

# Original Article

## Drug use among Teenagers and Young Adults in Bhutan

Kinley Wangdi<sup>1,2</sup>, Tshering Jamtsho<sup>3</sup>

### ABSTRACT

**Background:** Use, possession, and illegal transactions of controlled substances have increased in recent years in Bhutan. This study aimed to determine the national prevalence of ever drug use and identify its associated factors amongst teenagers and young adults. **Methods:** This study was conducted using data from the National Health Survey 2012 of Bhutan. The outcome variable of interest was ever drug use in teenagers and young adults. The questionnaire was developed following the WHO STEPwise approach to surveillance of non-communicable diseases (STEP). Univariate and multivariate logistic regression were performed to identify correlates of ever drug use. **Results:** The prevalence of ever drug use among teenagers and young adults was 3.2% ( $n = 672$ ). The factors associated with ever drug use were: being men; being single; being in age group of 18-24 years; having a primary school, high school, monastic, university, or diploma education; being technicians or salespersons; feeling always lonely; having ever consumed alcohol, and having ever smoked. **Conclusion:** Compared to the other countries in the WHO South-east Asia region, the prevalence of ever drug use in Bhutan is low. Use of other substances, including smoking and alcohol use, was associated with ever drug use. For greater effect, drug use prevention strategies should include prevention of smoking and alcohol use.


**Key words:** *Bhutan, correlates, ever drug use, National Health Survey*

**Key messages:**

- *Prevalence of ever drug use in Bhutanese teenagers and young adults is low*
- *Drug use is associated with risky lifestyles such as smoking and alcohol use*
- *Drug prevention strategies should target these lifestyle-related risk factors.*

In 2016, the World Health Organization (WHO) estimated that 5.6% (270 million) of people between 15 and 64 years used drugs at least once in their lives.<sup>[1]</sup> Drug use can lead to dependence and require treatment.

During the same period, one in nine people who use drugs (11%) were estimated to be suffering from drug use disorders, which translates to 30.5 million cases.<sup>[1]</sup>

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<sup>1</sup>Department of Global Health, Research School of Population Health, The Australian National University, 62 Mills Road, Acton, Canberra, <sup>2</sup>Phuentsholing General Hospital, Phuentsholing, Chukha, Bhutan, <sup>3</sup>School of Demography, ANU College of Arts and Social Sciences, The Australian National University, Australia

**Address for correspondence:** Dr. Kinley Wangdi  
62 Mills Road, Acton, Canberra, ACT 2601, Australia. E-mail: kinley.wangdi@anu.edu.au

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Globally, drug use contributes 2% of cause-specific disability-adjusted life-years (DALYs) for young people aged 10-24 years.<sup>[2]</sup>

Drugs are used for several reasons including experiment out of a sense of curiosity, excitement or rebellion, socializing, enhance an activity and alleviate the depressed mood, and reaction.<sup>[3-5]</sup> Drug use is associated with many harmful effects on both physical and mental health.<sup>[6-8]</sup> The cost to the community and society of drug abuse is colossal.<sup>[9]</sup> Drug abuse has a significant impact on healthcare services, public services, and the criminal justice system. A large part of the health care budget is spent on treating drug addiction.<sup>[10]</sup> Drug abusers are estimated to commit 36 million drug-motivated crimes each year, which financially accounts for 90% of the total cost to society.<sup>[11]</sup> In addition, individuals and families are affected through the loss of productivity and unable to earn income.<sup>[12]</sup>

With the rapid modernization of the country in the past five decades, Bhutanese society has gone through many changes during this period. This transition was characterised by rising disposable income levels and cultural changes with exposure to the outside world through television and the internet.<sup>[13]</sup> Further, demographics are changing rapidly as young people in particular move to towns for work, education, and entertainment.<sup>[14-16]</sup> Rising migration and divorce rates often result in a fraying of ties to traditional settings, leading to growing substance abuse that compounds the problem, particularly with school dropouts. In 2017, Thimphu Police registered 287 cases in connection with drug abuse, possession, and illegal transactions of controlled substances that led to the arrest of 596 people, the highest in recent years.<sup>[17]</sup>

Despite this societal transformation, there is a paucity of systematically analysed in-depth studies representing the national prevalence of drug use and its correlates. Therefore this study attempts to present the national prevalence of drug use amongst teenagers (12-17 years) and young adults (18-35 years),<sup>[18,19]</sup> and correlates associated with it.

