



RESEARCH ARTICLE

EFFECTS OF ALCOHOL EDUCATION ON KNOWLEDGE ABOUT ALCOHOL AMONG SENIOR
SECONDARY SCHOOL ADOLESCENTS IN ELEME, NIGERIA

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ABSTRACT

The study investigated the effect of health education intervention on knowledge about alcohol among senior secondary school adolescents in Eleme, Nigeria. The study was guided by three research questions and two null hypotheses tested at 0.05 alpha level. The research design was a pre-test post-test quasi experimental research design. A sample of 817 senior secondary school adolescents were selected from 3,750 adolescent students in 5 senior secondary schools in Eleme Local Government Area of Rivers State, Nigeria, comprising 413 in the experimental group and 404 in the control group. A self structured and validated 20-item questionnaire with a reliability index of 0.78 was used for data collection. Mean and standard deviation were used to answer the research questions while Analysis of Co-variance (ANCOVA) was used to test the null hypotheses at 0.05 alpha level. Results revealed that the health education intervention increased their knowledge about alcohol with a mean gain of 0.3718. Again there was significant difference in the effects of the health education intervention on the knowledge about alcohol based on sex and religion. Based on the findings, it was concluded that a comprehensive, skill-based health education can boost the knowledge base of adolescents in Eleme LGA about alcohol. It was recommended among others that schools should invite health professionals on a regular basis to properly educate the students on the health implications of alcohol use.

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INTRODUCTION

Alcohol is a psychoactive substance whose effects on the individual and community have been grossly trivialized. It is a depressant drug that leads to addiction when there is consumption of large amounts on regular intervals (Inyang, 2015). Alcoholism which is a chronic disease caused by compulsive and uncontrollable consumption of alcohol is a major risk associated with indulgence in alcohol. Alcohol is the most available drug in the market and it is not illegal to possess and its abuse is one of the most difficult problems to treat because its use is accepted at any social function and abusers deny that they are addicted (Rachael, Erasmus & Stephen, 2013). Public health problems associated with alcoholism have gained increasing attention in recent years. Alcoholism leads to deterioration in health and social functioning. Alcohol intake is one of the leading preventable causes of premature death, disease and disability around the world (Ezzati, Lopez, Rodgers, Vanderhoorn & Murray, 2002). According to United Nations Office in Drugs and Crime – UNODC (2000), alcohol causes impaired perception, mind disorder and euphoria. It slows down the activities of the

system that controls body functions causing drowsiness, lack of concentration, slowness of thinking, impaired interpersonal relationship and leads to intoxication (Hodge, Maclellan & Cerbone, 2001). It also contributes to traumatic health and injury such as accidents. Alcohol is associated with chronic liver diseases, cancers, cardio vascular diseases, and alcohol toxicity (acute alcohol poisoning). Alcohol dependence is reported as one of the frequently occurring disorders among adolescents, young adults and general population (Hanisu, Ahmed & Lim, 2014). No nation would want to abandon its teeming youth to the devastating effects of alcoholism knowing that it has serious implications for future economic and political growth. Alcohol intake is reported among adolescents whose parents face many challenges that limit their ability to provide for their physical and emotional needs. It is very common to find such parents in a country like Nigeria which today is suffering serious economic recession with all negative economic indicators such as low per capita income. A lot of parents in Nigeria today are not able to adequately provide the physical needs of their children thereby increasing their vulnerability to experimenting with psychoactive drugs and early indulgence in alcohol. Again, children born out of wedlock, especially those whose mothers leave behind in their homes to start a marital relationship with another partner –

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which is also common in this part of Nigeria, are prone to suffer emotional trauma with the tendency to seeking succor in alcohol. Such children as described above are usually found on the streets of cities in Nigeria hawking and in the process picking up dangerous and anti-social behaviours from peers as well as adult 'mentors'. Many alcoholics were known to have started the habit from adolescence and then progressed into adulthood.

