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Tobacco Use among Foster Youth: Evidence of Health Disparities

Jordan M. Braciszewski^a and Suzanne M. Colby^b

Suzanne M. Colby: Suzanne_Colby@brown.edu

^aDecision Sciences Institute, Pacific Institute for Research and Evaluation, 1005 Main St., Suite, 8120, Pawtucket, RI, USA, 02906

^bCenter for Alcohol and Addiction Studies, Brown University, Box G-S121-4, Providence, RI, USA, 02912

Abstract

Youth aging out of foster care face a challenging road to independence. Following exposure to myriad risk factors such as abuse, neglect, parental substance use, and severe housing mobility, supportive services decrease upon exit from care, often increasing risk for substance use, homelessness, and unemployment. Although tobacco use is also highly prevalent, little attention has been paid to screening, assessment, and treatment of tobacco use in this vulnerable group. The current study ($N = 116$) reports on tobacco use prevalence, consequences, and co-occurrence with other substances in a sample of youth (ages 18 to 19) exiting the foster care system. In the face of an overall decrease in tobacco use among general population adolescents and young adults, results suggest disproportionate levels of lifetime, recent, and daily use among foster youth. Prevalence of recent tobacco use (46%) is nearly triple national rates, while daily smoking (32%) is almost four times that of general population young adults. Tobacco users were more likely than non-users to drink (70% vs. 40%) and to smoke marijuana (72% vs. 25%). We strongly encourage researchers and practitioners to increase attention to this tobacco-related health disparity.

Keywords

foster care; tobacco use; aging out; substance use

1. Introduction

Tobacco use is the single most preventable cause of morbidity and premature mortality in the United States, accounting for nearly 480,000 annual deaths (U.S. Department of Health and Human Services, 2014). While the last 20 years have seen a substantial decline in the

Correspondence concerning this article should be addressed to: Jordan M. Braciszewski, Ph.D., Decision Sciences Institute, Pacific Institute for Research and Evaluation, 1005 Main Street, Suite 8120, Pawtucket, RI, USA, 02860; +1 401 729-7505 ext. 2105 (office); +1 401 729-7506 (fax); jbraciszewski@pire.org.

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prevalence of U.S. adolescent and young adult cigarette smoking (Johnston, O'Malley, Miech, Bachman, & Schulenberg, 2015), many vulnerable subpopulations (e.g., LGBT, those living with a disability, individuals experiencing homelessness) have not experienced these changes (Baggett & Rigotti, 2010; Green et al., 2007; Lee, Griffin, & Melvin, 2009; Schroeder & Morris, 2010). Foster youth are one such at-risk group, as maltreatment and neglect are strongly related to smoking behavior. For example, maltreatment and other adverse childhood experiences (ACEs) such as childhood abuse, substance use in the home, mental illness in the home, and parental separation predict early initiation of tobacco use, lifetime use, current use, and heavy smoking (Anda et al., 1999; Ford et al., 2011; Mills, Alati, Strathearn, & Najman, 2014), independent of other known risk factors such as parental smoking and household substance abuse. While a graded relationship exists between ACEs and smoking (Anda et al., 1999; Ford et al., 2011), maltreatment is particularly harmful, prospectively predicting nicotine dependence above and beyond other ACEs (Elliott et al., 2014). Given their disproportionate exposure to ACEs, foster youth are at extreme risk for developing harmful tobacco use behaviors.

Indeed, the National Study on Child and Adolescent Well Being – a nationally representative study of youth in the U.S. child welfare system – indicated that nearly half (48%) of youth (aged 11-15) in out-of-home care situations (i.e., traditional foster care, kinship foster care, and group care, $n = 331$) were lifetime cigarette smokers; over one-third (37.4%) of these lifetime smokers reported current cigarette smoking (U.S. Department of Health and Human Services, 2005). Nearly identical rates were reported among adolescents in Missouri foster care, with 38.1% identifying as current smokers (Scott Jr, Munson, McMillen, & Ollie, 2006). Looking outside the United States, smoking prevalence within foster care populations are comparable, if not higher. For example, among 58 foster youth in Serbia and Montenegro, 79.3% reported lifetime cigarette use and over half (55.2%) were current smokers (Backović, Marinković, Grujić, Šipetić, & Maksimović, 2006). Of the 32 current smokers in that study, over 4 in 5 (81.3%) smoked 5-7 days per week. Among three independent samples of Turkish youth residing in social service settings (e.g., orphanages, foster care), current smoking rates ranged from 19.7% to 32.2% (Caman & Özcebe, 2011; Erguder et al., 2009; Erol, Simsek, & Münir, 2010).