## METHODS

### Study site

The study was undertaken in the small Himalayan Kingdom of Bhutan. It has an area of approximately 38,394 km<sup>2</sup>, and the population was 735,553 in 2017. Bhutan is divided into 20 administrative districts and 205 sub-districts. Around 62.2% (452,178) of the population live in rural areas and practice subsistence farming. The altitude ranges from 75 m on the

southern border with India to more than 7000 m in the Himalayas.

### Study design

This is a retrospective analysis of secondary nationally representative data of the National Health Survey (NHS 2012) conducted nationwide in 20 districts of Bhutan in 2012. The survey sample was calculated to provide a reliable estimate of indicators using a census sample frame from the Population and Housing Census of Bhutan 2005 (PHCB 2005).<sup>[20]</sup>

### Correlates of drug use

The participants for this study were teenagers and young adults. The outcome variable of interest was self-reported ever use of drugs. Independent variables were self-reported covariates collected using the WHO STEPwise approach to surveillance of non-communicable diseases (STEP) based questionnaire.<sup>[21]</sup> These included sex, age (13-17, 18-24 and 25-34 years), marital status, education level, occupation, urban-rural residence, ever consumed alcohol, ever smoked, and feeling lonely. A “standard drink” is the amount of ethanol contained in standard glasses of beer, wine, fortified wine such as sherry, and spirits, and it contains roughly 8-13 grams.

### Statistical analysis

All analyses were done by appending sample weights to the individual data. Univariate logistic regression was undertaken to select the variables at the significance level of  $P < 0.2$ . The selected variables were fitted into the multivariate model to identify significant covariates. A value of  $P \leq 0.05$  was considered significant. A goodness-of-fit test was undertaken to measure the adequacy of the final model. The analysis was performed using the SVY module for complex samples of the statistical package STATA version 15 (Stata Corporation, College Station, TX, USA).

### Ethical approval

The ethical approval to use the NHS 2012 data was given by the Research Ethics Board of Health (REBH), Ministry of Health, Bhutan (REBH/Approval/2018/075).

## RESULTS

### Socio-demographic characteristics of those who had ever used drugs

Of the study participants, 93.8% (631) were men, and 3.2% (673) reported ever using drugs. Most drug users were in the age group of 18-24 and 25-35 years, with 46.0% (309) and 38.6% (260), respectively. Nearly 61% (398) were high school educated, followed by university-educated at 24.9% (163), and 68.3% (460)

were single. The commonest occupation groups were service and sales workers, farmers and unskilled, and managers and professionals at 39.6% (118), 35.0% (104) and 22.3% (67), respectively. 71% (479) and 80.1% (542) ever drank alcohol and ever smoked. There was an equal proportion of drug users from urban and rural areas. More than half (350) of the drug users were never lonely [Table 1].

**Factors associated with ever drug use**

Multivariate analysis found that men are ten times more likely to be ever drug users than women, adjusted odds ratio (aOR) = 10.18 (95% CI, 5.22, 19.86). The participants in the age groups of 18-24 years were 48% [aOR = 1.48 (95% CI, 1.07, 2.067)] more likely

to be ever drug users compared to participants in the age group of 25-35 years. Those who were singles were 59% more likely than married people to be ever drug users, aOR = 1.59 (95% CI, 1.17, 2.15). Education of all levels was associated with ever drug use than no education. Blue-collared workers, including technicians and sales workers, were 58% more likely to be ever drug users than farmers, aOR = 1.58 (95% CI, 1.15, 2.16). Those who always felt lonely were nearly 9.6 times more likely to use drugs than those who never felt lonely, aOR = 9.6 (95% CI, 2.94, 31.41). Participants who ever drank alcohol were 89% more likely than those who never drank alcohol to ever use drugs, aOR = 1.89 (95% CI, 1.37, 2.60). Those who ever smoked were 11.6 times likely than non-smokers to be a drug user, aOR = 11.59 (95% CI, 8.27, 16.24) [Figure 1 and Table 2].

