

Role of School Education in Preventing Adolescent Substance Abuse Among Higher Secondary Students in Mawlai, East Khasi Hills District, Meghalaya

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Abstract: The present study was conducted to examine the role of school education in preventing adolescent substance abuse among higher secondary students in Mawlai, East Khasi Hills District, Meghalaya. A quantitative descriptive survey method was adopted for the study. The sample consisted of 201 Class XII Arts stream students selected through stratified random sampling from government-aided and private higher secondary schools. Data were collected using a self-developed questionnaire comprising 32 items. The collected data were analysed using percentage, frequency, mean, standard deviation, and MannWhitney U test. The findings revealed that students possessed a high level of awareness regarding substance abuse and recognized the important role played by schools in preventing substance abuse through awareness programmes, guidance, counselling, and educational activities. The study also found differences in perceptions based on gender and type of school management. The study concludes that school education plays a significant role in preventing adolescent substance abuse by promoting awareness, positive attitudes, and healthy behaviour among students.

Keywords: School Education, Adolescent Substance Abuse, Awareness, Prevention, Higher Secondary Students, Meghalaya.

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I. INTRODUCTION

Adolescence is considered one of the most significant stages in human development. It is a transitional period between childhood and adulthood marked by rapid physical growth, emotional maturity, intellectual development, and social changes. During this stage, adolescents begin to form their personal identity, develop independent thinking, and become more aware of their roles and responsibilities in society. The experiences and skills gained during adolescence greatly influence an individual's future personality and behaviour (Smith,2016).

Schools occupy a central position in shaping students' knowledge, attitudes, and behavioural development because they serve as important social and educational environments in human development. Through daily interaction with teachers, peers, and the school environment, students develop academic skills, social values, emotional competence, and behavioural patterns. Teacher beliefs, classroom practices, school climate, and parental involvement significantly contribute to shaping student's academic achievement and socio-emotional development. Thus, schools play a vital role in fostering students' overall personality and behavioural

growth. Consequently, schools serve as a key setting for substance abuse prevention by fostering awareness, promoting positive attitudes, and reinforcing healthy behavioural patterns (Eccles&Roeser,2012).

In recent years, adolescent substance abuse has emerged as a growing public health and social concern affecting the physical, psychological, emotional, and academic well-being of young people. The increasing use of alcohol, tobacco, and other harmful substances among adolescents has become a serious issue due to peer pressure, family problems, stress, and environmental influences (World Health Organization [WHO], 2021).

Education plays a significant role in addressing this issue by raising awareness, implementing school-based prevention programmes, and cultivating essential life skills such as critical thinking and sound decision-making. Initiatives led by schools, including teacher mentorship and awareness campaigns, can equip students with accurate knowledge about the risks of substance use and motivate them to adopt healthier lifestyles. Therefore, the present study seeks to examine the role of school education in preventing adolescent substance abuse, with particular reference to

higher secondary schools in Mawlai, Shillong. Adopting a quantitative descriptive survey approach, the research aims to explore students' perspectives and experiences, while also assessing the effectiveness of educational strategies in addressing this important social concern.

➤ *Meaning and Concept of Adolescence:*

According to the World Health Organization (WHO, 2014), Adolescence is the phase of life between childhood and adulthood, ranging from 10 to 19 years of age. It is a unique stage of human development and an important time for laying the foundations of good health. Adolescents experience rapid physical, cognitive and psychosocial growth. This affects how they feel, think, make decisions, and interact with the world around them. Despite being thought of as a healthy stage of life, there is significant death, illness and injury in the adolescent years. Much of this is preventable or treatable. During this phase, adolescents establish patterns of behaviour for instance, related to diet, physical activity, substance use, and sexual activity – that can protect their health and the health of others around them, or put their health at risk now and in the future. To grow and develop in good health, adolescents need information, including age appropriate comprehensive sexuality education opportunities to develop life skills; health services that are acceptable, equitable, appropriate and effective safe environments. They also need opportunities to meaningfully participate in the design and delivery of interventions to improve and maintain their health. Expanding such opportunities is key to responding to adolescents' specific needs and rights. (World Health Organization [WHO], 2021).

➤ *Meaning of Substance Abuse:*

According to World Health Organisation (WHO, 2014) Substance abuse refers to the harmful or hazardous use of psychoactive substances, including alcohol illicit drugs. One of the key impacts of illicit drug use on society is the negative health consequences experienced by its members. Drug use also puts a heavy burden on individuals, families and society. The evolution of the complex global illicit drug problem is clearly driven by a range of factors. Sociodemographic trends are influential such as the population's gender, age and the rate of urbanization.

➤ *Commonly Used Substance Among Adolescents:*

According to the National Institute on Drug Abuse (National Institute on Drug Abuse [NIDA] 2024), alcohol remains the most commonly used substance among teenagers, followed closely by marijuana and nicotine through vaping devices.

In addition to alcohol, marijuana, and nicotine, adolescents may also experiment with other substances. Inhalants such as glue, correction fluid, petrol and aerosol sprays are sometimes misused because they are inexpensive and easily accessible. The misuse of prescription medications, particularly painkillers, sedatives, and sleeping pills, has also emerged as a growing concern among teenagers. Some adolescents consume cough syrups containing codeine or other psychoactive ingredients for non-medical purposes. Furthermore, the use of synthetic drugs

such as ecstasy and amphetamine-type stimulants has been reported in certain urban and semi-urban settings. Although the prevalence of these substances may vary by region, their use poses serious physical, psychological, and social risks to young people. (National Institute on Drug Abuse [NIDA] 2024)

In the Indian context, tobacco in both smoked and smokeless forms such as cigarettes, bidis, and chewing tobacco) remains highly prevalent among adolescent. Understanding the range of substances commonly used is essential for schools and educators to design comprehensive and effective prevention strategies. (National Institute on Drug Abuse [NIDA] 2024)

➤ *Consequences of Youth Substance Abuse:*

According to Sahu (2012) states that Adolescents who persistently abuse substances face serious consequences, including academic problems, health issues, poor peer relationships, and involvement with the juvenile justice system, affecting not only themselves but also their families and society.

