Alcohol Use, Comorbidities, and Receptivity to Treatment in Hispanic Farmworkers in Primary Care

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Abstract: Primary care is a promising setting for alcohol screening and intervention with low-income Hispanic farmworkers, yet no research has been conducted that estimates the prevalence of harmful and hazardous drinking, psychiatric comorbidities, or receptivity to treatment in this population. This study investigates rates of alcohol misuse, depression, anxiety, somatization, and cigarette use in a convenience sample of low-income Hispanic farmworkers and farmworker spouses in Florida making walk-in visits to a rural community health center. Results indicated a high prevalence of alcohol use but also a strong willingness to receive treatment. Forty-four percent (44%) screened positive for harmful and hazardous alcohol use; over half (58%) screened positive for one or more comorbidity risks. Receptivity to alcohol treatment was high (75%). These results strongly support the need for and potential utility of alcohol intervention in primary care for this population.

Key words: Hispanics, farmworkers, low income, alcohol, comorbidities, psychosocial traits, receptivity to treatment, primary care.

Alcohol misuse is the third leading preventable cause of death in the United States,[1,2] associated with many chronic diseases,[3,4] cancers,[5,6] and social deterioration. Low-income Hispanic laborers experience rates of alcohol problems higher than those of other Hispanics and people of other ethnicities yet are less likely to seek or receive recommended preventive health services.[7-11] Hispanic laborers employed as farmworkers are at especially great risk for health problems. They experience additional risk factors associated with rurality, such as reduced access to care. Furthermore, as farmworkers, they earn the lowest laborer wages, are least likely to have health care insurance, are vulnerable to substandard housing conditions, and work in environments posing serious health risks (e.g., physical injury, exposure to pesticides).[12,13]

The limited research on alcohol use among male Hispanic farmworkers, who are largely first generation immigrants from Mexico and Central America, indicates a broad range of both quantity and frequency of consumption.[12] Although up to half report

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little or no drinking, as many as 50% of male farmworkers who do drink, drink heavily (having four or more drinks per episode).[13-19] In addition, drinking prevalence among Hispanics increases with ongoing social assimilation in the United States, and most studies have shown that Hispanic drinkers do not drink less as they grow older in the way that the U.S. population generally does.[20-22] Key studies of Hispanic populations indicate that progressively heavier drinking leads to worsening outcomes, including driving under the influence, heightened risk of injury in an already dangerous occupation, increased likelihood of engaging in risky sexual behavior (i.e., behavior with increased likelihood of exposure to sexually transmitted infections, including HIV), physical assault, and intimate partner violence.[12] In general, Hispanic drinkers experience more negative health-related, social, legal, and dependence-related consequences of drinking than other ethnic groups.[7,21,23-27]

Primary care, the entry point to the U.S. health care system for the majority of adults, is recommended as a prime setting for screening and intervention with patients who misuse alcohol.[28,29] To date, little research has focused on primary care interventions with Hispanic people who misuse alcohol, and no known research has focused on Hispanic farmworkers and their spouses who present in primary care. It is important to study the characteristics of this population as a first step in understanding the potential benefits of primary care intervention.

Recent prevalence. Up to 35% of primary care patients suffer from recent (past year) substance abuse or mental disorders.[30-32] The majority of these patients receive care solely from their primary care physicians.[33] This is especially true for low-income populations who generally lack access to specialized mental health services.[34,35] Rates of risky drinking in Hispanic farmworkers and spouses who present in primary care are unknown.

Psychiatric comorbidities. Paradoxically, alcohol misuse alone does not seem to be associated with poorer quality of life indicators in primary care patients.[36,37] This is likely important because, if abusers have not experienced a diminished quality of life, they may be less receptive to treatment. However, substance abusers with psychiatric comorbidities are more likely to function poorly than primary care patients with no psychiatric diagnoses.[18,38] Knowledge of comorbidity prevalence is important because this may affect the nature of alcohol interventions. To date, there are no published estimated primary care prevalence rates for at-risk drinker psychiatric comorbidities in Hispanic farmworkers and spouses.