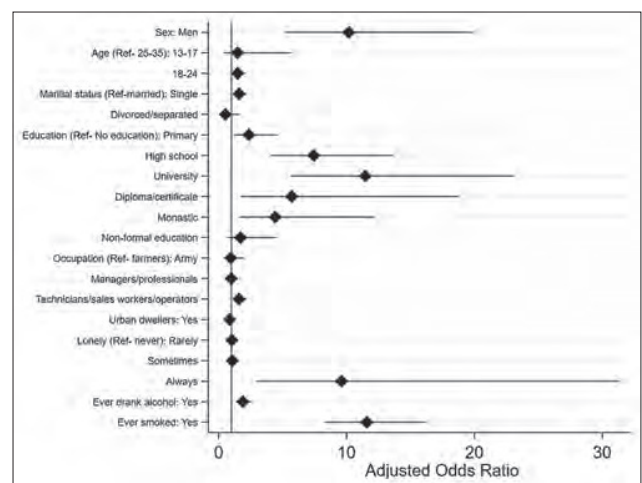
**Table 1: Sociodemographic characteristics of the study population and every drug user**

Characteristic	Total (%)	Ever used drugs (%)
<b>Sex</b>		
Women	11,126 (54.8)	42 (6.2)
Men	9,170 (45.2)	631 (93.8)
<b>Age group</b>		
13-17	5,405 (26.6)	104 (15.4)
18-24	6,083 (24.0)	309 (46.0)
25-35	8,808 (43.4)	260 (38.6)
<b>Education</b>		
No formal education	4,493 (24.8)	16 (2.5)
Non-Formal Education	1,714 (9.5)	9 (1.4)
Primary school	2,522 (13.9)	51 (7.8)
High school	7,680 (42.4)	398 (60.7)
Diploma/Certificate	187 (0.9)	5 (0.8)
University	1,142 (6.3)	163 (24.9)
Monastic education	374 (2.1)	14 (2.1)
<b>Marital status</b>		
Single	10,109 (49.9)	460 (68.3)
Married	9,514 (46.9)	207 (30.8)
Divorced/separate	590 (2.9)	6 (0.9)
Widow	66 (0.3)	0 (0)
<b>Occupation</b>		
Clerical/farmer/unskilled	4,114 (58.3)	104 (35.0)
Army	266 (3.8)	9 (3.1)
Manager and professionals	582 (12.1)	67 (22.3)
Service and sales worker	1,807 (25.6)	118 (39.6)
Monks	20 (0.3)	0 (0)
<b>Ever used alcohol</b>		
No	13,760 (67.8)	192 (28.7)
Yes	6,531 (32.2)	479 (71.3)
<b>Ever smoker</b>		
No	17,729 (87.3)	131 (19.4)
Yes	2,567 (12.7)	542 (80.6)
<b>Urban</b>		
No	14,318 (70.5)	339 (50.4)
Yes	5,977 (29.5)	334 (49.6)
<b>Lonely</b>		
Never	13,764 (67.9)	350 (52.2)
Rarely	2,486 (12.3)	122 (18.2)
Sometimes	3,868 (19.1)	180 (26.9)
Always	162 (0.8)	18 (2.7)

**DISCUSSION**

There had been limited studies on ever drug use in Bhutan, and this is the first study in teenagers and young adults using nationally representative data. The national prevalence of drug use amongst teenagers and young adults was 3.2%. The correlates for drug use were being men, in the age group of 18-24 years, being single, having a higher education, blue-collar workers, feeling always lonely, having ever consumed alcohol and having ever smoked.

The prevalence of drug use among teenage and young adults in Bhutan is lower than in the region.<sup>[22-24]</sup> This could be attributed to the strict laws against the trafficking of drugs in Bhutan. Secondly, most or all drugs are ferried from India, and there are police check posts that deter from importing drugs into the country. However, getting drugs into the border towns of Bhutan