Broadly consequences of substance abuse/addiction can be explained in following headings:

• *Academics:*

Substance abuse among young people is closely linked with a range of academic difficulties, including declining grades, frequent absenteeism, reduced participation in school or college activities, and a greater likelihood of dropping out. Research by J. David Hawkins, Richard F. Catalano, and Janet Y. Miller highlights that students who show low commitment to their education and higher levels of truancy are more vulnerable to substance abuse. Furthermore, the cognitive and behavioural challenges faced by alcohol-and drug-using youth can negatively affect their academic performance. These difficulties not only hinder their own learning and achievement but may also disrupt the classroom environment, creating additional barriers to effective learning for their peers. (Sahu 2012)

• *Mental Health:*

Adolescents substance abuse is often associated with a range of mental health concerns, including depression, delayed developmental progress, lack of motivation, social withdrawal, and various forms of psychological difficulties compared to their non-using peers. These may include depressive disorders, behavioural and conduct – related problems, personality disturbances, as well as suicidal ideation and suicide attempts. Studies by Marvin Silver and Allan James have noted that suicide ranks among the leading causes of death in the college-age population. In addition, marijuana- one of the most commonly used substances among youth-has been found to impair shortterm memory, learning capacity and psychomotor functioning. Its use may also negatively influence motivation, as well as emotional and psychosexual development during this critical stage of growth. (Sahu 2012)

- *Peers:*

Young people who engage in substance abuse often experience social rejection and discrimination from their peer groups. Their involvement with alcohol and drugs may create distance between them and their friends, leading to isolation. In many cases, these adolescents gradually withdraw from school related and community activities, thereby losing opportunities to make meaningful and positive contributions to their peer networks and society at large (Sahu 2012)

- *Families:*

Beyond the individual consequences, substance abuse among youth can severely disrupt family life. It may trigger conflicts, tension, and crises within the household, sometimes resulting in long-term family problem. Parents and siblings are deeply affected by the behavioural, emotional, and financial strain associated with a young family member's substance use. Moreover, substance abuse often exhausts family's emotional strength and financial stability. (Sahu 2012)

- *Social and Economic Consequences:*

The wider social and economic impact of youth substance abuse is considerable. Communities face financial losses associated with alcohol-and drug-related crimes, as well as increased demands for healthcare, rehabilitation, and social supports services. When adolescents and young adults become unable to sustain themselves due to substance dependence, society bears the added responsibility of providing care and assistance. Overall, youth substance abuse imposes heavy economic costs and social burdens, affecting not only individuals and families but also the broader community. (Sahu 2012)

- *Delinquency:*

Substance abuse and juvenile delinquency are closely connected. Many adolescents who use alcohol and others drugs eventually encounter the juvenile justice system through arrest or legal intervention. Although it is difficult to determine whether substance used leads to delinquency or vice versa, research by J. David Hawkins and James C. Howell shows a strong association between the two. Both behaviours are often linked to shared risk factors such as school problems, family conflict, negative peer influence, and weak community supervision. Because alcohol and drug use is illegal for minors, youth who engage in these activities are already at risk of legal consequences. Substance abuse is also associated with violent and income-generating crimes, increasing community fear and placing additional pressure on juvenile justice services. (Sahu 2012)

➤ *Causative Factors and Effects of Substance Abuse:*

According to Osadolor, (2022) Substance abuse refers to the harmful or improper use of psychoactive substances such as alcohol, tobacco, and illicit drugs. It has become a major global concern affecting both developed and developing countries. The physical, psychological, social, and economic consequences of substance abuse among adolescents and youths are increasingly alarming. Young people who engage in substance abuse often experience poor academic performance, mental and physical health problems,

weak social relationships, and involvement in antisocial behaviours such as bullying, stealing, domestic violence, and other criminal activities. These effects negatively influence not only the individual but also the family, community, and society at large. Substance abuse is common among adolescents and students who consume substances such as alcohol, tobacco, and drugs. Many young people begin with cigarettes and alcohol before gradually progressing to stronger substances, which may eventually lead to addiction and a loss of self-control. The effects of substance abuse may include depression, personality disorders, mental illness, criminal tendencies, sexual violence, liver and kidney diseases, financial problems, low productivity, withdrawal symptoms, social violence, and untimely death.

Osadolor (2022) further identified several factors responsible for substance abuse among young people. These include curiosity and experimentation, peer pressure, unemployment, frustration, depression, poor parental supervision, broken homes, socio-economic difficulties, environmental influences, media exposure, availability of drugs, and negative peer influence. Parenting style, family background, and cultural changes also contribute significantly to substance abuse among adolescents. The prevalence of substance abuse varies across countries and communities, including urban, semi-urban, and rural areas. Therefore, creating awareness and implementing effective intervention programmes are essential in reducing substance abuse among adolescents. Educating young people about the harmful effects of substance abuse can help them develop positive attitudes, values, and behaviours that contribute to personal growth and societal development.

➤ *Role of School Education in Preventing Substance Abuse:*

School education plays an important role in preventing substance abuse among adolescents. Schools provide students with knowledge, guidance, life skills, and a supportive environment that help them avoid the use of drugs and alcohol. Through prevention programmes, counselling services, and awareness activities, schools contribute significantly to reducing substance abuse and promoting healthy behaviour among students (Benningfield, Riggs & Stephan, 2015).

The following are the important roles of school education in preventing substance abuse:

- *Creating School Connectedness –*

Schools help prevent substance abuse by creating positive relationships between students, peers, and school staff. When students feel connected and supported in school, they are less likely to engage in alcohol and drug use. (Benningfield, Riggs & Stephan, 2015).

- *Providing a Safe and Drug-Free Environment –*

Schools can reduce substance abuse by maintaining a safe learning environment and enforcing drug-free school policies. Strong school rules and supervision help discourage drug and alcohol use among adolescents. (Benningfield, Riggs & Stephan, 2015).

- *Implementing Prevention Programmes –*

Schools are ideal places for substance abuse prevention programmes because they can reach many students before they begin using substances. Prevention programmes teach students about the harmful effects of drugs and alcohol, decision-making skills, and way to resist peer pressure. (Benningfield, Riggs & Stephan, 2015).

- *Developing Social and Life Skills –*

School education helps students develop self- control, communication skills, which reduce the chances of adolescents becoming involved in substance abuse. (Benningfield, Riggs & Stephan, 2015).

- *Early Identification and Screening –*

Schools play an important role in identifying students who are at risk of substance abuse through screening tools and observation. Early identification helps students receive counselling and support before the problem becomes severe. (Benningfield, Riggs & Stephan, 2015).

- *Counselling and Intervention Services –*

Schools can provide counselling, brief intervention, and referral services for students with substance use problems. Schoolbased support services increase access to help and reduce barriers to treatment. (Benningfield, Riggs & Stephan, 2015).

- *Parental and Community Involvement –*

Schools can work together with parents and communities to educate students about the dangers of substance abuse. Cooperation between school, family, and community strengthens prevention efforts. (Benningfield, Riggs & Stephan, 2015)

- *Promoting Mental Health and Emotional Support –*

School education supports students' mental and emotional well-being through guidance and supportive relationships. This reduces stress, anxiety, and emotional problems that may lead to substance abuse. (Benningfield, Riggs & Stephan, 2015).