Adolescence is the period in human growth and development which occurs after childhood and before adulthood, from ages 11 to 19 years (World Health Organization, 2015). This period represents one of the critical transitional periods in life and is characterized by a remarkable pace in growth and change that is second only to that of infancy. Scholars have seen adolescence as a period of self-exploration. If they are not guided at this time, the adolescents become adventurous attempting to do those things that are morally and socially unacceptable. This is also the period of great peer influence. A survey of youths in Southern Nigeria, found out that the source of alcohol and tobacco being used by adolescents were from friends in the same or neighbouring schools, and adolescents who reported using alcohol and tobacco had more friends than abstinent ones (Nevadomsky, 2002). Hence, Kiiru (2004) posits that peer pressure influences youth to use alcohol. In the light of these, adolescents require assistance to navigate risks and vulnerabilities that characterize that stage of development such as indulging in alcohol and other psychoactive drugs and to set them on the path of fulfilling their potentials. One of such assistance is providing adequate knowledge on alcohol so that they can make informed decision concerning indulgence in alcohol.

Knowledge is acquaintance with or understanding of a science, art, or technique (Samuel, 2016); an acquaintance or awareness gained by experience of a condition or detail (Proffitt, 2016). In essence, knowledge is the fact, information, and skills acquired in the course of experience, education or association. Knowledge about alcohol, hence, connotes facts, information and skills about alcohol and its prevention acquired through experience, education and association. Secondary school students in Nigeria are exposed to information about alcohol through various sources such as the school curriculum, mass media, parental advice, church teachings and peers. Fragments of drug education are incorporated into junior secondary civic education curriculum, while it forms part of health science in the senior secondary education curriculum. Unfortunately, most times learning acquired in school subjects is regarded by students as only necessary to pass exams and not for application in solving real life situations, especially learning that is not skill-based, hence, the need for a comprehensive and skill-based alcohol education intervention for them. The effectiveness of education intervention in improving knowledge about alcohol and other abused substances have been proven. Arevian and Khasholian (2014) studied Impact of Peer led Educational Programme on Knowledge and Attitude about prevention of substance Abuse among Lebanese/American Adolescents using a quasi experimental pre and post-test design. The result showed that knowledge about drugs significantly improved between pre-test and post-test (p -value=0.05). Raji, Abubakar, Oche, Kaoje and Isah (2014) using a quasi experimental design used peer led health education intervention to improve in-school adolescent cigarette smoking related knowledge, attitude and behaviour in a North-west Nigerian state. The study revealed that in the

study group, the population of respondents with adequate cigarette smoking knowledge increased from 75.4%-97.2%. World Health Organization (2008) defined health education as any combination of learning experiences designed to help individuals and communities improve their health, by increasing their knowledge or influencing their attitudes. Moreover, knowledge, according to the health belief model is a modifying factor which helps to increase perception of threat involved in an unhealthy behavior thereby increasing the likelihood of quitting unhealthy behavior or adopting a healthy behavior. Health education intervention is necessary to bring out the dangers associated with alcohol use and equip individuals with the necessary skills for the prevention of addiction caused by excessive and uncontrolled alcohol intake. This is more especially so among adolescents in Nigeria. Adolescent alcohol and substance use has been found to be common in Nigeria and a large proportion of users show a problematic pattern of use that warrants intervention (Atilola, Ayinde & Adeitan, 2013). The situation is made worse by the growing trend in militancy in the Niger Delta Region especially Rivers State where the present study was conducted. Eleme is a local government area in Rivers State, Nigeria, which shares boundary with Port Harcourt the capital city. In fact, it is part of the Greater Port Harcourt metropolitan area. Eleme has two of Nigeria's four petroleum refineries and one of Nigeria's busiest sea ports, the largest in West Africa located at Onne, which is also a famous town with numerous industries. Eleme Local Government Area has a history of antisocial activities such as cultism, communal clashes, kidnapping, and violent political activities. The youths involved in these antisocial activities are allegedly sponsored by corrupt politicians and elders of the land to carry out these activities. Consumption of alcohol is usually a common practice among young people who get involved in such activities as it is considered a courage booster. Improving their knowledge and equipping them with skills will help them make informed decisions about alcohol consumption.