**Figure 1: Forest plot of the adjusted odds ratio of correlates of ever used drugs**

**Table 2: Univariate and multivariate logistic regression analysis with risk factors for ever drug users**

Variables	Unadjusted correlates			Adjusted correlates		
	OR	CI	P	OR	CI	P
Sex						
Women	Ref			Ref		
Men	19.49	14.24, 26.67	<0.001	10.18	5.22, 19.86	<0.02
Age group						
25-35	Ref			Ref		
13-17	0.64	0.51, 0.81	<0.001	1.47	0.38, 5.73	0.58
18-24	1.76	1.49, 2.08	<0.001	1.48	1.07, 2.06	<0.001
Marital Status						
Married	Ref			Ref		
Single	2.14	1.81, 2.53	<0.001	1.59	1.17, 2.15	0.003
Divorced/separated	0.46	0.20, 1.04	0.06	0.53	0.17, 1.62	0.266
Education						
No education	Ref			Ref		
Primary	5.67	3.24, 9.93	<0.001	2.37	1.20, 4.66	0.01
High school	15.03	9.14, 24.71	<0.001	7.44	4.06, 13.64	<0.001
University	45.77	27.37, 76.54	<0.001	11.47	5.69, 23.10	<0.001
Diploma/certificate	8.85	3.27, 24.00	<0.001	5.70	1.39, 18.71	0.004
Monastic	10.42	5.03, 21.56	<0.001	4.42	1.61, 12.15	0.004
Non-formal educated	1.43	0.63, 3.25	0.39	1.71	0.64, 4.58	0.29
Occupation						
Farmers	Ref			Ref		
Army	1.38	0.70, 2.73	0.36	0.95	0.45, 2.00	0.89
Manager/professional	3.25	2.37, 4.47	<0.001	0.98	0.64, 1.51	0.94
Technician/sales worker	2.69	2.05, 3.52	<0.001	1.58	1.15, 2.16	0.004
Rural-urban						
Rural	Ref			Ref		
Urban	2.44	2.09, 2.85	<0.001	0.86	0.65, 1.15	0.32
Lonely						
Never	Ref			Ref		
Rarely	1.98	1.61, 2.45	<0.001	1.03	0.72, 1.47	0.86
Sometimes	1.88	1.56, 2.25	<0.001	1.06	0.75, 1.50	0.72
Always	4.88	2.96, 8.03	<0.001	9.6	2.94, 31.41	<0.001
Ever used alcohol						
No	Ref			Ref		
Yes	5.57	4.70, 6.60	<0.001	1.89	1.37, 2.60	<0.001
Ever smoked						
No	Ref			Ref		
Yes	36.05	29.62, 43.87	<0.001	11.59	8.27, 16.24	<0.001

OR – Odds ratio; CI – Confidence interval; Ref – Reference group

from India is easy as the international border with India is open, with free movement of people.<sup>[25]</sup>

In this study, higher education was associated with drug use. This finding differs from that of other studies that reported education as a protective factor against drug use.<sup>[26-28]</sup> This observation in Bhutan could possibly be due to the influence of television and the Internet amongst the educated lot. However, it would be worthwhile to study the reasons for this association.

Drug use was more among men; similar findings have been reported in other studies.<sup>[24,28-32]</sup> Men are generally known to undertake risky lifestyle behaviour.

The teenagers and young adults were at higher risk of ever using drugs than 25-35-year-old participants. This is particularly concerning for Bhutan because more than 50% of the Bhutanese population is younger than 25 years.<sup>[33]</sup> Existing studies have found a high correlation between adolescent drug abuse and becoming a problem drug user in the adulthood.<sup>[34]</sup> These aspects should be taken into account in drug prevention strategies.

As in other published literature,<sup>[35,36]</sup> we found that ever drug use is associated with other substance use, including smoking and alcohol use. Earlier studies have shown that those who use alcohol in the early teenage years are more likely to use drugs later in life.



Therefore, delaying the use of alcohol can also prevent drug use in teenagers.<sup>[37]</sup> Alcohol use in Bhutan is socially acceptable and the prevalence is one of the highest in the region.<sup>[38]</sup> Therefore, drug use prevention should be done in conjunction with prevention of alcohol use.

Choki *et al.* reported that unemployment was associated with psychoactive substance use by psychiatric patients in Bhutan.<sup>[30]</sup> In our study, blue-collared workers were more likely to use drugs than farmers. This difference could be partly explained by the study sample. The current study is based on the nationally representative study sample, while the other study was based on those admitted to the national referral hospital.<sup>[30]</sup>

The findings of this study have to be interpreted in light of some limitations. The causal relationship between ever drug use and its correlates cannot be concluded due to the cross-sectional nature of the study. Secondly, the lifestyle reported in this study was self-reported, so there could be recall bias. Thirdly, risky lifestyles such as smoking could be under-reported due to the influence of social desirability. Fourth, this study did not identify the different types of drugs that were used. Lastly, these data are rather old, and there could have been changes to the trends. Despite these limitations, this is the first study on the prevalence of ever drug use and its correlates among adolescents and young adults using nationally representative data. Therefore, the findings from this study can be useful in developing national preventive strategies in Bhutan.

## CONCLUSION

Compared to other countries in the WHO South East-Asia region, the prevalence of ever drug use among teenagers and young adults in Bhutan is low. Other substance use, including smoking and alcohol use, was associated with ever drug use. Drug use prevention strategies should include smoking and alcohol prevention for greater effect.

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## Conflicts of interest

There are no conflicts of interest.

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