➤ *Brief Profile of the Study Area:*

Mawlai C&RD Block is a significant administrative unit situated in the East Khasi Hills District of Meghalaya, India. The block comprises nearly 24 villages and has an estimated population of about 70,000 residents. The demographic distribution is nearly balanced, with males and females represented in nearly equal proportions. The area is recognized for its impressive literacy rate, which exceeds 91%, considerably higher than the state average of 74.43%. Male literacy is approximately 93.05%, while female literacy stands at around 90.91%. This high literacy level reflects the community's strong emphasis on education and social development. According to records from the community and Rural Development Department of Meghalaya, the block includes villages such as Mawiong Umjapung, Mawiong Rim, Mawlai Umthlong, Mawlai Umjajew, Mawlai Nongkwar, Mawlai Iewrynghep, Mawlai Nonglum, Mawlai Motsyiar, Mawlai Syllaikariah, Mawlai Umjaiur, Mawlai

Nongpdeng, Mawlai Phudmuri, Mawlai Mawdatbaki, Mawlai Kyntonmassar, Mawlai Mawroh, Mawlai Mawtawar, Mawlai Nongkohlew, Mawlai Umsaw Mawjynrong, Mawlai Mawsiatkhnem, Mawlai Umrynjah, Mawlai Umphrew, Mawlai Madan Mawkhar, Mawlai Mawkynroh, and Mawlai Umshing.

Mawlai C&RD Block is also widely known for its vibrant educational atmosphere. It is home to reputed institutions such as North Eastern Hill University and the Don Bosco Museum, both of which highlight the academic and cultural significance of the region. In addition to these prominent institutions, the block accommodates several primary, secondary, and higher secondary schools that contribute substantially to the educational advancement of young learners.

The presence of higher secondary schools in the area plays a crucial role in shaping adolescents' academic progress, personal growth, and preparation for future opportunities. Overall, Mawlai C&RD Block can be described as a progressive and education-oriented community that places strong emphasis on learning, social development, and cultural heritage, making it an important and dynamic part of the East Khasi Hills District.

➤ *Need and Justification of the Study:*

Adolescence is an important developmental stage marked by rapid physical, both emotional, and psychological changes. During this time, higher secondary students are especially at risk for substance abuse. They face peer pressure, curiosity, academic stress, and various social influences. Substance abuse can harm students' health, academic performance, behaviour, and future opportunities. Schools play a key role in shaping students' knowledge, attitudes, and behaviour. Through classroom instruction, life-skills education, awareness programmes, counseling services, and extracurricular activities, schools can help protect against substance abuse. An effective school-based prevention program can give students the information, decision-making skills, and positive attitudes they need to resist using substances. Despite the importance of education in prevention, we need to assess how effectively schools help reduce substance abuse among higher secondary students. Understanding students' awareness, attitudes, and perceptions of school-based prevention efforts can help improve educational strategies and create more effective intervention programmes. Therefore, this study is important as it aims to explore the role of school education in preventing adolescent substance abuse and to provide useful information that may assist educators, policy makers, and community members in promoting a healthy, drug-free school environment.

➤ *Statement of the Problem:*

The problem selected for the present study is formally stated as "Role of School Education in Preventing Adolescent Substance Abuse among Higher Secondary Students in Mawlai, East Khasi Hills District, Meghalaya"

➤ *Operational Definitions of Key Term Used:*

- **Role of School Education:** In this study, the role of school education refers to the preventive efforts made by schools such as awareness programmes, life- skills education, guidance and counselling services, teacher support, co-curricular activities, and classroom teaching related to substance abuse prevention. It will measure through students' responses to a structured questionnaire regarding school-based preventive activities.
- **Adolescent:** Adolescents are individuals aged 10-19 who are in the transitional stage between childhood and adulthood marked by rapid physical, emotional and social development
- **Substance Abuse:** Substance abuse refers to the improper or excessive use of alcohol or drugs in a way that causes harm. It involves consuming substances in unsafe quantities or patterns, which can lead to serious physical, psychological, social, or legal consequences over time
- **Prevention of Substance Abuse:** Prevention refers to educational efforts aimed at reducing or avoiding the use of substances through awareness, attitude change, skill development, and school interventions.
- **Higher Secondary Students:** Higher secondary students refer to those enrolled in Class XI and XII in selected schools in Mawlai.
- **Awareness Level:** Awareness level refers to the extent of knowledge students have about substance abuse and its harmful effects. It will be measured based on scores obtained from the awareness section of the questionnaire.
- **Students' Attitude:** Students' attitude refers to their feelings, beliefs, and opinions towards substance abuse and its prevention. It will be measured using responses to attitude-related statements in the questionnaire.

➤ *Objectives of the Study:*

- To find out the level of awareness regarding substance abuse among higher secondary students.
- To examine the extent of school-based substance abuse prevention programmes in higher secondary schools.
- To examine students' perceptions of the effectiveness of school education in preventing substance abuse.
- To identify factors influencing students' resistance to substance use.
- To find out the significant difference between male and female higher secondary students on role of school education in preventing adolescent substance abuse.
- To find out the significant difference between higher secondary students from government aided and private schools on role of school education in preventing adolescent substance abuse.

➤ *Research Questions:*

- Q1. What is the level of awareness about substance abuse among higher secondary students?
- Q2. What is the extent of school-based substance abuse prevention programmes in higher secondary schools?

- Q3. What are the students' perceptions of the effectiveness of school education in preventing substance abuse.
- Q4. What factors significantly influence students' resistance to substance use?

➤ *Hypotheses of the Study:*

- Ho1. There is no significant difference between male and female higher secondary students on role of school education in preventing adolescent substance abuse.
- Ho2: There is no significant difference between higher secondary students from government aided and private schools on role of school education in preventing adolescent substance abuse.

➤ *Delimitations of the Study:*

- The present study is delimited to higher secondary schools in Mawlai, Shillong.

II. REVIEW OF RELATED LITERATURE

A review of related literature is an essential part of research that helps the researcher understand existing knowledge, theories, and findings related to the study topic. It involves collecting, analyzing, and synthesizing information from books, journals, research articles, and other scholarly sources. Through the review, the researcher can identify research gaps, avoid duplication of studies, and build a strong foundation for the present investigation. It also helps in developing the objectives, methodology, and theoretical background of the study. (Saravanakumar, 2019).

