Sociodemographic Profile of Women Entering a Military Substance Use Disorder Treatment Center

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This retrospective study reviewed medical records to determine sociodemographic characteristics of women in a substance use treatment center at a Pacific Regional Medical Command facility. Data were collected from records between September 1, 1999, and August 31, 2002. Three questions were investigated, as follows. (1) What are the sociodemographic characteristics of women entering substance abuse treatment? (2) Are there coexisting conditions (psychiatric history and/or family history of abuse or psychiatric conditions) that accompany the substance abuse problem? (3) What are the referral sources for patients entering treatment? Data were analyzed by using descriptive statistics. The sample was primarily Caucasian, between 18 and 25 years of age. The most frequently occurring conditions were depression and anxiety. The smallest number of referrals was from primary care managers. The findings support the need for thorough screening and assessment for substance use in women and assessment of primary care managers' compliance, knowledge, and skills in evaluating substance use in women.

Introduction

An estimated 411,000 U.S. women died as a result of substance use-related illnesses in 2002,1 >4 times the number who died as a result of breast cancer in the same year (51,184 women).2 Although addictive disorders have been the subject of widespread concern in the United States, relatively little is known about the causes, treatment, and prevention of these disorders in women.3 Within the past few decades, scientists have begun to document the existence of gender differences in the physiological, psychological, and environmental dimensions of substance use and addiction.4 Although the focus of gender-specific studies is comparatively new in cases of addictions, it is accepted that the impact of substance use among women is far-reaching and complex.5 Women are now entering substance use treatment centers in increasing numbers. According to the U.S. Department of Health and Human Services, 1.1 million women entered treatment in 2004, compared with 885,000 in 2000.6 Because of limited programs to address individual needs and persistent barriers to effective utilization of existing services, the full extent of substance use among women is not yet fully realized.7

Society has generally considered alcohol abuse and other substance abuse as a problem among men. However, historians report that as early as 1782 it was common practice for women to consume opium daily. At the turn of the 20th century, drugs such as opiates, marijuana, and cocaine were legal and widely prescribed for women.8 By the 1960s, alcohol, tranquilizers, and amphetamines were reported to be women's drugs of use.9 Prevalence estimates during the 1960s indicated that women accounted for one in four substance abusers. Although evidence has long existed to suggest significant substance use and misuse among women, public concern regarding illicit substance use at that time still concentrated on men.3 As a result, government-funded programs (which became national models for addiction treatment programs) were designed primarily for men, not women.4

Our study is significant in that research was lacking regarding (1) the identity of women entering substance abuse treatment today, (2) the manner in which they enter treatment, (3) the types of services they receive, and (4) patient outcomes. The opportunity to expand the current body of research related to substance use disorders among women has the potential to lead to a restructuring of programs that would specifically address treatment strategies for this population. Our goals are consistent with those of the Department of Health and Human Services in Healthy People 2010.10 They are as follows: (1) to help individuals of all ages increase their life expectancy and improve their quality of life and (2) to eliminate health disparities among different segments of the population, including those involving gender, race, ethnicity, education, income, disability, geographic location, and sexual orientation.

Overview of Tri-Service Addictions and Recovery Facility

The Tri-Service Addictions and Recovery Facility (TRISARF) provides intensive treatment for all chemically addicted Department of Defense-eligible beneficiaries between the ages of 18 and 64 years. The TRISARF mission is to treat those with substance-related disorders and to teach others to do so, with the goals of restoration of optimal health and a return to military duty. The program offers partial hospitalization in accordance with the American Society of Addiction Medicine Patient Placement Criteria Level II.5 requirements.8 The treatment philosophy is based on the biopsychosocial model, with emphasis on a multidisciplinary treatment team approach. Therapeutic modalities consist of group therapy, educational seminars, occupational skills development, and spiritual and relationship counseling. The program adopts the American Society of Addiction Medicine definition of addiction, which views addiction as a chronic and progressive condition in which the physical and psychological craving for a substance develops into a dependence, with the condition continuing although it may cause the...
individual a form of physical, psychological, or social harm. The estimated length of treatment at this facility is 4 to 6 weeks.