Intervention programs that target youth either before or during secondary school have been found helpful in preventing alcohol, tobacco, and other drug use during secondary school. So far, no pronounced efforts are being made by institutions to provide adequate knowledge about alcohol and its effects to the adolescents in Nigeria and Eleme in particular, except for the fragments of information they may pick from scanty school curriculum, media and family. Based on the above situation, the researchers decided to find out how a 6-week alcohol education intervention will enhance the knowledge of alcohol and the adverse effects of alcohol use among senior secondary school adolescents in Eleme Local Government Area of Rivers state

Research Questions

The following research questions were answered in the study

1. What are the effects of alcohol education intervention on knowledge about alcohol among adolescent secondary school students in Eleme LGA of Rivers State?
2. What is the difference in the effects of alcohol education intervention on the knowledge of the adolescents about alcohol based on sex?
3. What is the difference in the effects of alcohol education intervention on the knowledge of the adolescents about tobacco based on religion?

Hypotheses

The following hypotheses were tested at 0.05 alpha level.

1. There is no significant difference in the effects of alcohol education intervention on the knowledge about alcohol among secondary school adolescents in Rivers State based on their sex.
2. There is no significant difference in the effects of alcohol education intervention on the knowledge about alcohol among secondary school adolescents in Rivers State based on their religion.

Methods

The research design that was used for the study is the non-randomized control group pre-test and pro-test design quasi experimental or the non equivalent group design.

Intervention group Q1XQ3

Control group Q2Q4

Where Q1 and Q2 are pre-test, Q3 and Q4 post-test and X is the treatment. The population for the study constituted of 3,570 adolescent students from Community secondary school Onne, Community Secondary School Eteo, Community Secondary School Alode, Community Secondary School Ebubu and Central High School Eleme, which represents all the government senior secondary schools in Eleme local government area of Rivers state (Rivers State Senior Secondary School Board, 2016). The sample size for the study was 817 senior secondary school adolescents in Eleme Local government area of Rivers state (413 in the experimental group and 404 in the control group) as shown in table 3.1 and 3.2. Simple random sampling technique without replacement technique was used to draw 2 senior secondary schools out of 5 senior secondary schools in Eleme Local Government Area of Rivers state. All the senior secondary school adolescents in SSS I, II and III that are intact classes were used for the study. Intervention group SSS I has four arms i.e. A, B, C, & D. The total number of students in SSS I is 143, 60 males and 83 females. SSS 1A has a total of 34 students, 19 girls and 15 boys. SSS 1B has 15 boys and 25 girls, totalling 40. SSS 1C has 15 boys and 23 girls and its total is 38. SSS 1D has a total of 31 students, 15 boys and 16 girls.

SSS 2 also had four arms. SSS 2A has a total of 50 students, 28 girls with 22 boys. SSS 2B has 40 students, 18 are boys while 22 are girls. SSS 2C has 40 students, 17 are boys and 23 are girls. SSS 2D has a total of 38 students, 25 are girls while 13 are boys. SSS 3 has two arms i.e. A and B. SSS 3A has a total of 60 students out of which 20 are boys and 40 are girls. SSS 3B has a total of 42 students out of which 20 are boys and 22 are girls, they all had their treatment (Health Education Intervention) in their various intact classes without disorganizing them. For the control group, SSS1 has three arms i.e. A, B and C. SSS 1 has a total of 134 adolescents. SSS 1A has a total of 45 adolescents, 35 girls and 10 boys. SSS 1B has a total of 42 adolescents, 32 girls and 10 boys. SSS 1C has a total of 47 adolescents, 27 girls and 20 boys. SSS 2 has a total of 124 adolescents. SSS 2A has a total of 50 adolescents, 30 girls and 20 boys. SSS 2B has a total of 34 adolescents, 20 girls and 14 boys. SSS 2C has a total of 40 adolescents, 20