Receptivity to primary care treatment. Intervention in primary care for at-risk drinking using brief alcohol interventions (BAI) has been shown to be efficacious in predominantly White populations.[39-45] Brief alcohol interventions are highly cost-effective and there are no significant differences in outcomes between efficacy and effectiveness trials, making BAI valuable for primary care.[27,46,47]

Only one randomized study testing an early BAI prototype with low-income Hispanics in primary care was found in the literature.[48] The BAI did not significantly improve outcomes. It is important that the target of any intervention be receptive to it. Thus, it would be useful to explore low-income Hispanic drinkers' receptivity to primary care alcohol interventions.

Special populations. *Migrant versus seasonal farmworkers*. Little, if any, research

has been done to compare the drinking patterns of *migrant* (those who travel nationally and/or internationally to work) with *seasonal* (those who do not move with the agricultural seasons) farmworkers, particularly in primary care. Additionally, there are no known primary care studies of psychiatric comorbidities or receptivity to alcohol treatment comparing these groups.

Hispanic farmworker women. In community samples, Hispanic women's alcohol consumption has been reported to be much lower than men's.[49,50] However, there is mounting evidence that heavy drinking among Hispanic women is not rare and that the its prevalence is increasing,[7,22] including among pregnant Latinas,[51,52] and those of child-bearing age.[53] Higher acculturation, as measured by the number of years or generations living in the United States, is specifically related to higher levels of drinking among women.[54-56] There are no known primary care studies of alcohol misuse rates, comorbidities, or receptivity to treatment in female Hispanic farmworkers or Hispanic farmworker wives.

Goals of study. The present study explored current prevalence and characteristics of at-risk drinking among Hispanic farmworkers, including migrant and seasonal farmworkers and their spouses, who present in primary care. Among at-risk drinkers, demographic characteristics, psychiatric comorbidity risk, and receptivity to primary care treatment were investigated.

Methods

Participants. A convenience sample of Hispanic farmworkers and spouses seeking walk-in medical care for themselves or their children were identified during check-in at a rural community health center (CHC) in southwest Florida. This CHC is in a largely agricultural county that has one of the largest farmworker populations in Florida.[57] Hispanic farmworkers, both seasonal and migrant, mostly from Mexico and Central America, predominate in the community. This ethnic profile is consistent with migrant and seasonal farmworkers in the rest of Florida and with migrant farmworkers who follow the East Coast Stream.[58,59] Subject recruitment occurred daily during all clinic hours from January to March 2008. Each potential participant was offered a chance to participate.

Measures. The questionnaire consisted of demographic questions, clinic questions, and five mental health screeners. General and immigration-related demographic characteristics included gender, age, nativity, farmworker status (seasonal or migrant), and whether the participant was a farmworker or a farmworker's spouse. Clinic questions included reason for visit and whether the appointment was for the respondent, the respondent's spouse, or the respondent's child.

The Rapid Alcohol Problems Screen 4—Quantity/Frequency (RAPS4-QF) scale[60] is a six-item screener that assesses risk for harmful drinking in the previous 12 months. *Harmful drinkers* are those who meet criteria for alcohol abuse but not dependence. We also wanted to identify *hazardous drinkers*, those who do not meet criteria for alcohol abuse or dependence but who drink more than the recommended limits of safe drinking (two drinks per day for men, one drink per day for women).[61] We enhanced the RAPS4-QF by adding the question: *If we wanted to test a program that could help*

you stop drinking, would you agree to be in the study? Those who screened negative for alcohol abuse but answered *yes* to this question were considered hazardous drinkers, on the assumption that only people who perceive themselves as drinking too much (yet who screened negative for abuse) would respond affirmatively to the treatment question.

Other screeners included the Patient Health Questionnaire somatization scale (PHQ-15),[62] a 15-item, four-point Likert scale of somatic symptoms in the previous four weeks; the Patient Health Questionnaire depression scale (PHQ-9),[28] a seven-item, four-point Likert scale of major depressive symptoms in the previous two weeks; the General-ized Anxiety Disorder (GAD)-7 scale,[63] a seven-item, four-point Likert scale assessing various anxiety symptoms over the previous two weeks; and the mobile examination centers (MEC) tobacco questionnaire,[64] a one-item question about cigarette use in the previous five days.

