EFFECT OF RELIGIOUS BELIEFS ON SUBSTANCE USE AMONG SOUTH AFRICAN HIGH SCHOOL STUDENTS

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Abstract. Substance use is a common problem among South African youth. We conducted this study to determine whether religious beliefs influenced substance use among South African youth. We conducted a cross sectional study of 704 students from five high schools in South Africa. We used a questionnaire to assess self reported substance use and religious beliefs among the study subjects. We used binary logistic regression analysis to evaluate the relationship between the subjects' religious beliefs and substance use. Thirty-six point six percent of students reported being very religious. More female students reported being very religious than male students (p=0.039). Fifty-four percent of students had ever consumed alcohol. Comparing alcohol and drug use between religious and non-religious students, it was found that alcohol and drug use were more common among non-religious students (28.3%, 30.4%) than very religious students (8.4%, 11.5%) (p<0.05). Those who considered themselves religious had lower odds of substance use. Religious beliefs had an influence on substance use among South African youth in our study.

Keywords: students, protective factor, religiosity, substance use, South Africa

INTRODUCTION

Substance use of alcohol, drugs and tobacco is associated with morbidity, mortality violence, tuberculosis, and HIV / AIDS in South Africa (Taylor *et al*, 2003; Parry *et al*, 2004; Simbayi *et al*, 2004; Sitas *et al*, 2004; Schneider *et al*, 2007; Seedat *et al*, 2009; van Zyl Smit *et al*, 2010). In South Africa, alcohol is responsible for 7% of all deaths (Schneider *et al*, 2007). Among South African youth, substance use is a common problem (Palen *et al*, 2009). A national Youth Risk Behavior Survey conducted in 2002 found 12.5% of high school students began drinking alcohol by age 12 years and 25% of students in grades 8-11 engaged in binge drinking (Reddy *et al*, 2003). Reddy *et al* (2003) found 13% of students in these grades had tried marijuana. Peltzer and Ramlagan (2009) found alcohol use ranged from 21.5% to 62% during 1993-2006 and binge drinking ranged from 14% to 40%. Alcohol abuse can cause social problems, such as accidents and injuries, violence, illegal drug use, school failure, risky sexual behavior and abuse among adolescents (Schneider *et al*, 2007).

Religious beliefs have been shown to have preventive and health protective

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benefits (Astrow *et al*, 2001). Religious beliefs may have an effect on risk-taking behavior (Atkins *et al*, 2002). Studies have shown the importance of religious socialization on children's behavior and the role of religious parents, parental practices, and the quality of the parent-child relationship (Lees and Horwath, 2009). A number of studies have found religious beliefs to act as a protective factor against substance use and other health risk behavior (Cotton *et al*, 2006; Sinha *et al*, 2007; Wallace *et al*, 2007; Schlundt *et al*, 2008). Bartowski *et al* (2008) found beliefs and religious parental practices may be protective against adolescent behavioral problems. Some studies have reported a negative association between fewer religious beliefs and greater risk of drug and alcohol use during adolescence (Knight *et al*, 2007; Turner-Musa and Lipscomb, 2007). Indicators of religious beliefs, such as being a member of a religious denomination, attending religious services and having personal devotions were inversely associated with alcohol consumption and/or illicit drug use (Miller *et al*, 2000). While adolescents may turn to substance use in stressful situations, praying, as a way of coping, may be associated with lower levels of substance use (Piko, 2001).

Wallace and Williams (1997) developed a model that suggests children internalize religious beliefs and attitudes as a part of their ongoing socialization and the family plays a crucial role in this process. The role of religion in supporting a healthy lifestyle and reducing substance use has important potential for preventing disease. A good preventive health strategy should make consider the protective effects of religion at an early age. Studies of the protective factors of religious beliefs in preventing adolescent substance use are important. There has been little research regarding the effect of religion on substance uses among adolescents in South Africa. This study aimed to investigate the relationship between having religious beliefs (how religious they are) and its effect on alcohol and drug use among South African adolescents.

MATERIALS AND METHODS

Research design and sampling

We conducted a cross-sectional survey among adolescents aged 16-18 years from five high schools in the Emawaleni District of KwaZulu-Natal (KZN) during 2007.

Research instrument

The study subjects were asked to complete a self-administered questionnaire in English, which is the medium of instruction at the studied schools. Since English is not the primary language of many of the students, elementary English was used to ensure comprehension. The questionnaire was pre-tested for its appropriateness, and validity in a pilot study of 90 high school students at a school not included in the study. The questionnaire contained items related to socio-demographics of the adolescent, including age, gender and religious affiliation. Questions regarding the subjects' alcohol and drug use or non-use were included.