The remainder of available data on the high prevalence of tobacco use among foster youth, however, comes from U.S. studies of other at-risk or general populations in which former foster care placement is ancillary. For example, within the AddHealth sample (a nationally representative sample of general U.S. adolescents), 45% of participants with a history of foster care acknowledged being a current smoker (Snyder & Medeiros, 2013). In a study involving substance-using homeless youth aged 15-25, 98% of those who had been in foster care ($n = 44$) reported lifetime tobacco use (Hudson & Nandy, 2012). Similarly, in a sample of chronically delinquent boys in foster care (aged 12-17, $n = 79$), 78% reported tobacco use in the past 6 months (Smith, Chamberlain, & Eddy, 2010). In a sample of adolescents receiving substance use treatment (aged 12-17), 60% of those who had a foster care placement in the last year ($n = 366$) were weekly tobacco users, which was significantly greater than those without such a history (48%; Coleman-Cowger, Green, & Clark, 2011). Among newly homeless young adults aged 18-21, those with a history of foster care ($n =$

147) were three times more likely to be current smokers (Thompson & Hasin, 2011). A limitation of the extant literature is that this selection of samples involves current substance use, homelessness, and/or delinquency, all of which are also associated with risk for tobacco use. However, even among these high-risk populations, a history of foster care is associated with even greater tobacco use prevalence.

Among foster youth, moreover, those exiting or “aging out” of the system are a group at particular risk. Although the transition to adulthood is difficult for many in the general population, the path out of foster care and into independence presents additional challenges (Masten, Obradovic, & Burt, 2006; Osgood, Foster, Flanagan, & Ruth, 2005; U.S. Department of Health and Human Services, 2007). In addition to the ACEs noted above, youth experience significant home and school instability while in the foster care system, both of which negatively impact the scaffolding from which adolescents build a successful path to adulthood (Geenen & Powers, 2007; McCoy, McMillen, & Spitznagel, 2008). Upon exit, these youth experience alarmingly high rates of substance use, unemployment, unstable housing, and both psychiatric and physical health issues (Courtney & Dworsky, 2006; Courtney et al., 2005; Courtney, Piliavin, Grogan-Kaylor, & Nesmith, 2001; Pecora et al., 2006). In fact, almost half of aged out youth report housing instability, and one in five report chronic homelessness within two years of leaving foster care (Fowler, Toro, & Miles, 2009). Combined with decreasing access to health services (Casanueva, Stambaugh, Urato, Fraser, & Williams, 2011; McCarthy, Van Buren, & Irvine, 2007), aging out youth may find themselves surrounded by factors that augment their already increased likelihood of tobacco use and tobacco dependence.

Such data, however, are sparse, with only one study of tobacco use among former foster youth, who were also homeless (Thompson & Hasin, 2011). The current study fills this gap in the literature by reporting the prevalence of tobacco use among a general sample of youth aging out of foster care. Additionally, this report moves the field forward by being the first to examine prevalence of tobacco dependence symptoms and co-occurrence of other substance use in this population.

2. Material and Methods

2.1. Procedures

Young adults aging out of foster care were recruited from a large New England agency serving individuals receiving transitional foster care services. Data for the current study were derived from the screening measures for a larger intervention development project (reference deleted to protect blind review). Young people were identified through flyers and referral by agency staff, and were then invited to be screened for the larger study. Specifically, flyers advertised a general health study for former foster youth aged 18 or 19. Agency staff referred all program youth to study interviewers using the same criteria (i.e., they asked any 18 or 19 year old in the program if they were interested in hearing more about a health study). For screening, youth also needed to have left child welfare custody within the past 2 years. Given the focus of the program from which individuals were being recruited, all 18 and 19 year olds met this criterion. Once referral criteria were met, youth were then asked a series of questions to determine eligibility for the parent study. Only 1

young person who met referral criteria declined to complete the screening measures. Full screening took no more than 10 minutes and participants did not receive a monetary incentive.

