

Chapter 23

Gender, Alcohol Dependence, and Public Policies



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Introduction

Until about 30 years ago, women were not included in most clinical research. The argument was often based on beliefs (National Institute on Drug Abuse [NIDA] 2019) that women were biologically more complicated than men and that, being primarily responsible for housework and family and young children care, they did not have time to participate in research.

The situation was so absurd that U.S. Senator Barbara Mikulski declared in 2010:

Remember the famous study, take an aspirin a day to keep the heart attack away? That study was done on 10.000 men. Not one woman was included. In a study of the aging process, they told me women weren't included because the wasn't ladies' room available for study participants. Yet the results of these studies were being applied to men and women. I vowed to fix that (NIDA 2018a).

In 1991, the U.S. Department of Health and Human Services established the Office of Women's Health to ensure that broader public health issues related to sex and gender were addressed (NIDA 2018a). But it was not until 2014 that the National Institute of Health announced a new policy requiring that research involving animal and cellular models should include both sexes to receive their funding (NIDA 2019).

For many years, as could not be otherwise, substance use disorders were also considered a male problem. Although already in the Hammurabi code, which is from 1762 BC, we find phrases like *a wife who drinks wine ... may be abandoned at any time* (Lal et al. 2015), only in 1995 did NIDA formally establish the Women and Sex/Gender Disorders Research Program. This program aimed to understand

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the underlying causes of these disorders and the best ways to prevent and treat them in both men and women (NIDA 2019).

In this scenario it is not difficult to imagine why for decades dependent women have been considered more serious than men and a number of myths have been created, such as that alcoholic women have lower retention rates, respond poorly, and have a worse prognosis than men (Hochgraf 1995).

Although the problem of drugs is more present and studied among men, women constitute a growing and vulnerable group, and many are involved in pregnancy and motherhood (Galera et al. 2005).

Prevalence

Epidemiological studies, both in the world and in Brazil, point to a male predominance in the abuse of most substances (Slade et al. 2016). Men are more likely to be drinkers and, among these, men drink more problematically than women (McCaul et al. 2019).

In the USA, a large study conducted between 2012 and 2013, the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC III), reported a prevalence of alcohol use disorders of 17.6% among men and 10.4% among women (Grant et al. 2015).

In Brazil, the II National Survey of Alcohol and Drugs (Instituto Nacional de Ciências e Tecnologia para Políticas Públicas de Álcool e Outras Drogas [INPAD] 2014), which in 2012 interviewed 4607 individuals over the age of 14, found a prevalence of 10.5% male and 3.6% female alcohol-dependent (2.9 men for 1 woman).

We can observe that in Brazil, while male alcohol dependence decreased, female alcohol dependence increased, thus narrowing the gender gap (INPAD 2014). This result is different from that of other countries where, although there is also a decrease in the male-to-female ratio, there is an increase for both genders in alcohol use and alcohol use disorders (Grant et al. 2017; McCaul et al. 2019). Williams et al. (2018), referring to white and Hispanic women in the USA, suggest that the increase in problem drinking among them may reflect changes in social norms and roles, such as the verified transition from domestic to formal work and the postponement of marriage. In addition, the increase in the years of formal education between them and the later age of pregnancy may contribute.

Female Specificities in Alcohol Use Disorders

There are numerous differences between men and women in the emergence and development of substance use disorders. The importance of this understanding lies in the implications for the development of more effective treatment and prevention strategies.

Review studies show a high genetic influence for both men and women in relation to alcohol use disorders, reaching 49% of inheritability. In addition to genetic influence there is an important environmental influence on this inheritability (Munn-Chernoff and Baker 2016; Verhulst et al. 2015).

Considering the beginning of use, women mention specific reasons for the use of psychoactive substances: weight control, dealing with stress and exhaustion and self-medication for feelings and psychic problems (NIDA 2015), while men tend not to give a single reason. In general, women initiate the use with their partners, different from men who are introduced to alcohol by friends. Living together with a substance abuser not only introduces and reinforces women's consumption, but also plays an important role in maintaining their behavior (Lal et al. 2015).

Another characteristic is that women begin to use alcohol later than men, but report a faster progression in the development of the same number of symptoms as men and a shorter length of time between onset of abuse and addiction (Holdcraft and Iacono 2004). This phenomenon is often referred to in the literature as *telescoping effect*. In addition to having a faster progression of their disorder, women generally present themselves to treatment with a more severe picture (Choi et al. 2015).