Procedures. Each subject completed the questionnaire (in Spanish or English) using QDS™ audio computer-assisted self-interviewing (ACASI) software.[65] A research assistant provided an orientation to the computer while the subject completed non-identifying demographic items. A touchscreen overlay on the computer screen enabled the subject to use a stylus or finger to press the answer buttons. If desired, the computer read the questions to the participant, then read the answers and indicated which of the differ-ently colored buttons corresponded to each of the answer choices. Each participant was compensated with a $5 gift card. The study was approved by the Institutional Review Board at Florida State University.

Analysis. Because the primary objective of this study was to explore the prevalence of at-risk alcohol use and population characteristics in this sample, descriptive statistics and chi-squared analyses were used. Data were analyzed using SPSS 16.0.1.[66]

Results

Total sample characteristics. Of the 410 Hispanics invited to participate, 276 (67%) completed the study. We were not able to assess comparability of participants and non-participants. Men accounted for 23.2% of the sample and over 90% were foreign-born (Table 1). The average age was 34.3 (standard deviation [SD] = 12.5) years. On average, foreign-born Hispanics had lived in the United States of 11.0 years (SD = 8.0) and had come to the United States at age 23.2 (SD = 9.6). All subjects completed the survey in Spanish. All subjects opted to use the audio enhancement rather than just read the questions. Many participants volunteered that this was their first experience with a computer. Others noted that they were not able to read the questions. All participants were instructed to ask the clinic staff if they had difficulties completing the computer-ized questionnaire, but none did.

Recent at-risk drinking prevalence. Recent *at-risk* drinkers were defined as those who screened positive as harmful or hazardous drinkers in the past year (i.e., any subject drinking more than the recommended level of safe drinking but not so much as to be considered alcohol dependent). Of the 276 Hispanics screened, 121 (43.8%) screened positive for at-risk alcohol use (Table 1). Patients who were farmworkers themselves were significantly more likely than spouses of farmworkers to screen positive. Notably,

Table 1.

TOTAL SAMPLE BY AT-RISK VERSUS NOT AT-RISK DRINKERS

Characteristic	Total sample (n=276) n	At-risk (n=121; 43.8%) n (%)	Not at-risk (n=155; 56.2%) n (%)	X² (df)^Sig
Demographics				
Sex				19.6 (1)**
Men	64	44 (68.8)	20 (31.2)	
Women	212	77 (36.3)	135 (63.7)	
Nativity				6.9 (5)
El Salvador	1	0 (0.0)	1 (100.0)	
Guatemala	30	14 (46.7)	16 (53.3)	
Honduras	2	0 (0.0)	2 (100.0)	
Puerto Rico	2	0 (0.0)	2 (100.0)	
Mexico	219	95 (43.4)	124 (56.6)	
United States	22	12 (54.6)	10 (45.5)	
Worker status +				0.6
Migrant	164	75 (45.7)	89 (54.3)	
Seasonal	105	43 (41.0)	62 (59.0)	
Subject's relationship to farmworker				12.7 (1)**
Subject is farmworker	135	74 (54.8)	61 (45.2)	
Subject's spouse is farmworker	141	47 (33.3)	94 (66.7)	
Subject's relationship to patient				1.5 (2)
Parent (pediatric appt)	123	49 (39.8)	74 (60.2)	
Self	140	66 (47.1)	74 (52.9)	
Spouse	13	6 (46.2)	7 (53.8)	
Comorbidities				
Any comorbidity	113	65 (57.5)	48 (42.5)	14.6 (1)**
Depression	67	38 (56.7)	29 (43.3)	5.9 (1)*
Anxiety	64	37 (57.8)	27 (42.2)	6.5 (1)*
Somatization	53	32 (60.4)	21 (39.6)	7.2 (1)**
Cigarette use	22	18 (81.8)	4 (18.2)	11.1 (1)**

*Significant at $p < 0.05$
**Highly significant at $p < .01$
+ = 7 subjects refused to answer

at-risk drinking was comparably prevalent in patients presenting for their own care and in parents presenting for their children's care. At-risk drinkers were not statistically different from not at-risk drinkers in average age (35.6 years, SD 13.5 vs. 35.6 years, SD 13.5) or average years foreign-born workers had lived in the United States (14.2 years, SD=12.3 vs. 11.9 years, SD 11.3). (Age and years in United States data are not presented in tables.)