In recent years, substance abuse has become a complex global issue studied by medical, psychological, and sociological experts, as well as organization. This chapter reviews relevant studies, particularly those focusing on the psychological and sociological factors associated with drug abuse, to provide a foundation for the present study.

- Studies conducted Abroad
- Studies conducted India
- Studies conducted North east

• *Studies Conducted Abroad*

Haddad, Shotar & Zyoud (2010) conduct a study titled "knowledge of substance abuse among high school students in Jordan." The objective of the study was to assess the knowledge, attitudes, and beliefs regarding substance abuse among adolescents aged 15-18 years. A descriptive research design was used, and data were collected through a self-administered questionnaire from 400 high school students selected by multistage random sampling from public secondary schools. The findings revealed that most students were aware of the harmful effects of substances such as cigarettes, alcohol, and drugs. However, their knowledge about treatment services and support institutions was limited. Peer pressure was identified as an important influencing factor, while parents, teachers, relatives, and friends were the main sources of information about substance abuse. The

study concluded that although students had basic awareness, there is still a need for effective school-based educational programmes to improve knowledge and prevent substance abuse among adolescents

Stefanidi & Tsitsas (2015) conducted study titled “school effects on adolescent substance use prevention through interactive and social strategies”. The study aimed to examine the factors within Greek schools that influence adolescent substance use and to assess the effectiveness of interactive and social learning strategies in prevention. The research was carried out among 30 former drug users (22 males and 8 females) aged 16-21 who were attending therapeutic pro such as STOFI-KETHEA Data were collected through face-to-face surveys. The findings indicated that negative school climates, weak school connectedness, and high dropout rates were associated with substance use. The study emphasized that schools should adopt interactive teaching methods, promote student participation, and strengthen a supportive school environment to effectively prevent adolescent substance use.

Alhyas et al. (2015) conducted a qualitative study published in the journal of health and social medicine to explore adolescents’ perceptions of substance use in Abu Dhabi. Using focus group discussions with 41 adolescents aged 13-18 years, the study examined awareness levels and factors influencing substance use. The findings revealed peer pressure, poor parent- adolescent relationships, substance availability, and lack of awareness were major risk factors. In contrast, parental support, religiosity, and school-based awareness programmes were identified as protective factors. The study emphasized the need for comprehensive prevention strategies involving family, school, and community, which is relevant to the present research on the role of higher secondary schools in preventing adolescent substance abuse

Ajibade, Adeyemo, Adisa, & Ejidokun (2015) conducted a study titled “substance abuse among selected secondary school students in Osun State, Nigeria.” The objective of the study was to examine the extent of substance abuse among secondary school students, identify the types of substances commonly abused, and determine the influence of school location (urban and rural) on substance abuse among students. The study adopted a descriptive research design. A total of 720 secondary school students were selected from 12 schools in Osun State using a simple random sampling. Data were collected using a standardized instrument called the Substance Abuse Screening Inventory (SAASI) adolescent version, which consisted of 100 items. The collected data were analyzed using descriptive statistics, t-test, and ANOVA at 0.05 level of significance. The findings revealed that substance abuse was prevalent among secondary school students, with kola nut being the most commonly abused substance. The result also showed significant differences in substances abuse between students in mixed and single-sex schools and between students in urban and rural schools, with urban students being more involved in substance abuse than rural students. The study concluded that substance abuse is a serious problem among secondary school students, and recommended that counseling units and preventive

educational programmes should be established in schools to help reduce substance abuse among adolescents.

Subba, Subba & Shah (2015) conduct a study titled “knowledge of substance abuse among students studying in a selected higher secondary school in Biratnagar, Nepal. The study aimed to assess the knowledge of substance abuse among higher secondary school students. A crosssectional research design was used, and 115 Grade 12 students aged 15-20 years were selected through purposive sampling. Data were collected using a pretested semi-structured questionnaire and analyzed using descriptive and inferential statistics. The findings revealed that 51.3% of the students correctly understood the meaning of substance, while only 19.1% knew the exact meaning of substance abuse. Overall, 87.88% of the respondents had good knowledge, 11.12% had average knowledge, and 2.6% had poor knowledge regarding substance abuse. The study also found that peer groups and media were the main sources of information, and peer pressure (53.9%) was identified as a major cause of substance abuse among students. The study concluded that although students had general knowledge about substance abuse, there is a need for continuous school-based education awareness programmes to prevent substance abuse among adolescents kolanut

Chan et.al (2016) conducted a study on students’ perception of substance abuse among secondary school students in Malaysia. The objective of the study was to explore students’ perspectives on substance abuse. The researchers collected data using questionnaires, checklists, and semi-structured interviews from 1,800 students in 18 high-risk secondary schools. The findings showed that the most common substance abuse behaviours were smoking, alcohol consumption, marijuana use, and glue sniffing. The study also found that many students started these behaviours between 15-17 years of age, usually during weekends and outside schools. The study concluded that substance abuse among adolescents can negatively influence peers and highlights the need for prevention programmes in school and communities.

Anyanwu, Ibekwe & Ojinnaka (2016) conduct a study titled “pattern of substance abuse among adolescent secondary school students in Abakaliki “. The study aimed to determine the prevalence and pattern of substance abuse among secondary school students in Abakaliki and that predispose adolescents to substance abuse. A cross-sectional survey was conducted among 620 senior secondary school students (SS2 and SS3) using the WHO drug use questionnaire. The findings revealed that the prevalence of substance abuse among the students was 32.9%, with alcohol identified the most commonly abused substance. The study also showed that substance abuse was more common among male students, older adolescents, and those from divorced homes or orphan backgrounds. However, students who frequently participated in religious activities showed lower levels of substance abuse. The study concluded that substance abuse is a significant problem among secondary school students and highlighted the need for preventive strategies such as health education, parental involvement, and

community engagement to reduce substance abuse among adolescents.

Mokey et al. (2021) conducted a study titled “substance abuse: awareness and attitude among secondary school students in Sapele, Nigeria,” published in the Journal of Applied Science and Environmental Management. The objective of the study was to assess the awareness and attitude towards substance abuse among secondary students in Sapele, Delta State, Nigeria. A descriptive cross-sectional research design was used among 315 secondary school students selected from three schools. Data were collected using a well-structured questionnaire, and the data were analyzed using descriptive statistics and simple percentages. The finding revealed that the prevalence of substance was 19.4%, with higher occurrence among males. The commonly used substances included alcohol (13.97%), tramadol (10.79%), and Rohypnol (3.81%). The study also found that peer pressure and depression were major reasons for substance use, while school and mass media were the main sources of information about drug abuse. The study concluded that drug abuse education should be strengthened in school curricula to reduce adolescent substance abuse.