Still in relation to the pattern of use, women usually drink less alcohol and less frequently than men (Bravo et al. 2013; Health Canada 2001).

Physical issues have a major impact on male and female differences in the evolution of substance use disorders. Since women have less body water than men, assuming both have the same body weight, when ingesting an equal amount of alcohol women achieve a higher blood alcohol content. Another factor for the greater absorption of alcohol among them is due to the gastric concentration of the enzyme ADH (alcohol dehydrogenase), responsible for the metabolization of alcohol, being lower among women compared to men (Hochgraf and Brasiliano 2012).

Besides the higher blood concentration, two factors need to be considered. The first is that women have a higher vulnerability of all organs. The other is the influence of female hormones in the reward system via different neurotransmitters, which would also contribute to gender differences in this pathology (Anker and Carrol 2010). These reasons help understand why the consequences of alcohol abuse are worse in women than among men, with morbidity in alcohol-dependent women being 1.5–2.0 times higher than in those without problem drinking (Brady et al. 1993; Thomasson 2002).

This information is corroborated by other evidence. A study of hospitalized patients showed that men with alcohol problems die three times more than the general population, while women with the same problem die five times more than the general population (Lindenberg and Agren 1988). Similarly, in a recent meta-analysis of 81 studies, Roerecke and Rehn (2014) found a higher mortality rate in women than in men with alcohol-related disorders.

Pregnancy

No doubt the biggest difference between men and dependent women is that women get pregnant. There are numerous issues regarding the use of drugs during pregnancy, both political-social and physical.

It is important to make it clear that of all the psychoactive substances, alcohol is the one that causes the greatest number and most serious problems for the fetus and the newborn, as well as serious consequences for the child's development. Fetal alcohol spectrum disorders (FASD) describe a series of conditions that affect babies who have had prenatal exposure to alcohol. These disorders can manifest themselves in several ways, the most severe of which is fetal alcohol syndrome (FAS). It is estimated that in the USA there are 0.2–1.5 cases of FAS in 1000 live births and that this is the third most frequent cause of mental retardation in newborns (Center for Disease Control and Prevention 2019). This syndrome consists of any combination of the following: low weight for gestational age, malformations in the facial structure (short palpebral fissures, low nasal bridge, and indistinct philtrum), defects in the cardiac ventricular septum, malformations of the hands and feet (especially, syndactyly), and mental retardation that varies from mild to moderate. Problems in behavior and learning can also persist at least during childhood (Howell et al. 1999).

When considering FASD, it is estimated that 1 in every 13 pregnant women who have consumed alcohol during pregnancy will have a child with these disorders. Globally, it is estimated that every day 1700 babies are born with FASD (Lange et al. 2017). There is evidence that drinking in the first trimester increases the risk of FASD by 12 times, drinking in the second and third trimesters increases this risk by 61 times and in all trimesters by 65 times. Conversely, drinking in the first trimester alone is 5 times less risky than drinking in all quarters (May et al. 2013).

It is interesting to mention that the chronic consumption of alcohol by men seems to lead to hypomethylation in some regions of the sperm DNA and the transmission of these epigenetic alterations in fertilization could alter the expression of genes critical to normal development, thus increasing the risk of FASD (Cernach 2017). Since the frequency of consumption and the amount of alcohol that would be involved in this syndrome are unknown, as well as the role of nutritional deficiencies secondary to alcoholism, women are recommended not to drink during pregnancy. It should be emphasized that already in the Old Testament in the Holy Bible there are references to the deleterious effects of alcohol during pregnancy: “but he assured me: you will become pregnant and give birth to a child. However, do not drink wine or any other fermented beverage” (Biblia 1969).

A study conducted in Canada in 2011, which found that 14% of women had used alcohol in pregnancy, proposed that in view of the high prevalence, all pregnant women should be evaluated for alcohol and other drug use. Recalling that this is a period with greater motivation for unhealthy or dangerous behavior changes, the authors suggest working with harm reduction: encouraging abstinence or reduction in use, safe use, treatment of withdrawal symptoms, counseling, and pharmacotherapy. Special attention should be given to the risk of sexually transmitted diseases (Wong et al. 2011).

Reinforcing how much the investment in pregnancy is worth, Forray (2016) found that 96% of heavy drinkers, 73% of cocaine addicts, and 32% of smokers were able to stay abstinent in pregnancy. After delivery only half of the alcoholics relapsed; a lower rate was found for cocaine addicts (27%) and a slightly higher rate for smokers (58%).