2.2. Participants

In total, 116 young people completed the screening procedure for the larger study. On average, participants were just over 19 years old ($M = 19.04$ years, $SD = 0.60$) and had been removed from foster care for an average of 9.84 months ($SD = 7.75$). Cell phone ownership was nearly ubiquitous (98%), with all owners using text messaging as a form of communication.

2.3 Measures

History of substance use was collected using the Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST; WHO ASSIST Working Group, 2002). The ASSIST evaluates frequency and consequences of use for a variety of substances, separately. For this study, we assessed use of tobacco ("tobacco products (cigarettes, chewing tobacco, cigars, etc.)"), alcohol, marijuana, cocaine, amphetamines, inhalants, sedatives, hallucinogens, opioids, prescription opioids, bath salts, and synthetic cannabinoids. Weighted scores are assigned and summed for a total score, which can be used to categorize risk level (i.e., low, moderate, and high). Moderate and high risk scores are strongly predictive of interview-based determinations of substance use disorders (Humeniuk et al., 2008). Descriptive statistics on tobacco use are presented, as well as on co-occurring tobacco, alcohol, and marijuana use.¹

3. Results

Table 1 illustrates prevalence of tobacco and other substance use among the full sample, recent tobacco users (i.e., past 3 months), and those who have not recently or ever used tobacco. With regard to overall frequency, 62% ($n = 72$) reported lifetime tobacco use and nearly half (46%) indicated recent use ($n = 53$, defined as at least one day in the last three months). About one-third (32%) of the full sample identified as "daily or almost daily" tobacco users; such individuals represented almost 70% of recent users. Nearly all recent tobacco users endorsed symptoms of tobacco dependence, with 87% reporting recent (i.e., past 3 months) cravings and one-third experiencing psychosocial problems (e.g., social, health, financial) due to tobacco use. Almost half (46%) had unsuccessfully attempted to quit or cut down at some time in the past. Among the full sample, 57% were categorized as low risk (or had never used), 32% were moderate, and 11% were high risk.

Co-occurrence of alcohol and marijuana use was very common (see Table 1). Among individuals endorsing recent tobacco use, 70% reported concurrent alcohol use, significantly more than those who were not recent tobacco users (40%). Co-occurring marijuana use rates were even higher, with 72% of recent tobacco users endorsing marijuana use compared to just 25% of non-tobacco users. Correspondingly, likely rates of both Alcohol and Marijuana

¹Endorsement of using other substances was so low as to preclude presentation.

Use Disorder (i.e., scoring at moderate or high risk) were significantly higher among recent tobacco users. In addition to nearly ubiquitous co-occurrence of tobacco and marijuana use, such use was generally at high levels. Specifically, 89% of recent co-users of tobacco and marijuana would likely meet criteria for a Marijuana Use Disorder. Finally, over one-quarter (26%) of recent tobacco users reported daily use of both tobacco and marijuana.

4. Discussion

Youth exiting foster care evidence high rates of tobacco use and co-occurrence with alcohol and marijuana, putting many of these vulnerable youth at risk of continuing their use of tobacco into adulthood. Lifetime tobacco use rates found here mirror that of other child welfare and foster care samples (Coleman-Cowger et al., 2011; Hudson & Nandy, 2012; Smith et al., 2010; Thompson & Hasin, 2011). Best comparisons with general population prevalence rates come from nationally representative surveillance studies including the National Youth Tobacco Survey (NYTS; Arrazola et al., 2015) and the Monitoring the Future study (MTF; Johnston et al., 2015). In the NYTS, current prevalence of any tobacco product use (defined as past-30 day use, rather than past 90) was just over half that of the current sample (25% vs. 46%). While MTF does not report on use of “any tobacco product use,” past 30-day cigarette use rates are also substantially lower than tobacco prevalence in our sample (14% vs. 46%). Similar trends are seen for lifetime and daily use, with national prevalence estimated at 34% (lifetime) and 7% (daily) by the MTF rates, in contrast with 62% and 32%, respectively, in our sample. While the time frames and forms of tobacco assessed by these studies do not completely overlap, foster youth are clearly reporting disproportionate levels of tobacco use.