girls and 20 boys. SSS 3 also has three arms with total number of 146 adolescents. SSS 3A has a total of 58 adolescents, 45 girls and 13 boys. SSS 3B has a total of 47 adolescents, 37 girls and 10 boys. While SSS 3C has a total of 41 adolescents, 10 girls and 31 boys.

A self-structured and validated 20-item questionnaire titled Alcohol Knowledge Questionnaire (AKQ) was used to elicit response from the participants after six weeks intensive teaching on tobacco and alcohol. It comprised sections A and B. Section A contains 4 items on demographic characteristics of the participants, while section B elicited data on the knowledge about alcohol. Items that addressed knowledge have response options of True and False. Face and content validity were ensured by experts in the area of educational measurement and evaluation. Descriptive statistics of percentages and mean were used to analyze the research questions, while inferential statistics of Analysis of Covariance (ANCOVA) was used to test the hypotheses at .05 alpha level.

RESULTS

Research Question 1: What is the effect of the health education intervention on knowledge of alcohol use among senior secondary school adolescents in Eleme?

Table 1. Mean and Standard Deviation of the Respondents on Knowledge of Alcohol use among Senior Secondary School Adolescents in Eleme

Group	N	Pre-Test		Post-Test		Gain	
		Mean	SD	Mean	SD	Mean	SD
Intervention	386	1.1244	0.3762	1.8637	0.1642	0.7393	0.1654
Control	367	1.4717	0.5124	1.6871	0.2841	0.2154	0.1973

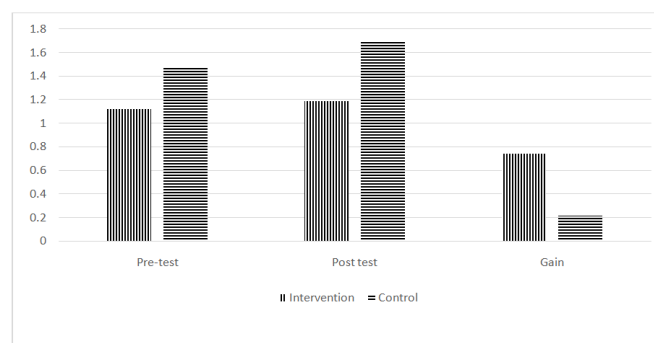


Fig.7. Mean Response of the Respondents on Knowledge of Alcohol

Information in table 1 shows the mean response scores of the respondents on knowledge of alcohol use among senior secondary school adolescents in Eleme. The data reveals that the mean gain for control is 0.2154 with standard deviation of 0.1973 while the mean gain for the intervention group is 0.7393 with standard deviation of 0.1654.

Research Question 2: What is the effect of alcohol education intervention on knowledge of alcohol among senior secondary school adolescents in Eleme based on sex.

Results in Table 2 shows that the males in the intervention group had mean gain of 0.2828 (SD = 0.1221) while the females had mean gain of 0.2679 (SD = 0.1302). The males in

the control group had mean gain of 0.0806 (SD = 0.1512) while the females had mean gain of 0.1696 (SD = 0.1109).

Table 2. Mean response of the respondents on the effects of alcohol education intervention knowledge of alcohol among senior secondary school adolescents in Eleme based on sex

Group	N	Sex	Pre-Knowledge		Post-Knowledge		Gain Mean	SD
			Mean	SD	Mean	SD		
Intervention	216	Male	1.4732	0.1203	1.7560	0.0811	0.2828	0.1221
	170	Female	1.5212	0.1314	1.7891	0.1012	0.2679	0.1302
Control	265	Male	1.6642	0.1224	1.7448	0.1314	0.0806	0.1512
	102	Female	1.5255	0.15121	1.6951	0.1123	0.1696	0.1109

Research Question 3: What is the effect of alcohol education intervention on knowledge of alcohol among senior secondary school adolescents in Eleme based on religion.