Of those who screened at-risk, 56.2% were considered harmful drinkers while hazardous drinking accounted for the remaining 43.8% (Table 2). Harmful drinkers were not statistically different from hazardous drinkers in average age (35.6 years, SD 13.9 vs. 35.5 years, SD 13.1) or average years foreign-born workers had lived in the United States (12.0 years, SD=9.0 vs. 11.6 years, SD 7.6).

Psychiatric comorbidity risk. At-risk drinkers were significantly more likely than drinkers not at-risk to screen positive for one or more psychiatric comorbidities (Table 1). This was also true for each specific comorbidity. Within the at-risk sample, comorbidities did not differ significantly by harmful vs. hazardous drinker (Table 2).

Receptivity to treatment. Three-fourths (75.0%) of patients who screened positive for hazardous or harmful alcohol use expressed a desire for treatment. By definition, all hazardous drinkers identified in this study were receptive to treatment. Therefore, the analysis of receptivity is reported for the harmful drinkers only. (For comparison, receptivity was also analyzed for all at-risk drinkers; statistically significant outcomes were no different from those for the harmful drinkers only.) Over half (55.9%) of harmful drinkers were receptive to treatment (Table 3). Treatment receptivity did not significantly differ for any characteristic, except for the number of years that foreign-born workers had lived in the United States: workers who had lived in the United States for fewer years were more receptive to treatment (X^2 [1] = 7.5, $p<.05$). Treatment receptivity did not vary as a function of psychiatric comorbidity.

Special populations. *At-risk migrant and seasonal drinkers*. Nearly equivalent proportions of migrant and seasonal farmworkers screened positive for at-risk drinking (45.7% and 41.0%, respectively) (Table 1). Migrant drinkers were not statistically different from seasonal drinkers in receptivity to treatment rates (Table 3) nor in demographic characteristics or comorbidity rates (data not shown).

At-risk female drinkers. Over one-third of female subjects screened positive for at-risk alcohol use (Table 1). At-risk women were significantly less likely than at-risk men to be harmful rather than hazardous drinkers (Table 2). Also, compared with at-risk men, at-risk women were significantly younger, were more likely to be spouses of farmworkers, and were more likely to be at the clinic for pediatric appointments (Table 4). At-risk female drinkers were not statistically different from at-risk male drinkers in average age (32.7 years, SD 11.6 vs. 40.5 years, SD 15.1) or average years foreign-born workers had lived in the United States (12.8 years, SD 12.4 vs. 15.1 years, SD = 12.1). Women at-risk drinkers were significantly more likely than men to present with *any* comorbidity but did not differ from men on any specific comorbidity (Table 4). Of harmful drinkers, women were as likely as men to be receptive to treatment (Table 3).

Table 2.