Mokwena and Mokwena (2023) conducted a study titled “management of substance abuse in the school environment of a school district in North West Province of South Africa”, published in the Journal of Drug and Alcohol Research. The study explored how schools manage substance abuse using a qualitative design. Data were collected through in-depth interviews with 21 members of School Management Teams in North West Province, South Africa. The findings showed that schools mainly deal with substance abuse by reporting cases to parents or authorities, rather than implementing preventive programmes. Teachers were not trained to handle substance abuse issues effectively. The study concluded that current management strategies are ineffective and emphasized the need for proper training and school-based prevention programmes.

Odofin & Iqabari (2023) conducted a study titled “assessment of social media and exposure and substance abuse among adolescent secondary school students in Delta State, Nigeria.”. The objective of the study was to examine the relationship between social media exposure and substance abuse among adolescent secondary school students and to determine whether school type moderates this relationship. The study adopted a correlational ex-post factor research design. The population consisted of public secondary school students in Delta State, and a sample of 500 students was selected using multi-stage and stratified random sampling techniques. Data were collected using Social Media Scale (SMS) and Drug Abuse Scale (DAS) questionnaires. The findings revealed that there is a significant positive relationship between social media exposure and substance abuse among adolescent students, and school type also significantly moderates this relationship. The study concluded that increased exposure to social media can influence substance abuse among adolescents, and it recommended that parents, teachers, and community

members should monitor and guide students on the proper use of social media to reduce substance abuse.

Kumari & Dhakal (2024) conducted a study titled “awareness regarding substance abuse among adolescents in a secondary school” aimed to assess the level of awareness regarding substance abuse among adolescents. The descriptive cross-sectional study was carried among 81 students of Greenland High School in Kathmandu, Nepal using probability proportionate stratified random sampling. Data were collected through a self-administered semi-structured questionnaire and analyzed using descriptive and inferential statistics. The findings revealed that 86.4% of the respondents knew about substance abuse and 97.5% had received information about it, mainly from mass media. Peer pressure and curiosity were identified as major risk factors, while class drop and conflicts with friends were reported as common educational impacts. The study also found that 66.7% of respondents had a moderate level of awareness, 22.2% had high awareness. The study concluded although most adolescents had some awareness of substance abuse, more school-based awareness and prevention programmes are necessary to reduce substance use among adolescents.

Onuorah, Agbaje, & Ugwueze (2024) conducted a study published in health education journal examining the effects of a school-based substance use prevention education programme (SUPEP) among secondary school students in Nigeria. Using a quasi-experimental pre-posttest design with 200 students, the study found that the programme significantly improved students’ knowledge and attitudes towards psychoactive substance use. However, it did not significantly reduce actual substance use behaviour. The study concludes that while school-based education is effective in increasing awareness and shaping attitudes, additional strategies may be needed to achieve behavioural change among adolescents.

Gift & Mweya (2024) conducted a study titled “prevalence and factors influencing substance abuse among secondary school students in Mbeya City, Tanzania”. The objective of the study was to investigate the prevalence of substance abuse and identify the factors influencing substance use among secondary school students in Mbeya City, Tanzania. The researcher used a school-based cross-sectional design and collected data from 300 students using a self-administered questionnaire. The findings revealed that a minority of students reported substance use, with the most commonly abused substances being cannabis and alcohol. Peer influence was identified as the major factor encouraging substance use among students. The study also reported several negative effects such as misbehaviour, engagement in unprotected sex, and possible long-term brain damage. The authors concluded that substance abuse among secondary school students is influenced largely by peer pressure and recommended comprehensive prevention strategies including community education, media campaigns, and collaboration among families, schools, and communities to reduce substance abuse among adolescents.

George & George (2024) conducted a study titled “causes and effects of drug and substance abuse among secondary school students in Bo District,” published in the International Journal of Science and Research Archive. The objective of the study was to investigate the causes and effects of drug and substance abuse among secondary school students in Bo District, Sierra Leone. The study used a descriptive cross-sectional mixed-methods design with a sample of 500 students selected from five secondary schools. Data were collected using structured questionnaire, interviews, and focus groups discussions. The findings revealed that the major causes of substance abuse among students were peer pressure, inadequate parental supervision, socioeconomic challenges, curiosity, stress, and easy availability of drugs. The study also found that substance abuse leads to poor academic performance, absenteeism, anxiety, depression, and risky behaviours such as unsafe sexual practices. The study concluded that school-based education, parental involvement, community awareness, and stronger law enforcement are necessary to prevent substance abuse among students

Zamora et al. (2025) conduct a study adolescent substance use in Costa Rica findings from a national survey among secondary school students, published in Frontiers in Public Health. The study examined substance use among adolescents aged 11-20 years using nationally representative survey data. The findings revealed that alcohol was the most commonly used substance, followed by e-cigarettes, tobacco, marijuana, and other illegal drugs. Substance use was significantly associated with older age, higher weekly allowance, working while studying, and family substance use. Emotional distress factors such as loneliness, sadness, and suicidal thoughts were also linked to higher substance use. Parental monitoring was identified as a protective factor against alcohol consumption.

Wentrell Bring et al. (2025) conduct a study titled prevalence and factors associated with alcohol and substance use among secondary school adolescents in Central and Eastern Uganda. The objective of the study is to determine the prevalence and factors associated with alcohol and substance use among secondary school adolescents in Central and Eastern Uganda. A cross-sectional survey was conducted among 1,833 adolescents aged 10-18 years from eight secondary schools. The findings revealed that 3.0% of students reported alcohol use, 2.6% marijuana use and 1.7% tobacco use, while 6.2% experienced impairment due to substance use. The study also found that male students, adolescents with a history of mental illness, and those studying in urban schools had higher risk of substances use. The study concluded that school based interventions are important to reduce alcohol and substance use among adolescents. substance and Drug Abuse among Secondary School Students in a Sub-Urban Area in Nigeria”.

Dosunmu & Odesanmi (2025) conduct a study titled “knowledge and prevalence of substance and drug abuse among secondary school students in a sub-urban area in Nigeria”. This study examined the knowledge and prevalence of substance and drug abuse among secondary school

students in a semi-urban area of Nigeria. The objective of the study was to assess students’ knowledge, awareness, and use of substances and drug of abuse. A descriptive survey design was used with 94 respondents from two secondary schools selected through random and convenience sampling. Data were collected using a validated semi-structured questionnaire and analysed using descriptive and inferential statistics. The findings revealed that alcohol was the most known, most seen, and most used substance among students, while drugs like morphine and pentazocine were the least known and least seen. The study concluded that although students have considerable knowledge about substance abuse, efforts such as counselling and multidisciplinary interventions are need to reduce its use among secondary school students.