Cultural adaptation of evidence-based treatments is considered warranted for certain understudied groups of tobacco users who meet *a priori* criteria, including tobacco-related health disparities, a tobacco use prevalence more than 10% greater than the general population, lack of access to treatment or significant barriers to treatment, and are understudied in terms of prospective longitudinal treatment trials (Borrelli, 2010). According to these criteria, foster youth would be considered a “special population” for which adaptation might involve differences in treatment content, or the approach to engagement and delivery, in order to accommodate their specific needs, risks, and protective factors. Indeed, when traditional behavioral health services are made available to foster youth, significant population-specific barriers exist, such as perceived and actual lack of confidentiality (Braciszewski, Moore, & Stout, 2014); reluctance to bond with a provider given experiences with previous close relationships (Braciszewski et al., 2014); general mistrust of institutions (Braciszewski et al., 2014; Davis, 2003); and lack of delivery, coordination, or continuity of care, given housing instability (Horwitz, Owens, & Simms, 2000; Kelleher & Scholle, 1995; Simms, Dubowitz, & Szilagyi, 2000) or overburdened case managers (Schneiderman, 2004). Future research should, thus, focus on the optimal delivery of evidence-based treatments to foster youth.

Limitations of this study include the lack of a direct normative comparison group, sparse demographic information, and the reliance on a measure of “any tobacco product use,” rather than individual tobacco products (e.g., cigarettes, cigars, smokeless tobacco, etc.).

Strengths include the sample size, the novelty of data on dependence symptoms and co-occurring substance use, and the use of a general aging out population, rather than one selected for another high-risk status or behavior, in which foster care placement is ancillary. Future studies should examine the prevalence of other tobacco forms in this population. Given recent increases in the use of e-cigarettes and dual use of tobacco products among adolescents and young adults (Arrazola et al., 2015), tracking the use of these products among foster youth is particularly important. As highlighted by the editors of a recent themed issue on tobacco-related health disparities (Okuyemi, Reitzel, & Fagan, 2015), studies on health disparities do not yet reflect the evolving nature of tobacco use. Research that will advance our understanding of the collective impact of the marketing and use of e-cigarettes, hookah, smokeless tobacco/snus, cigars, little cigars, and cigarillos on health disparities is a high priority.

While cigarette use has declined dramatically among youth in the U.S., smoking is now increasingly concentrated among high-risk groups (Garrett, Dube, Babb, & McAfee, 2014), such as youth in foster care, who will ultimately bear a disproportionate burden of tobacco-related disease and death. Despite this health disparity, little attention has been paid to tobacco assessments and interventions among this vulnerable group (Leslie et al., 2003). Given the likelihood that many of these young people will follow a trajectory to tobacco dependence in adulthood (Breslau & Peterson, 1996) and that access to health care services decreases post-exit (Casanueva et al., 2011; McCarthy et al., 2007), attention to foster youth tobacco use, in the U.S. and abroad, is paramount. With a broader knowledge base of foster youth tobacco use, screening and intervention can more optimally target this vulnerable group of emerging adults.

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Highlights

- Foster youth use tobacco at significantly higher rates than the general population.
- Lifetime, recent, and daily use are all higher among youth exiting foster care.
- Marijuana use is nearly ubiquitous among tobacco using youth exiting foster care.
- Tobacco users are significantly more likely to also use alcohol or marijuana compared to non-tobacco users.
- Findings are limited by an omnibus measure of tobacco use.

Table 1

Tobacco use and substance use co-occurrence.

	Total sample (N = 116)	Recent tobacco use (n = 53)	No recent tobacco use (n = 63)	χ^2
	%			
Lifetime tobacco use	62.1			
Daily tobacco use	31.9	69.8		
Tobacco dependence symptoms				
Recent cravings		86.8		
Recent psychosocial problems		32.1		
Unsuccessful quit attempt(s)		62.3		
Risk category				
Low	56.9	5.7		
Moderate	31.9	69.8		
High	11.2	24.5		
Recent alcohol use	53.4	69.8	39.7	10.5**
Recent risky alcohol use	13.8	22.6	6.4	6.4*
Recent marijuana use	46.6	71.7	25.4	24.8****
Recent risky marijuana use	39.7	64.2	19.0	24.5****

Note.

*
 $p < .05$ **
 $p < .01$ ***
 $p < .001$ ****
 $p < .0001$;

risky = high likelihood of diagnosis