AT-RISK BY HARMFUL VERSUS HAZARDOUS

		Harmful vs. hazardous		
	At-risk (n=121) (total of harmful and hazardous drinkers)	Harmful (n=68; 56.2%) (abuse but not dependence)	Hazardous (n=53; 43.8%) (neither abuse nor dependence but over safe drinking limits)	
Characteristic	n	n (%)	n (%)	X^2 (df)^{Sig}
Demographics				
Sex				7.4 (1)**
Men	44	32 (72.7)	12 (27.3)	
Women	77	36 (46.8)	41 (53.2)	
Nativity				0.6 (2)
Guatemala	14	9 (64.3)	5 (35.7)	
Mexico	95	53 (55.8)	42 (44.2)	
United States	12	6 (50.0)	6 (50.0)	
Worker status+				1.4 (1)
Migrant	75	45 (60.0)	30 (40.0)	
Seasonal	43	21 (48.8)	22 (51.2)	
Subject's relationship to farmworker			1.6 (1)	
Subject is farmworker	74	45 (60.8)	29 (39.2)	
Subject's spouse is farmworker	47	23 (48.9)	24 (51.1)	
Subject's relationship to patient			4.3 (2)	
Parent (pediatric appt)	49	22 (44.9)	27 (55.1)	
Self	66	42 (63.6)	24 (36.4)	
Spouse	6	4 (66.7)	2 (33.3)	
Comorbidities				
Any comorbidity	65	37 (56.9)	28 (43.1)	0.0 (1)
Depression	38	21 (55.3)	17 (44.7)	0.0 (1)
Anxiety	37	19 (51.4)	18 (48.6)	0.6 (1)
Somatization	32	20 (62.5)	12 (37.5)	0.7 (1)
Cigarette use	18	13 (72.2)	5 (27.8)	2.1 (1)

*Significant at $p<0.05$
**Highly significant at $p<.01$
+ = 3 subjects refused to answer

Table 3.

HARMFUL DRINKERS BY RECEPTIVITY TO ALCOHOL TREATMENT

| | | Receptivity to treatment | | |
| | Harmful (n=68) | Receptive to treatment (n=38; 55.9%) | Not receptive to treatment (n=30; 44.1%) | |
Characteristic	n	n (%)	n (%)	X^2 (df)^{Sig}
Demographics				
Sex				2.3 (1)
Men	32	21 (65.6)	11 (34.4)	
Women	36	17 (47.2)	19 (52.8)	
Nativity				4.9 (2)
Guatemala	9	7 (77.8)	2 (22.2)	
Mexico	53	26 (49.1)	27 (50.9)	
United States	6	5 (83.3)	1 (16.7)	
Worker status+				0.2 (1)
Migrant	45	26 (57.8)	19 (42.2)	
Seasonal	21	11 (52.4)	10 (47.6)	
Subject's relationship to farmworker				2.2 (1)
Subject is farmworker	45	28 (62.2)	17 (37.8)	
Subject's spouse is farmworker	23	10 (43.5)	13 (56.5)	
Subject's relationship to patient				1.0 (2)
Parent (pediatric appt)	22	11 (50.0)	11 (50.0)	
Self	42	24 (57.1)	18 (42.9)	
Spouse	4	3 (75.0)	1 (25.0)	
Comorbidities				
Any comorbidity	37	24 (64.9)	13 (35.1)	2.7 (1)
Depression	21	13 (61.9)	8 (38.1)	0.5 (1)
Anxiety	19	12 (63.2)	7 (36.8)	0.6 (1)
Somatization	20	12 (60.0)	8 (40.0)	0.2 (1)
Cigarette use	13	9 (69.2)	4 (30.8)	1.2 (1)

*Significant at $p<0.05$
**Highly significant at $p<.01$
+ = 2 subjects refused to answer

Table 4.

AT-RISK BY WOMEN VERSUS MEN

Characteristic	At-risk (n=121) n	Women vs. men Women (n=77; 63.6%) n (%)	Women vs. men Men (n=44) (n=44; 36.4%) n (%)	X² (df)^Sig
Demographics				
Nativity				1.4 (2)
Guatemala	14	10 (71.4)	4 (28.6)	
Mexico	95	58 (61.1)	37 (38.9)	
United States	12	9 (75.0)	3 (25.0)	
Worker status+				0.3 (1)
Migrant	75	47 (62.7)	28 (37.3)	
Seasonal	43	29 (67.4)	14 (32.6)	
Subject's relationship to farmworker				34.6 (1)**
Subject is farmworker	74	33 (44.6)	41 (55.4)	
Subject's spouse is farmworker	47	44 (93.6)	3 (6.4)	
Subject's relationship to patient				27.1 (2)**
Parent (pediatric appt)	49	44 (89.8)	5 (10.2)	
Self	66	30 (45.5)	36 (54.5)	
Spouse	6	3 (50.0)	3 (50.0)	
Comorbidities				
Any comorbidity	65	36 (55.4)	29 (44.6)	4.1 (1)*
Depression	38	23 (60.5)	15 (39.5)	0.2 (1)
Anxiety	37	21 (56.8)	16 (43.2)	1.1 (1)
Somatization	32	20 (62.5)	12 (37.5)	0.0 (1)
Cigarette use	18	8 (44.4)	10 (55.6)	3.2 (1)