Edinoh, Felicia & Shofoyeke (2025) conduct a study titled “leveraging education to tackle substance abuse among secondary school students: implication for social studies education”. This study aimed to examine the causes, sources, and effective educational interventions for substance abuse among secondary school students and to explore how Social Studies education can help prevent substance abuse. The researchers used a mixed-method cross-sectional design involving 250 students and 50 teachers/policymakers. The findings revealed that peer pressure, easy availability of substances, family problems, and lack of school-based prevention programmes are major causes of substance abuse among students. The study also found that counselling services, school-based prevention curricula integrated with Social Studies, and extracurricular activities are effective strategies to reduce substances abuse. The authors concluded that schools should adopt a whole-school approach that includes curriculum integration, counselling support, parental involvement, and community partnerships to effectively prevent adolescent substance abuse.

• *Studies Conducted in India*

Padhy et al. (2014) conducted a study titled prevalence and causes of substance abuse among undergraduate medical college students, published in the Indian Medical Gazette. The study assessed substance abuse among 1,188 medical students in Bhubaneswar using a structured questionnaire. The findings showed a high prevalence (45.87%), with males more commonly involved. Cigarette smoking was the most abused substance, followed by alcohol, gutkha, and other drugs. Major contributing factors included peer pressure, academic stress, curiosity, hostel stay, and poor family relationships. The study concluded that proper counselling, health education, and strong institutional policies are necessary to prevent substance abuse among medical students.

Sahu&Sahu (2019) conduct a study titled “substance abuse: causes and consequences”. The study aimed to examine the major causes and consequences of substance abuse among youths, with special reference to India. The objective of the paper was to analyze the factors contributing to the increasing use of psychoactive substances and to highlight the social, health, and behavioural impacts of substance abuse on young people. The authors conducted a

review based on secondary data sources, including previous research studies, reports, and literature on substance abuse. The findings indicated that the increasing availability of drugs, changing social values, peer influence, and lack of awareness contribute significantly to substance abuse among youths. The study also highlighted that substance abuse leads to serious consequences such as deterioration of health, increased crime rates, poor productivity, damaged relationships, and the erosion of social and moral values. The authors concluded that substance abuse has become a major public health concern in India and emphasized the need for preventive measures, awareness programmes, and effective interventions to protect youths from drug abuse and its harmful effects.

Faizi et al. (2021) conducted a cross-sectional study in Aligarh, India, published in the Indian Journal of Community Health, to assess knowledge, attitude, and practice regarding substance use among 14,31 adolescents and young adults. Data were collected using a structured questionnaire. The finding showed that although almost all participants were aware of substance use their knowledge was incomplete. The lifetime prevalence of substance use was 33.3% and 12.9% were current users. Tobacco and alcohol were the most commonly used substances, with stress identified as a major reason for use. The study emphasized the need for stronger school-based preventive programmes and early intervention strategies.

Guddad, Nelson, & Desai (2023) conducted a study titled “a study to evaluate the knowledge regarding substance abuse among adolescents at selected PU college Bijapur to develop an information guide sheet”. The objective of the study was to assess the level of knowledge regarding substance abuse among adolescent Pre - University college students, to examine the association between selected demographic variables and knowledge level, and to develop an information guide sheet to improve students’ awareness about substance abuse. The study adopted a descriptive survey research design. A total of 80 adolescent students from a selected Pre - University college in Bijapur were selected using a purposive sampling technique. Data were collected using a structured self-administered questionnaire, and the results were analyzed using descriptive and inferential statistics. The findings revealed that most students had a moderate level of knowledge regarding substance abuse, while no significant association was found between knowledge level and selected demographic variables at the 0.05 level of significance. The study concluded that providing an information guide sheet can enhance adolescents’ knowledge and awareness about the harmful effects of substance abuse and support preventive education among students.

Sharmila, Neupane, Gayetri, & Darshandhari (2023) conducted a study titled knowledge and attitude on substance abuse among higher secondary school adolescents in Kathmandu District, “published in the Journal of Karnali Academy of Health Sciences. The objective of the study was to assess the knowledge and attitude of adolescents regarding substance abuse.

A cross-sectional descriptive research design was used among 630 higher secondary students selected from seven schools and colleges using random sampling. Data were collected through a self-administered questionnaire and analyzed using frequency, percentage, mean, standard deviation, and Chi-square test. The findings revealed that 59.2% of respondents had poor knowledge and 8.6% had good knowledge about substance abuse. The study also found a significant association between knowledge level and variables such as age, sex, ethnicity, type of family, and parents’ education. The study concluded that awareness and educational programmes need to be strengthened to improve adolescents’ knowledge and attitude toward substance abuse prevention.

Dogra, Tiwari & Bhardwaj (2024) conducted a study titled “a study to assess the knowledge regarding substance abuse among medical students of Himachal Pradesh”. The objective of the study was to assess the level of knowledge regarding substance abuse among medical students and to examine whether differences exist based on gender and type of college (government and private). The study adopted a quantitative descriptive research design. A sample of 100 medical students (50 Boys and 50 girls) from four medical colleges in Himachal Pradesh was selected using random cum purposive sampling technique. Data were collected through a self-developed questionnaire consisting of 52 multiple-choice questions related to the meaning of substances and the harmful effects of excessive substance use. The data were analyzed using mean, standard deviation, and t-test. The findings revealed that there was no significant difference in knowledge regarding substance abuse between male and female students, but a significant difference was found between students of government and private medical colleges, with government college students showing higher knowledge levels. The study concluded that awareness and knowledge about substance abuse among medical students vary according to institutional context, highlighting the need for continuous education and awareness programmes to prevent substance abuse and promote healthy lifestyles among students.

Rashmi, Kundapur, Modi, & Ramamurthy, (2024) conducted a study titled “prevention starts here: effectiveness of substance abuse prevention module among adolescents’ students in Bengaluru- a quasi-experimental study,” published in the International Journal of Adolescent Medicine and Health. The objective of the study was to evaluate the effectiveness of a structured educational module on substance abuse prevention among adolescents. A quasi experimental research design was used among 120 students from two English-medium schools in Bengaluru. Data were collected using a pre-test and post-test questionnaire to assess knowledge regarding substance abuse. The results showed a significant improvement in students’ knowledge after the educational intervention ($p < 0.001$). The study concluded that school-based educational programmes are effective in improving awareness, resilience, and coping strategies, helping adolescents resist peer pressure and prevent substance abuse.