Methods

The purpose of our study was to examine the sociodemographic characteristics of women admitted to TRISARF for substance use treatment. Three research questions were asked, as follows. (1) What are the sociodemographic characteristics of women entering substance abuse treatment? (2) Are there coexisting conditions (psychiatric history and/or family history of abuse or psychiatric conditions) that accompany the substance abuse problem? (3) What are the referral sources for patients entering treatment?

A data questionnaire developed by us collected information to determine age, ethnicity, military status, education, marital status, children, age of first and regular use of substances (alcohol and/or illicit drugs), psychiatric conditions, family history of substance use, cigarette use, and referral source for patients entering treatment. Content validity questions for the study were established by various members of the TRISARF multidisciplinary treatment team. The treatment team consisted of psychiatrists, registered nurses, psychologists, social workers, addictions counselors, and occupational therapists. The human use committee at Tripler Army Medical Center (Honolulu, Hawaii) approved the study protocol. Investigators adhered to the policies for protection of human subjects prescribed in the Department of Health and Human Services Code of Federal Regulations Title 45, Part 46.

We first obtained from the addiction clerical support personnel a "by-name" listing of all female patients admitted to the TRISARF program during the time period specified for record retrieval for the study. Before the patient records were obtained, a code sheet was created that assigned each name a sequential number beginning with 1; this number was associated with the actual data collected. All records were reviewed by the investigators only, in a designated room within TRISARF. Once the records were reviewed, they were immediately returned to the clerical support personnel and reshelved. Ninety-five records were reviewed; however, nine were excluded because of incomplete data; this reduced the sample size to 86. Data were analyzed by using SPSS version 11 software (SPSS, Chicago, Illinois).

Results

Question 1: What Are the Sociodemographic Characteristics of Women Entering Substance Abuse Treatment?

The subjects (n = 48) were primarily on active duty military status (56%). One participant was a military retiree, and 37 (43%) were family members of military personnel. Three primary ethnic groups were represented: 61 subjects were European American (71%), 11 were African American (13%), and 5 were Hispanic American (6%). The remaining ethnic groups (n = 8), including Hawaiian, Native American, and "other," constituted 9% of the total sample. One record identified ethnicity as unknown. The subjects ranged in age from 18 to 56 years, with 44 (51%) between the ages of 18 and 25 years. Sixty-two (60%) had at least a high school diploma; 31 (36%) had completed or attended college. Forty-eight (56%) were married, and 49 (57%) reported having no children. Of the remaining 37 subjects, 43% had children, and 20 (23%) had children <5 years of age (Tables I-IV).

Forty-eight subjects (55%) reported their first use of alcohol between the ages of 16 and 20 years; eight (9%) had used alcohol before the age of 8 years. Fifty (58%) reported regular alcohol use between the ages of 13 and 20 years. Thirty-three (36%) reported their first drug use between the ages of 13 and 20 years; three (4%) listed their first drug use between the ages of 8 and 12.
years. The five most frequently used drugs were marijuana (55%; \(n = 47\)), cocaine (24%; \(n = 21\)), crystal methamphetamine/ice (17%; \(n = 15\)), acid (16%; \(n = 14\)), and ecstasy (14%; \(n = 12\)). The records revealed that 32 subjects (37%) had attempted to quit substance use before attending this program. Cigarette smoking was reported by 72 women (84%) (Fig. 1).

**Question 2: Are There Coexisting Conditions (Psychiatric History and/or Family History of Abuse or Psychiatric Conditions) That Accompany the Substance Abuse Problem?**

The findings revealed that 67 women (78%) reported a coexisting psychiatric condition. The most frequently reported condition was depression (57%; \(n = 49\)). Equal numbers of subjects reported a history of anxiety and bipolar disorder (14%; \(n = 12\)). Post-traumatic stress disorder was found in 11 records (13%). Twenty-one (25%) reported conditions in the category "other," which included a multitude of conditions such as adjustment disorders, panic attacks, attention-deficit/hyperactivity disorders, mood disorders, impulse control problems, dependent personality disorders, dissociative disorders, dysthymia, eating disorders, and psychotic disorders. A strong positive correlation between family history of substance use and patient substance use was evident (Tables V and VI).

**Question 3: What Are the Referral Sources for Patients Entering Treatment?**

The majority of women were self-referred (51%; \(n = 44\)), followed by the unit or command (29%; \(n = 25\)). Only 1% (\(n = 1\)) was referred by a primary care manager.