H₀₂: Health education intervention has no significant effect on knowledge of alcohol use among senior secondary school adolescents in Eleme LGA based on religion.

The summary of ANCOVA in the table above shows that alcohol education intervention on knowledge of alcohol use among senior secondary school adolescents based on gender in Government Secondary School adolescents in Eleme is rejected. We therefore conclude that health education intervention has a significant effect on knowledge of alcohol use among senior secondary school adolescents based on gender ($F_{cal.} = 4.546 > F_{crit} = 3.84, P < 0.05$).

The above table shows that health education intervention had significant effect on knowledge of alcohol use among senior secondary school adolescents based on religion since F_{cal}

Table 3. Mean response of the respondents on the effects of alcohol education intervention on knowledge of alcohol among senior secondary school adolescents in Eleme based on religion

Group	N	Religion	Mean	SD	Mean	SD	Gain Mean	SD
Intervention	368	Christianity	1.3512	0.1121	1.8911	0.1121	0.5399	0.1121
	10	Islam	1.3291	0.0960	1.7877	0.1025	0.4586	0.0543
	5	Traditionalist	1.3775	0.1041	1.7394	0.0917	0.3619	0.0176
	3	Others	1.4762	0.1702	1.8821	0.1005	0.4059	0.0691
Control	355	Christianity	1.4432	0.1060	1.7946	0.1302	0.3514	0.1005
	5	Islam	1.4190	0.1081	1.7461	0.1033	0.3271	0.0697
	4	Traditionalist	1.4732	0.1515	1.7653	0.1232	0.2921	0.0168
	3	Others	1.4271	0.1705	1.7001	0.1382	0.2730	0.1009

Table 4. Summary of ANCOVA analysis of effects of alcohol intervention on knowledge of alcohol among senior secondary school adolescents based on gender

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	380.486 ^a	2	190.243	3.222	.041
Intercept	16213.348	1	16213.348	274.573	.000
Pre-intervention	103.978	1	103.978	1.761	.185
Pre-gender	268.456	1	268.456	4.546	.034
Error	21493.950	364	59.049		
Total	1122062.000	367			
Corrected Total	21874.436	366			

a. R Squared = .017 (Adjusted R Squared = .012)

Table 5. Summary of ANCOVA analysis of effects of intervention on knowledge of alcohol use among senior secondary school adolescents based on Religion

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	158.503 ^a	3	52.834	.883	.450
Intercept	8152.145	1	8152.145	136.270	.000
Pre-intervention	114.670	1	114.670	1.917	.167
Post religion	386.473	2	193.236	3.230	.048
Error	21715.933	363	59.824		
Total	1122062.000	367			
Corrected Total	21874.436	366			

a. R Squared = .007 (Adjusted R Squared = -.001)

H₀₁: Alcohol education intervention has no significant effect on knowledge of alcohol among senior secondary school adolescents in Eleme LGA based on sex.

Data from table 3 shows that the Christians in the intervention group had mean gain of 0.5399 (SD = 0.1121), Islam had mean gain 0.4556 (SD = 0.0543), traditionalist had 0.3619 (SD = 0.0176) and others had mean gain of 0.4059 (SD = 0.0691). Christians in the control group had gain mean of 0.3514 (SD = 0.1005), Islam had gain mean of 0.3271 (SD = 0.0697), traditionalist 0.2921 (SD = 0.0168) and others had gain mean of 0.2730 (SD = 0.1009).

(3.230) is greater than the F_{crit} 3.01 at 0.05 alpha level ($F_{cal.} = 3.230 > F_{crit} = 3.01, P < 0.05$). The hypothesis of no significant effect is therefore rejected.