Antony et al. (2025) conducted a study titled “assessment of knowledge on substance abuse among school children in selected schools in Ernakulam District, Kerala, India. The study aimed to assess the knowledge regarding substance abuse among school children studying in selected schools of Ernakulam district. A descriptive research design was used for the study. The participants included school children studying in Class VIII, IX, and X. Data were collected using a structured questionnaire to evaluate the level of knowledge about substance abuse. The findings revealed that many students had a moderate level of knowledge regarding substance abuse, while some had adequate knowledge about its harmful effects. The study highlighted the importance of school-based education and awareness programmes to improve students’ understanding and help prevent substance abuse among adolescents.

Yadav, Singh & Chaudhary (2025) conduct a study titled “prevalence of substance use among students of senior secondary schools in the tribal sub-plan area of Rajasthan, India. The study aimed to evaluate students’ knowledge and attitudes regarding substance use and to assess the prevalence of substance use among senior secondary school students in the tribal sub-plan (TSP) areas. A cross-sectional research design was used, and the study was conducted among students from classes IX to XII over a six-month period from July to December 2024. A total of 260 students participated in the study. Data were collected using a structured and validated questionnaire that assessed demographic characteristics and the knowledge, attitudes, and practices related to substance use. The findings revealed that the prevalence of substance use among students was 12.3%. Tobacco and alcohol were the most commonly used substances. Peer pressure, tradition, and curiosity were identified as the main reasons for initiating substance use. The study concluded that substance abuse is a significant issue among adolescents and highlighted the importance of awareness and prevention programmes to reduce substance use among students.

EK & Rafi (2025) conducted a study titled “effectiveness of role plays on knowledge regarding substance abuse among higher secondary students.” The study was conducted among higher secondary students at Ramanattukara Higher Secondary School in Vaidyarangadi, Kerala, India. The objective of the study was to assess the effectiveness of role play as an educational method in improving students’ knowledge about substance and to determine whether demographic variables influence knowledge improvement. A pre-experimental one-group pretest and post-test research design was used with a sample of 40 students aged 15-18 years selected through convenient sampling. Data were collected using a semi-structured questionnaire to measure students’ knowledge before and after the role play intervention. The findings showed that before the intervention most students had average knowledge, while after the role play intervention most students had average knowledge, while after the role play there was a significant improvement in knowledge level. The statistical analysis confirmed that the increase in knowledge was significant. The study concluded that role play is an effective

and engaging teaching method that can enhance students’ awareness and understanding of substance abuse regardless of their demographic background.

• *Studies Conducted in North East*

Aju Kurian (2003) conducted a study titled “study on substance abuse among the youth in Umphrynai Village, East Khasi Hills District, Meghalaya,” published in *Futuristic Trends in Social Sciences* by Iterative International Publishers. The study examined the socio-economic background, causes, and perceptions of substance abuse among 50 male youths aged 15-20 years, selected using snowball sampling. Data were collected through interviews, observations, focus group discussions, and a structured questionnaire, and analysed using SPSS. The findings revealed that most respondents were aware of the harmful effects of substance abuse, including its impact on physical and mental health, daily life, and finances. The study emphasizes the need for preventive and community-based interventions to address substance abuse among rural youth.

Agarwal and Meena (2025) conducted a study on the alarming rise of drug addiction and substance abuse in North-East India. The main objective of the study was to analyze the socioeconomic and cultural factors contributing to the increase in substance abuse, examine the patterns and trends of drug use across the North-Eastern states, and evaluate the effectiveness of existing government policies and rehabilitation programmes. The study adopted a secondary data analysis approach, using information from government reports, scholarly journals, media reports, and rehabilitation center records. The findings revealed that drug abuse has significantly increased in the region between 2015 and 2023, particularly among individuals aged 18-25 years. The most commonly abused substances were heroin, cannabis, and prescription opioids. The study also highlighted that geographical proximity to the Golden Triangle, socio-economic vulnerabilities, unemployment and cultural influences contribute to the rising trend of substance abuse. Furthermore, the research emphasized the need for region-specific intervention strategies, improved rehabilitation services, and stronger policy coordination to effectively address the growing drug addiction problem in North-East India.

Ali, Gujar, and Deuri (2024) conducted a study on the prevalence of mental health problems and substance use among school-going adolescents of tribal ethnicity in North-East India. The main objective of the study was to assess the prevalence of mental health problems and substance use among tribal adolescents and to identify the patterns of emotional, behavioural, and substance-related issues among them. The study adopted a cross-sectional survey design and collected data from school-going tribal adolescents across different North-Eastern states. The findings revealed that a substantial proportion of adolescents experienced mental health problems, including emotional symptoms, conduct problems, hyperactivity, and peer-related difficulties. The study also found a considerable prevalence of substance use, particularly alcohol, inhalants, and illegal drugs among the

participants. The researchers concluded that tribal adolescents in North-East India are at a higher risk of mental health problems and substance use, highlighting the need for school-based prevention programmes, early intervention strategies, and culturally sensitive mental health services.

Yadav, Singh, and Gautam (2016) conducted a study on the patterns and correlates of substance use in the North-Eastern states of India. The main objective of the study was to examine the prevalence of substance use and identify the socio-demographic factors associated with the consumption of smokeless tobacco, smoking, and alcohol. The study utilized secondary data from the Fourth Round of the District Level Household Survey (DLHS-4, 2012–13). Bivariate and multivariate statistical techniques were employed to analyze the relationship between substance use and various predictor variables. The findings revealed that substance use was significantly higher among individuals aged 25–34 years and was more prevalent among males than females. The study also found that substance use was comparatively lower among more educated individuals. Among the North-Eastern states, Meghalaya and Mizoram reported higher levels of substance use. Furthermore, factors such as age, sex, social group, educational attainment, and household economic status were significantly associated with substance use. The researchers concluded that substance use remains a major public health concern in the North-East region and emphasized the need for awareness programmes, de-addiction services, and effective implementation of tobacco and alcohol control policies to reduce substance use and its adverse consequences.

➤ Research Gap

The review of related literature shows that several studies on substance abuse among adolescents have been conducted Abroad, in India, and in the North-Eastern region. Most of these studies mainly focus on the prevalence, causes, awareness, and effects of substance abuse among students. Some studies have also examined factors such as peer pressure, family background, and social environment influencing adolescent substance use. However, very few studies have specifically examined the role of school education in preventing substance abuse among higher secondary students.

In the North-Eastern region, only limited studies are available, and they mainly focus on the general causes and perceptions of substance abuse rather than the preventive role of schools. Moreover, there is a lack of studies conducted among higher secondary students in Mawlai, located in East Khasi Hills District of Meghalaya. Therefore, the present study aims to fill this gap by examining the role of school education in preventing adolescent substance abuse among higher secondary students in Mawlai, East Khasi Hills District, Meghalaya.

