of highest and lowest response items demonstrated the prevalence of asking about drug and alcohol use and providing education about smoking, exercise, and nutrition. These are all important lifestyle issues that are within the domain of all APNs. These results suggest that current curricula are emphasizing these needed aspects of care. The findings show a limited use of objective measures such as standardized tools for assessment, pharmacological treatments that reduce cravings, referral for specialized addiction treatment, and selected types of education such as that related to disordered eating. These might be areas for enhancement of standard academic graduate nursing curricular.

In this study, it is not possible to determine APN skill levels in assessment, diagnosis, and treatment of addiction problems but the respondents did report an overall low level of preparation in this content. This limited exposure to knowledge and skills related to addictions, when coupled with the prevalence of addictions across the nursing specialties represented in the study sample, also suggest that there is a need to augment this training in graduate nursing programs. More refined skills in using objective assessment examination skills, standardized tools, and laboratory data will promote greater accuracy in recognition of addictions in the primary care population. Utilizing standardized instruments in addition to gathering subjective data are important knowledge and skills for APNs in screening and detecting addictions in primary care patients. The harm associated with a developing or an established addiction, might be reduced if the APN is equipped with skills related to screening, detection, and brief interventions (Armstrong et al., 2006). As such, it is important that APNs are educationally prepared to assess the continuum of addictions—from risky behavior to abuse to dependence--and be cognizant of the type and timing of interventions required along that trajectory.

The proportion of respondents using motivational interviewing and related cognitive behavioral strategies in their practices is encouraging, given the efficacy of these behavioral change strategies to primary care practice. Lifestyle changes are a key ingredient in preventing and managing many chronic disease conditions (Funderburk, Maisto & Sugarman, 2007). Marquardt and Vezeau (2007) suggest that motivational interviewing is very relevant to primary care settings, where lifestyle change is needed. A meta-analysis of randomized clinical trials (Rubak et al., 2005) showed a significant effect for motivational interviewing on common health problems seen in primary care settings, including cigarette smoking,

alcohol abuse, and psychiatric disorders. In this systematic review, motivational interviewing had a significant and clinically relevant effect in approximately three out of four studies, with an equal effect on physiological (72%) and psychological (75%) diseases. APNs are starting to test the efficacy of motivational interviewing as evidenced by a recent study by a family nurse practitioner (Beckham, 2007). She demonstrated the efficacy of motivational interviewing on decreasing the number of drinks consumed per day by persons assessed to be hazardous drinkers. Motivational interviewing, which evolved from alcohol treatment (Miller, 1983) is proving effective in promoting behavior changes in a variety of lifestyle conditions and clinical problems (Rubak et al, 2005). Most important to APNs is the fact that motivational interviewing move patients toward lifestyle changes by creating discrepancies between their actions and health promoting behavior. Furthermore, these interventions can be provided in five minutes (Beckham, 2007).

## CONCLUSIONS

The survey data presented in this study underscore the need for more emphasis on addictions education in graduate nursing curricula that can translate into more practice emphasis in this area. To address this perceived educational deficit, the University at Buffalo, Family Nurse Practitioner program was funded in 2005 by the Bureau of Health Professions, Health Resources Services Administration (HRSA) to augment the program with an addictions focus (<http://nursing.buffalo.edu/academics/family.asp>). Graduates are now emerging from this program eligible for dual national certification in family health nursing and addictions nursing and are successfully passing examinations leading to certification as a Family Nurse Practitioner (FNP-BC or FNP, NP-C) and as a Certified Addictions Registered Nurse-Advanced Practice (CARN-AP). This educational model could be used across all graduate nursing programs to enhance addictions care in clinical settings worldwide.

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