*Significant at $p < 0.05$
**Highly significant at $p < .01$
+ = 3 subjects refused to answer

Discussion

The goals of the present study were systematically to screen seasonal and migrant Hispanic farmworkers and their spouses in a primary care setting for at-risk alcohol use. Among the drinkers, this study documented mental health comorbidities and treatment receptivity, both of which can influence patient response to primary care alcohol treatment.

Recent at-risk drinking prevalence. Participants in the present sample reported a higher screening rate of at-risk alcohol use (43.8%) than Hispanics in another primary care sample (22.0%).[67] In that study, the AUDIT was used to assess and compare harmful and hazardous rates of a community sample in an urban setting. Our rates were higher in each of these drinking groups. As in our study, men were significantly more likely than women to be harmful drinkers. The higher at-risk rate we documented might be attributed to (1) patient population differences (our population had lower socioeconomic characteristics), or (2) our use of a screener with a greater sensitivity in this population. Despite these methodological differences, both studies provide consistent evidence of high rates of at-risk alcohol use in primary care Hispanic patients.

Psychiatric comorbidity risk. At-risk drinkers were significantly more likely than drinkers not at-risk to screen positive for psychiatric comorbidity risk, with 57.5% at-risk for additional diagnoses. Although studies of psychiatric comorbidity in Hispanic at-risk drinkers have not been published, one ethnically diverse primary care sample yielded similar psychiatric comorbidity estimates, reporting that patients with an alcohol disorder reported functional impairment only when they had at least one co-occurring psychiatric disorder.[68] Because functional impairment should enhance patient receptivity to the motivational interviewing in BAI, primary care interventions may be particularly effective in highly comorbid at-risk drinkers. At-risk drinkers who meet criteria for actual psychiatric comorbidity may require additional treatment to achieve optimal outcomes.

Receptivity to treatment. Three-fourths of those who screened positive for at-risk use indicated a desire for treatment (55.9% of harmful drinkers and 100% of hazardous drinkers). This finding is consistent with heterogeneous primary care populations where 75% of patients who screened positive for risky alcohol use reported any readiness to change.[69] Notably, there was widespread receptivity to treatment among at-risk drinkers who were at the clinic for pediatric appointments. Other researchers also have found that parents are receptive to screening and treatment for alcohol abuse[70-72] and BAI for parents has been shown to be effective in, and recommended for, pediatric primary care.[14,73,74] It appears to be advisable, then, that all Hispanic farmworkers and their spouses be screened for at-risk alcohol consumption in primary care settings (whether presenting as a patient or the parent of a patient).

Special populations. *At-risk migrant and seasonal drinkers.* No differences in demographic characteristics, comorbidities, or receptivity to treatment were found between at-risk migrant and at-risk seasonal farmworkers. This is important information because this is the first study to look at farmworkers in primary care and the first to compare farmworker status. Previous literature indicates that motivations to drink in these two groups may differ.[75] Despite any such differences, we found similar prevalences, suggesting that providers should screen farmworkers of either status. Work status may have implications for treatment format and delivery since migrant workers may move before multi-session BAIs can be completed. Clinicians might consider modifying multi-session BAI for delivery of sessions (e.g., single session BAI or telehealth).

At-risk female drinkers. One third of women in the sample screened positive. Although they have much lower rates of alcohol misuse than men, these findings support more recent literature indicating that substantial numbers of Latinas are

drinking above safe limits.[7,51-53] Furthermore, since women are more likely to present in primary care,[76] and since there was no difference across gender for receptivity to treatment, this strongly supports the need to focus on Hispanic farmworker women, both farmworkers and spouses, and specifically on those of child-bearing age. This group should be screened and treated both in general and pediatric primary care due to risk to themselves, their children, and future pregnancies. Women at-risk drinkers in this sample had higher rates of psychiatric comorbidity than men, suggesting the need for comprehensive mental health interventions following BAI.