DISCUSSION OF FINDINGS

The health education intervention resulted in gain mean of 0.7483 which shows improved knowledge. Interestingly, a test of the hypothesis revealed that the intervention had significant effect on the knowledge of the adolescents about alcohol. The result is in line with previous findings which have also shown increased knowledge after intervention. Their post-test response about the effects of alcohol had majority of the

adolescents mentioning high blood pressure, cancer of the liver, cancer of the lungs, and so on, meaning that learning was quite effective. The finding of this study is in agreement with the study of Arevin and Khashonhen (2014) on Impact of Educational Programme on Knowledge and Attitude on Prevention of Substance Abuse among Lebanese/American Adolescent which revealed that knowledge about drugs significantly improved between pre-test and post-test. In the same vein, Raji, Abubakar, Oche, Kaoje and Isah (2014) discovered that the population of respondents with adequate cigarette smoking knowledge increased from 75.4%-97.2% after a health education intervention to improve in-school adolescent cigarette smoking related knowledge, attitude and behaviour in a North-west Nigerian state. However, the finding of this study differs with that of Soares, Vardes and Formigin (2013) who discovered no significant difference between pre-test and post-test groups in relation to knowledge of alcohol among nurses. This may not be surprising since it is expected that nurses by virtue of their profession should have adequate knowledge concerning the subject. Hence, the educational programme could not make a significant impact on their knowledge. It is different, however, with the participants of the present study who are secondary school adolescents that have limited sources of information about alcohol. The result of this study, therefore, reinforces Crompton's assertion in Soares Vardes and Formigin (2013) of the need for young people in all settings to be given opportunities to develop the knowledge and skills necessary to reduce alcohol related harm.

Effect of Health Education Intervention on Knowledge of Alcohol Use based on Sex and Religion

The performance of adolescents in intervention group was better than their counterpart in the control group in terms of knowledge towards alcohol after health education intervention. Based on the result obtained from the study, the gain mean with regards to sex of the participants increased but was more among the male adolescents. This could be because alcohol consumption is more associated with males than females, so, the female adolescents may not be as interested in learning about it as their male counterparts. The Analysis of Variance results confirmed the observed difference as being significant ($F_{cal.} = 4.546 > F_{crit} = 3.84, P < 0.05$). This finding is similar to the findings made by Ferreira and Torgal (2015) to the effect that tobacco habits increase positively in male adolescents than female adolescents. The mean on knowledge of alcohol based on religion increased after intervention. The Christians had higher mean gain (0.6527) than the Muslims (0.5430), Traditionalist (0.5380), and other religions (0.5166). The Analysis of Variance showed that there was significant difference in the effects of the intervention on the knowledge of the adolescents about alcohol with regards to religion. In Christendom alcohol consumption is discourage and some denominations actually teach that it is sinful. However, it is surprising that the Muslims did not have the highest mean gain as expected since the religion condemns alcohol consumption and recommends serious punishment for offenders. Perhaps, that killed their interest in learning the subject based on the belief that since it is condemnable, learning about it would probably not be a good idea. The difference in mean gain was significant indicating that Christian adolescents were seemingly more open to learning about alcohol than their peers in other religions. Nigerians are highly religious people, hence, religious beliefs and practices should probably be considered in most interventions design and implementation.

Conclusion

It is concluded that health education intervention programme that is well designed and delivered, has the capacity to increase the knowledge of the adolescents about alcohol. There may also be need to develop gender and religion based programmes since they significantly influenced the knowledge gained by the adolescents as a result of the intervention.

Recommendations

1. Religious bodies should be encouraged to lay more emphasis on the religious implication of unwanted behaviours that can arise as a result of excessive alcohol and tobacco consumption.
2. School principals should invite health professionals on a regular basis to properly educate the students on the health implication of the use of tobacco and alcohol among adolescents.

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