Characteristics and Specific Needs of Treatment Programs

There is almost consensus in the literature that stigma is one of the main barriers to access, retention, and success in treatment. Alcohol use disorders are among the most severely stigmatized psychiatric disorder. In general, alcoholics are seen as dangerous, unpredictable, and blamed for their own condition (Keyes et al. 2010; Weine et al. 2016). In addition, individuals who suffer from substance use disorders are considered less ill and provoke more negative emotions, rejection, and a desire for social distance (Schomerus et al. 2011).

Women also suffer from stigma, although there is no consensus in the literature about the difference with men. While some studies indicate that they are more stigmatized (Pretorius et al. 2009; United Nations Office on Drugs and Crime 2004), others go in the opposite direction (Keyes et al. 2010). In any case, stereotypes of greater aggressiveness and sexual promiscuity are more linked to the female gender (Hochgraf 1995). Special emphasis has been placed on pregnancy, as there is a strong stigma towards women who use alcohol in pregnancy (Corrigan et al. 2018).

Despite all the changes in the social roles of men and women, it is not difficult to observe that this prejudice continues to exist to this day, making it difficult for dependent women to access treatment. Thus, they are generally underrepresented in therapeutic centers. It is estimated that only 23% of men and 15% of women with alcohol use disorders seek treatment (Health Canada 2001; McCrady et al. 2009) and the ratio of male-to-female users in mixed services may reach 10:1 (Greenfield et al. 2007).

In a recent editorial published in an important journal of gynecology and obstetrics, Prasad and Metz (2019) states:

“Substance use disorders is associated with more stigma than other chronic diseases. As such, some people with substance use disorders will not seek treatment and some doctors refuse to treat patients with addiction. Similarly, some pharmaceutical companies will not work to develop new treatments for addicts, which has limited options for women with this chronic disease. Overtime, it is our hope that as a result of public education and broader acceptance of addiction as a treatable disease, that stigma will become less of a barrier to those who need treatment for substance use disorders” (2019, p.111).

Further on, the authors reiterate “...we can begin to medicalize our approach, rather than stigmatize pregnant women with substance use disorder” and “...relapse should be considered part of the substance use disorder disease process, rather than a transgression” (Prasad and Metz 2019, p. 111).

This stigma is believed to be one of the most important variables responsible for the fact that most women with alcohol problems prefer to seek help in general health centers rather than specialized centers (Bold et al. 2017).

Regarding treatment, a particularly important fact is the motivation for them to seek treatment. A work by Grosso et al. (2013) showed that women have more internal motivations: concern about the progression of alcoholism (61.1%), physical health (43.4%), mental health (38.9%), and family relations (38.3%) compared to men, whose motivations are predominantly external. An interesting fact of this work is that the reason why women seek treatment is associated negatively with treatment outcome and retention.

We should remember that, compared to men, women face more barriers to enter treatment: more social opposition, less support from family and friends, higher unemployment, greater economic barriers, more family responsibility, increased stigma, and social disapproval (Grosso et al. 2013). It is worth noting that married alcoholic women with children suffer more guilt and shame than men in the same situation (Thurang et al. 2010). Besides these, Becker and Duffy (2002) point out as obstacles: the repercussion of stigma on child protection items, fragility of maternity support services, negative attitude of health professionals and, finally, ineffective interagency service. In relation to pregnant women, the authors indicate that stigma against women who use alcohol can influence public policies related to the withdrawal of custody, inhibiting the demand of mothers for treatment. Despite the fear of losing their children, the concern with the impact that alcohol use can have on the child's life is a great motivator for seeking treatment (Powis et al. 2000). Assuming that children should stay with their biological parents as far as possible improves the relationship of women with problematic use of alcohol and other drugs with social welfare departments and also breaks with the idea that the search for addiction-related care leads to immediate loss of custody (Henderson et al. 1995).

Another problem faced by pregnant women with alcohol-related problems is that when they report their disorder during prenatal care, they are referred to services of high complexity, often far from the region where they live. This decreases the retention of these pregnant women to prenatal care and causes them to deny their problem (Becker and Duffy 2002).