Strengths and limitations. Internal validity of our findings is supported by our use of valid and reliable screeners, including screeners with evidence of good performance in Hispanic populations. The RAPS4-QF has demonstrated higher sensitivity in Hispanic populations than other alcohol screeners, including the AUDIT.[77] Had we conducted structured diagnostic evaluations in screen-positive patients, we would expect false-positive harmful drinkers in our sample to be reclassified as hazardous drinkers, and thus to remain part of the target population for BAI. Furthermore, it is likely that hazardous drinkers were underestimated because our single item, whose reliability and validity has yet to be established, only identified patients receptive to treatment. Internal validity of our estimates of psychiatric comorbidity also deserves comment. Given that we used screeners with varying sensitivities and specificities to measure psychiatric comorbidity, we cannot draw any definitive conclusions about relative prevalence of comorbid problems in these at-risk drinkers. However, it is useful to note that primary care often uses heterogeneously performing screeners, such as those included in the PHQ,[32] to identify patients who require more careful evaluation to determine both subthreshold and full-case disorders. The internal validity of our statistical comparisons is also constrained by the sample size that could be recruited with the funds available to the study.

External generalizability of our findings is limited to the patient population and clinic we studied. Because we focused on recruiting a consecutive sample of walk-in patients, our results are not generalizable to patients with scheduled appointments, nor to patients seen in community health centers treating different patient populations, nor to Hispanic farmworkers who do not receive any medical care. We focused on walk-in patients because we suspect that primary care efforts to enhance detection of at-risk drinking will initially target patients without established primary care providers (and walk-in patients are usually new to the providers who treat them).

Among walk-in patients, external generalizability is also limited in that we used a convenience, not random, sample design. We were able to recruit only seven out of every 10, despite using incentives. We do not claim this study provides a definitive estimate of at-risk drinking in low-income Hispanic farmworker primary care patients, although we do note that the Hispanic subgroup proportions by nativity were consistent with the general Hispanic farmworker population. Rather, we suggest that our prevalence estimates can provide useful information for CHCs treating similar populations to estimate approximately how many at-risk drinkers interested in treatment would be identified if they used screening methods similar to the ones we employed in this study.

Implications for policy and practice. This study provides preliminary yet compelling evidence that primary care practices interested in improving alcohol treatment for

Hispanic farmworkers and their spouses can identify at-risk drinkers using techno-logically administered screens despite low reading and computer literacy levels. These screening efforts will likely identify a high prevalence of patients who could benefit from primary care alcohol treatment. It is also feasible for primary care practices to identify potential psychiatric comorbidity in at-risk drinkers for needed evaluation and treatment. Seventy-five percent of the at-risk drinkers in this study were open to primary care treatment for the problem.

Implications for research. High rates of harmful and/or hazardous alcohol use in low-income Hispanic farmworkes and their spouses, coupled with widespread willing-ness to accept treatment, points to the need for extensive primary care BAI research with this population. More research in other locations and with more comprehensive research designs is clearly warranted. Our study suggests that patients like those studied here can successfully be recruited into a study despite potential practical and cultural barriers (e.g., literacy, language, nativity). Given that these barriers can be addressed, alcohol services research should evaluate primary care BAIs in this population, includ-ing seasonal and migrant farmworker men and women and their spouses, pediatric primary care parents, and adult primary care patients, as well as patients who have psychiatric comorbidities. Such initiatives might creatively expand successful primary care alcohol interventions to engage culturally-potent resources for positive health behavior change.

Conclusion

This study contributes to the literature by demonstrating large proportions of low-income Hispanic farmworkers and spouses who may benefit from primary care-based alcohol treatment. In particular, this study identified a substantial proportion of drinkers best suited for brief alcohol interventions (i.e., harmful and hazardous drinkers). Research addressing this public health problem should be fruitful, both because of high prevalence rates and because of patients' willingness to address their problem drinking.

Notes

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