**Discussion**

This study examined the sociodemographic profile of women entering a military treatment facility substance abuse program. With the exception of level of education, the findings were similar to demographic reports for the nonmilitary population.\(^5\) In this study, only 4% of the women had not completed high school or its equivalent. The literature shows that alcohol and illicit drug use or dependence is highly correlated with educational status.\(^6\) Those who had not completed high school had higher rates of substance use, whereas college graduates had the lowest rates.\(^6\) According to U.S. treatment episode data from 1992 to 2000, 36% of treatment patients \(\geq 18\) years of age had not completed high school, compared with 17% of the U.S. population. Those patients were also less likely to have received education beyond high school (21%), compared with one-half (50%) of the U.S. population.\(^8\)

We offer two possible explanations for the higher educational level in this population, that is, (1) the military has educational incentive programs and tuition assistance for active duty personnel and their family members and (2) the military requires a high school diploma or a general equivalency diploma before entry into the service of the government. A military enlistment standards educational study stated that 93% of all military personnel between the ages of 18 and 24 years are high school graduates. The civilian youth comparison group showed a 79% high school graduation rate.\(^11\) Additionally, most military bases have conveniently located educational institutions with satellite campuses located on or near their facilities, making schools easily accessible.

The overall resemblance between the military-affiliated population and the general-public population was the most significant result of this study. The similarities suggest that the mil-
itary population is not unique in its characteristics and demographic features; therefore, military treatment programs should be structured similarly to those used in general public treatment facilities. The findings also suggest that thorough assessments of substance use in women and prompt referrals are necessary.

Our study revealed that alcohol and nicotine were the two major substances of abuse, with 76% and 84%, respectively of the women's records showing use of these substances. Research has suggested that long-term alcohol use has more-severe medical consequences for women, compared with men. Various studies since 1977 have shown that the risk of developing cirrhosis is higher for women than for men who consume equal amounts of alcohol. This can be attributed to the fact that women's bodies contain more fatty tissue and proportionately less total body water than men's bodies of comparable size, which means that the same quantity of alcohol consumed by men and women of equal size would result in higher blood alcohol levels for the women. Women have been shown to produce less alcohol dehydrogenase, the stomach enzyme that breaks down alcohol. Additionally, women metabolize alcohol more slowly during the digestive process, which causes higher blood alcohol levels than in men.

A significantly high incidence of tobacco use was observed in this study. Research has suggested that, although women in general smoke fewer cigarettes than do men, women metabolize nicotine more slowly. This results in similar nicotine levels, causing the same toxic effects in the body. Studies have also indicated that there are gender differences not only in the effects of alcohol and nicotine but also in the use of substances such as cocaine. Research performed on rats discovered markedly higher behavioral responses (nervousness) to cocaine administration in female rats, compared with male rats. If these phenomena are common for most drugs of abuse, then further research is needed to explore the pathophysiological features, to determine biological or hormonal differences in the responses to these substances.

The fact that the majority of women in this treatment program, as well as in the general public, are of childbearing age (25–44 years) poses a serious public health concern. Among the many potential complications with this phenomenon are infections (especially sexually transmitted diseases), fetal congenital abnormalities, fetal alcohol effects, fetal alcohol syndromes, central nervous system damage, and intrauterine growth retardation. Additional threats include potential family disruptions because of legal, financial, medical, social, and psychological issues associated with substance use. The possible consequences of substance use have pervasive effects on the psyche and soma and can substantially shorten a woman's lifespan if undetected.

We were concerned with the small number of referrals (1%) made by primary care managers. The literature suggests that health care providers fail to diagnose 50% to 90% of alcohol and substance abuse in both men and women. Women are far less likely than men to be recognized as having alcohol- or drug-related problems. According to some collective studies, women may encounter system barriers related to health care bias, including (1) lack of understanding/knowledge of addiction, which may be influenced by media images and personal beliefs, (2) belief that a person's addiction can be "fixed," (3) lack of skills needed to determine whether the woman needs help with the substance-related problem, (4) lack of knowledge regarding how to make a referral and available referral resources, (5) incorrect diagnosis and treatment based on a presumption of mental health problems (i.e., anxiety or depression; providers may treat such women with medications, including benzodiazepines, causing cross-addiction in some cases), (6) negative and judgmental attitudes toward substance-abusing women, and (7) the idea of "double deviance," where women are not viewed as behaving properly if they use alcohol or other drugs and are not seen as properly addicted because their behaviors and psychological profiles do not fit the masculine patterns termed "alcoholism or addiction."