Ethical considerations

Ethical clearance for the study was obtained from the Biomedical Research Ethics Committee of the Nelson R Mandela School of Medicine, University of KwaZulu-Natal, South Africa. Permission was obtained from the Provincial Department of Education and Principals of the participating schools. An information sheet about the aims of the study was sent home to the subjects' parents or

guardians and written informed consent was obtained prior to participation in the study. Ethical issues, such as voluntary participation, confidentiality and anonymity of the data, were explained to parents/guardians as well as to the subjects. Written informed consent was obtained from the subjects prior to filling out the questionnaires. All questionnaires were completed anonymously.

Data collection

Of the 1,227 students asked to participate in the study, 887 (66%) gave informed consent and participated. The study was completed with permission of the principals and educators at each school. The questionnaires took 45 minutes to complete and were given directly to the researcher. Seven hundred four students completed the questionnaire. The study was conducted during January - April 2007.

Data analysis

Questionnaire data were entered into Microsoft Excel 2003 and imported into SPSS version 17.0.1 (IBM, Armonk, NY) for analysis. The results were summarized using descriptive statistics: mean (SD) or medians (range) for continuous variables and percents for categorical variables. The chi-square test was used to find associations between substances used and religious beliefs. Binary logistic regression analysis was carried out to find bivariate relationships between the subject's religious background and their substance use. Logistic regression analysis with odds ratios (OR) and 95% confidence intervals (CI) were calculated. An OR >1.0 indicated a positive association between the factor of interest and the baseline odds; a value <1.0 indicated an inverse (protective) effect. The CI was used to evaluate if a statistically significant relationship was present for the OR. All other statistical tests were performed using two-sided tests with $p<0.05$ indicating significance.

RESULTS

Seven hundred four subjects participated in the study, a response rate of 57.4% of those invited to participate; 59.8% were female. Forty-six point two percent were African, 27.8% were Indian, and 26% were White. The languages spoken were English (45.0%), Zulu (43.8%), Afrikaans (9.1%) and other (2.1%). The religions represented were Christian (77.8%), Hindu (17.8%), Muslim (1.7%), Jewish (0.3%), and other (0.3%). Thirty-six point six percent of subjects said they were very religious, 57.2% somewhat religious and 6.1% not religious at all.

Bivariate analyses were conducted between demographic variables and being religious (Table 1). Being religious was significantly associated with age, sex, race, and religion ($p<0.05$). Younger subjects were more likely to be very religious than older subjects ($p=0.004$). More female students described themselves as very religious than male students ($p=0.039$). More Indian students were very religious than any other racial group ($p=0.001$). Hindu students were more likely to be very religious than other religious groups ($p<0.001$) (Table 1).

Table 2 shows the reported substance use among the subjects by levels of being religious. Fifty-four percent of subjects had ever consumed alcohol. Comparing rates of alcohol use and drug use among the different levels of being religious, we found that alcohol drinking, and drug use were more common among non-religious subjects (28.3% and 30.4%, respectively) compared to very religious subjects (8.4% and 11.5%, respectively) ($p<0.05$). No significant associations were found between

Table 1
Association between level of religious beliefs and demographic variables.

Variables	Level of religious beliefs by percentage			*p*-value
	Not religious at all	Somewhat religious	Very religious	
Age in years				
16	3.3	53.0	43.7	0.004
17	8.2	59.6	32.5	
18	8.0	62.5	29.5	
Gender				
Female	4.3	57.5	38.2	0.039
Male	8.8	56.9	34.2	
Race				
Asian/Indian	3.1	49.0	48.0	0.001
Black/African	6.2	58.2	35.7	
White	9.8	64.4	25.8	
Grade				
11	4.5	54.5	40.9	0.017
12	7.9	60.3	31.8	
Religious denomination				
Christian	4.2	60.8	35.0	<0.001
Hindu	4.8	45.6	49.6	
Others (Muslim/Jewish/Other)	6.3	68.8	25.0	
No religion	86.7	13.3	0.0	

levels of religious belief and someone offering the subject their first drink or the frequency of alcohol or drug use during the previous month ($p>0.05$) (Table 2).

Logistic regression analyses were carried out to test for a protective relationship between religious protective factors and substance use. Belonging to a particular religious denomination was not significantly protective against substance use. However, being very religious was associated with a lower odds of substance use. Being very religious was also associated with a lower risk of alcohol and drug use (Table 3).

DISCUSSION

Substance use among South African high school students is a serious public health problem. It is important to find factors protective against substance use (Botvin and Griffin, 2007; Sussman *et al*, 2008). Our findings showed being religious was associated with a lower risk of substance use.

In our study, more girls than boys considered themselves very religious, similar to a study by Miller and Stark (2002). Reasons for this could be religious socialization is more common among girls or that boys are less likely to follow their parents' religious beliefs (Regnerus and Burdette, 2006; Lees and Horwath, 2009). Females tend to follow religious guidelines more strictly and female religious beliefs may be deeper and more church-oriented (Roth and Kroll, 2007; Wallace *et al*, 2007). For boys, religious faith may not be as

Table 2
Substance use of by level of religious beliefs.