Despite all these difficulties and contrary to what was believed, Bravo et al. (2013) in a 20-year longitudinal follow-up study of men and women treated for alcoholism concluded that women have greater retention to treatment and better long-term evolution in alcohol consumption. This evolution is possible as long as the important differences between men and women alcoholics are considered in the development of treatment programs, especially for women who often report preferring exclusive programs for them (Sugarman et al. 2016). Numerous studies have pointed out that they obtain the greatest benefit when treated in these programs, since they are the ones that enable their full participation (Choi et al. 2015). The same would not occur in mixed gender treatments, which generally fail to respond to women's needs, since men's interests tend to predominate by making it difficult, or even preventing to address their particular issues (Greenfield et al. 2010). Building a personal identity, improving self-esteem, developing positive interpersonal

relationships, mother–child interaction, and vocational training are usually key focuses in the recovery of dependent women, which are hardly worked in mixed groups, usually more focused on men’s conflicts with abstinence and its maintenance (Greenfield et al. 2010).

Ideally, gender-sensitive programs should include other factors, which have been pointed out in the literature, such as: facilities the service can offer to overcome structural (e.g., childcare and legal aid), attitudinal (such as shame at discussing the problem, hopelessness about results), personal (such as lack of employment, family responsibilities), and social barriers (such as partner and family members’ opposition to treatment) (Verissimo and Grella 2017). Also, there is a need for health team members to recognize, create empathy, and deal with the specific nature of alcohol use in women (Brasiliano and Hochgraf 2006).

Although there is still little research studying the effectiveness of gender-sensitive treatments, two review and meta-analysis studies are important: in the first, Orwin et al. (2001) conducted an extensive review of treatments offered to women and concluded that, compared to mixed gender services, women only programs achieve additional beneficial results and are more effective, particularly when their approaches are intensified and directed specifically to the needs of the population they serve. In the other review, Ashley et al. (2003) found similar findings examining components of therapeutic approaches from 38 evolution studies, 7 with randomized clinical samples and 31 with non-randomized samples. The authors observed significantly higher results, such as: increased retention rates; decreased substance use; reduced HIV risk behaviors; and improvements in self-esteem, depression, and pre- and neonatal care associated with: day care centers, prenatal care, exclusive admission of women, workshops on women’s issues, mental health approaches, and intensified programs.

A study by Sugarman et al. (2016) showed that women only recovery groups for drug use disorders are significantly more cohesive and more frequented than mixed gender groups. Women feel more welcome and secure in these groups and verbal support seems to be key to keeping them in treatment.

In conclusion, according to the National Institute on Drug Abuse (2018b) effective treatment for alcohol-dependent women ideally should include approaches that recognize sexual and gender differences, understand the types of trauma they often face, offer support for childcare, and use evidence-based strategies for treatment of pregnant women.

Final Considerations

Prevention programs, as well as treatment programs, aimed at women should be designed specifically for them and not adapted from male models. One of the main issues is to provide women with scientifically based information about their increased vulnerability to alcohol and the consequences of its use for their bodies

and for pregnancy and breastfeeding. On this account, we reaffirm the need for scientific production that studies this population and its specificities.

Considering that women's consumption in general is in *binge* pattern we can prevent harm by focusing on situations of risk of violence, through the creation of a support network to which women feeling vulnerable when intoxicated by alcohol may ask for help in bars and other places they drink, encouraging the use of safe transportation, either by specific transportation applications for this population or by walking along someone else whenever possible.

Professionals should be alerted to problem use screening on women, focusing on combating stigma and prejudice. As the use of women also presents the characteristic of being domestic and hidden from the family, the approach of health professionals is of great importance.

It is important to focus on the use of alcohol in pregnancy. Although the recommendation is not to drink anything during this period, there is a hidden tolerance for alcohol consumption and excess is more common than one might think. Training basic care professionals for an empathetic and judgment-free approach can make it easier to obtain information and early diagnosis of abuse, which favors, if necessary, the woman's referral to a therapeutic program that can guarantee her health and that of the baby.

It is also worth noting that a significant number of women with alcohol-related problems report having been victims of physical or sexual abuse by close relatives during their childhood or adolescence (Cesar 2006), and it is therefore of great importance to promote policies to prevent violence against women.

Finally, in recent years we have seen a growth in alcoholic beverage advertising aimed at women. This reflects directly on the increase in consumption by this population. Combating alcohol advertising in general is one of the most effective ways to decrease consumption, a policy whose success can be illustrated by anti-smoking campaigns.

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