Our anecdotal information includes conjecture that many public care managers feel uncomfortable addressing substance use issues with women, for fear of insulting them, or that they may not recognize that substance use among women exists. Although this is simply speculation, it indicates that additional investigations are warranted for better understanding of the low rates of referral from primary care managers. According to the literature, substance abuse and dependence affects 2% of women at some point in their lives and 3% to 5% of women experience alcohol abuse and/or dependence during their lifetimes.

Recommendations

The alarming rates of substance use disorders in women necessitate greater attention to treatment strategies targeted to the specific needs of women. Although no population group is immune to substance use and its effects, female physiological features predispose women to serious medical and physiological consequences over a shorter period, compared with men. Research has discovered that women have an accelerated pace of negative consequences of substance use; this implies that women have a smaller window of opportunity for intervention before the substance use progresses. For these reasons, assessment of women for substance use must become routine, of necessity, and more thorough and detailed. It is imperative that treatment strategies be developed with emphasis on the biological, psychological, and social factors affecting women's health. Effective strategies should involve collaborations between multidisciplinary services, such as mental health, psychological health, and nutrition. Primary care managers should be aware that substance use may be an underlying problem for women, particularly women of childbearing ages and those presenting with mental health symptoms. They should screen and obtain careful histories of potential substance use for high-risk individuals, such as women with a self or family history of mental illness or substance use.

In this study, alcohol was found to be the most commonly used substance. One screening tool that can be used to detect alcohol abuse is the Alcohol Use Disorders Index Test. The Alcohol Use Disorders Index Test is a simple test that asks the patient 10 questions and takes ~10 minutes to complete and score. The individual receives a score of 0 (for non-alcohol-drinking individuals) to 40 (for probable alcohol addiction). A score of ≥8 indicates a harmful alcohol intake pattern and suggests that further evaluation is needed. Another screening
for alcohol includes "CAGE" questions, as follows. (1) Have you ever attempted to cut down? (2) Have others been annoyed at your drinking? (3) Have you ever felt guilty regarding your drinking? (4) Have you ever required an eye-opener? A third easy-to-use screening tool for alcohol is the Michigan Alcohol Screening Test. The Michigan Alcohol Screening Test is a 25-item questionnaire that assesses lifetime problems.20 The Drug Abuse Screening Test is a 5-minute, 20-item scale that can be used for screening, treatment planning, and post-treatment outcome evaluations.21 Another current tool used for screening is the Substance Abuse Subtle Screening Inventory. The Substance Abuse Subtle Screening Inventory helps identify individuals who have a high probability of having a substance dependence disorder, with an overall, empirically tested accuracy of 93%.22

The physical examination may provide additional clues for substance use; however, physical examination is not a sensitive or specific screening test. Laboratory tests may also help clinicians identify problems, especially alcohol abuse in women. Tests such as serum γ-glutamyltransferase levels, erythrocyte mean corpuscular volume, carbohydrate-deficient transferrin levels, aspartate aminotransferase levels, alanine aminotransferase levels, blood alcohol levels, and drug tests may also be used. Although laboratory tests are not routinely used in practice, because they are more costly and do not offer immediate results, they are objective and may be more compelling to the patient.23

Conclusions

This study examined sociodemographic data for women entering a substance use military treatment facility. It revealed that, except for educational level, the military population's sociodemographic characteristics did not differ from those of the general population. It is imperative, therefore, that military substance use treatment centers offer services designed to evaluate, to address, and to treat the unique biological, social, and psychological needs of women as well as men. It must be known that substance abuse among women has an adverse effect not only on those involved in the abuse but also on their children, families, and communities. It is clear from our study that, because of the rapid and profound effects of drugs and alcohol on women, the earlier a woman enters treatment, the better. This descriptive retrospective study investigated military women and beneficiaries in the Pacific United States; we recommend caution in making generalizations regarding the entire military population. Additional research with this population in other regions is needed before generalizations can be made.

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References