Variables	Level of religious beliefs by percentage			*p*-value
	Not religious at all	Somewhat religious	Very religious	
Ever drank alcohol				
Never	46.4	50.2	3.4	<0.001
One or more times	28.3	63.3	8.4	
Who offered alcohol first time				
Parents/guardians	29.5	59.2	11.3	0.522
Friends	29.4	61.6	9.0	
Another person	20.7	73.0	6.3	
Never been offered	32.4	64.7	2.9	
Frequency alcohol use during past month				
Every day	25.0	62.5	12.5	0.366
More than once a week	23.1	61.5	15.4	
Once a week	29.3	61.6	9.1	
Once a month	26.5	63.7	9.7	
None	31.8	65.4	2.8	
Frequency of binge drinking				
Not at all	31.5	64.9	3.6	0.025
Once	29.4	55.9	14.7	
Twice	20.0	72.7	7.3	
Three or more times	26.1	60.2	13.6	
Ever used drugs				
Yes	30.4	58.1	11.5	0.004
No	38.3	57.0	4.7	
Frequency of drug use				
Once	32.4	58.8	8.8	0.998
Twice	29.4	58.8	11.8	
Three times	33.3	55.6	11.1	
More than three times	29.1	58.2	12.7	

relevant to their everyday activities, since being religious may be contrary to a man's traditional provider role (Hunt, 2005).

In our study a large number of subjects described themselves as "somewhat religious" or "not religious at all". An Iranian study of male adolescents found 61.6% reported themselves as having weak religious beliefs (Farhadinasab *et al*, 2008). A Hungarian study among high school students also reported similar findings (Kovacs *et al*, 2011). Being religious is complex and has a significant association with psychopathology (Kendler *et al*, 2003).

Being a member of a particular religious denomination was not significantly associated with substance use among our subjects. This finding is similar to a study among Hungarian high school students (Kovacs *et al*, 2011). This suggests being a member of a religious denomination does not play an important role in determining

Table 3
Logistic regression analyses of relationship between religious variables and substance use.

	Ever drank alcohol OR (95% CI)	Drank alcohol past month OR (95% CI)	Ever used drugs OR (95% CI)
Independent variable			
No religion	1.00	1.00	1.00
Christian	1.37 (0.44-4.32)	0.45 (0.05-3.78)	0.59 (0.19-1.81)
Hindu	1.97 (0.59-6.58)	0.28 (0.03-2.54)	0.89 (0.27-2.92)
Jewish/Muslim	1.12 (0.25-5.05)	0.15 (0.01-1.83)	0.53 (0.10-2.82)
Level of religious beliefs			
Not religious at all	1.00	1.00	1.00
Somewhat religious	0.46 (0.20-1.05)	0.25 (0.06-0.97)*	0.44 (0.21-0.95)*
Very religious	0.21 (0.09-0.49)*	0.23 (0.06-0.95)*	0.33 (0.15-0.73)*

*$p<0.05$.

adolescent substance use. This finding also suggests that even if an adolescent does not outwardly practice their religion, their value system does influence negative behaviors (Piko and Fitzpatrick, 2004). Values do play an important role in adolescent substance use and religion encourages health-promoting practices (Reifman *et al*, 2001).

The fundamental reason for conducting this study was to determine if being religious plays a protective role against adolescent substance use. Our study found a high prevalence of current alcohol and drug use and a high percentage of ever having used alcohol or drugs. Our study findings showed being religious plays a protective role against adolescent substance use. These results are similar to those of many other studies (Piko and Fitzpatrick, 2004; Ritt-Olsen *et al*, 2004; Cotton *et al*, 2006; Sinha *et al*, 2007; Wallace *et al*, 2007; Schlundt *et al*, 2008). Miller *et al* (2000) also reported inverse relationship between being religious and substance abuse.

There were some methodological limitations of this study worth noting. This was a cross sectional study with self-reported history of substance use. We could not identify a causal relationship or other variables which could have influenced the results of this study. The participants in this study were selected through non-probability purposive sampling. The study was carried out among only fluent English speaking adolescents from selected schools and the participants were not offered the opportunity to complete the questionnaire in their primary language. Despite these limitations, the present study makes an important contribution to the current literature by drawing attention to the role of a potential protective factor in lowering adolescent substance use among South African youth. Therefore, these findings are particularly valuable for substance use preventive health efforts in this population.

Our data suggest being religious is protective against substance use among South African adolescent students. The role of being religious should be included in preventive health programs, family lives and religious communities. School

preventive health programs should include this factor in their programs. Further studies are needed to verify our results and determine specific factors about being religious that affect behavior. This data is important for South Africa where adult and adolescent substance abuse rates are high and create multidimensional social and health problems.

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