III. RESEARCH METHODOLOGY

In this chapter, the research methodology adopted for the study provides a clear description of the research design, population, sample, sampling technique, tools used for data collection, and procedures for analyzing the data. It explains how the information required for the study was collected, organized, and interpreted in order to achieve the objectives of the research. In this chapter, the detailed plan and procedure adopted for conducting the present study are described under the following headings:

➤ Research Design

The research design used in this study is a quantitative descriptive survey approach, which is suitable for assessing higher secondary school students' knowledge regarding the role of school education in preventing adolescent substance abuse. Further, this design also makes it possible to compare characteristics based on gender, and types of school management, while also assisting in the collection of data from a representative sample.

➤ Population of the Study

The population of the study comprises all higher secondary students of Class XII belonging to the Arts stream in Mawlai C&RD Block, East Khasi Hills District, Meghalaya. There is a total of 559 students in the selected population, of which 243 are male students and 316 are female students. The official records of the number of students enrolment in Class XII Arts stream were obtained from the concerned higher secondary schools in the study area, as shown in the Table 1 below.

Table 1 Population of the Study

Sr. no	Types of Management	Name of Schools	Male	Female	Total
1	Government Aided	St. Francis Higher Secondary School	4	5	9
		O.M Roy Memorial Higher Secondary School	42	15	57
		Phudmuri Presbyterian Higher Secondary School	15	21	36
		Nongkwar Higher Secondary School	3	4	7
		Mawlai Presbyterian Higher Secondary School	40	50	90
		Sacred Heart Boys Higher Secondary School	132	208	340
2	Private	Mary Mount Higher Secondary School	-	5	5
		Church of God Higher Secondary School	5	2	7
		Umshing Presbyterian Higher Secondary School	2	6	8
		Total	243	316	559

Source: School Office by Nabaaiti Khonglam (2026)

➤ Sample of the Study

For the present study, the sample consisted of Class XII Higher Secondary students from the Arts stream in Mawlai C&RD Block, East Khasi Hills District, Meghalaya. A stratified random sampling technique was employed. The

total population comprised 559 students, from which a sample of 201 students was selected. Thus, the final sample included 201 Higher Secondary students, as presented in Table 2.

Table 2 Sample of the Study

Sr. no	Types of Management	Name of Schools	Male	Female	Total
1	Government Aided	St. Francis Higher Secondary School	4	4	8
		O.M Roy Memorial Higher School	2	18	20
		Phudmuri Presbyterian Higher Secondary School	14	21	35
		Nongkwar Higher Secondary School	3	4	7
		Mawlai Presbyterian Higher Secondary School	25	25	50
		Sacred Heart Boys Higher Secondary School	42	20	62
2	Private	Mary Mount Higher Secondary School	0	5	5
		Church of God Higher Secondary School	4	2	6
		Umshing Presbyterian Higher Secondary School	2	6	8
Total			112	89	201

Source: School Office (2026)

➤ Tool Used for the Study

In the present study, the researcher used a self-developed questionnaire to collect data from higher secondary students. The tool was designed to study the role of school education in preventing adolescent substance abuse among higher secondary students in Mawlai, East Khasi Hills District, Meghalaya. A self-made questionnaire is used for the present study

➤ Preparation of the Tool

For the construction of the tool, the researcher prepared a close-ended self-structured questionnaire, keeping in mind the objectives of the study. The following steps were followed in the preparation of the questionnaire.

• Step 1: Review of Related Literature

The researcher reviewed related literature on adolescent substance abuse, role of school education, peer pressure, and preventive measures. This helped in understanding the topic and in framing suitable questions.

• Step 2: Formulation of Objectives

After a careful review of related literature, the researcher formulated five objectives for the present study. Therefore, these objectives guided the construction of the questionnaire.

• Step 3: Construction of the Questionnaire

In this phase, the researcher prepared 55 questions for the respondents. All the questions were close-ended in the

form of (Yes/No) type. After the construction, the questionnaires were sent to experts for their validations and opinions.

• Step 4: Validation by Experts

The questionnaire was subjected to expert review for suggestions and corrections. Based on the feedback received, necessary modifications were made to enhance the quality and clarity of the items. During this process, ambiguous, repetitive, and unclear questions were removed to improve the tool's validity.

• Step 5 – Finalization of the Tool

After incorporating all necessary corrections, the final version of the questionnaire comprising 32 items was prepared and administered for data collection.

➤ Description of the Tool

The questionnaire consists of 32 positive items based on five objectives. All the questions are close-ended in nature (Yes/No type), which helps the respondents to answer easily and helps in simple data analysis.

➤ Scoring

For scoring, items which tallied with the answer is given a score of 1 and if they didn't tally, they were given a score of 0. If the student's answer matched the key, they were given 1 mark. If it did not match, they were given 0 mark. Example, if the correct answer is 'Yes'. So, 'Yes' = 1, 'No' = 0. The scoring key is provided in the following Table 3.

Table 3 Scoring Scheme Table

Statements	Yes	No
	1	0

➤ Validity

Validity refers to the extent to which a test measures what it purports to measure. The validity of the questionnaire has been checked on the following:

- Face Validity: The face validity of the scale was confirmed on the basis of the opinion of the experts that it does express the concept that it aims to measure and has a valid link with the objectives.

- **Content Validity:** Content validity refers to the extent to which a test measures a representative sample of content area. Therefore, to check the content validity, the questionnaire, was given to experts and a rating scale was

attached with it. The rating scale consists of five questions and the scale was rated on a 4-option scale. Thus, the scale was found to cover sufficiently well the appropriate content. The result is represented in Table 4.

Table 4 Percentage of the Rating Scale Given by Experts on Questionnaire

<i>Questions on rating scale</i>	<i>Great extent</i>	<i>Quite an extent</i>	<i>Some extent</i>	<i>Not at all</i>	<i>Total</i>
Items in the tool are representative of Role of School Education in Preventing Adolescent Substance Abuse	100%	0%	0%	0%	100%
Items listed in the tool under reference would be able to measure Role of School Education in Preventing Adolescent Substance Abuse	75%	25%	0%	0%	100%
Items in the tool covered the various objectives of Role of School Education in Preventing Adolescent Substance Abuse	25%	75%	0%	0%	100%
Items are relevant for measuring Role of School Education in Preventing Adolescent Substance Abuse in terms of the content presented	75%	25%	0%	0%	100%
Items suitable in terms of language	25%	75%	0%	0%	100%

➤ Data Analysis

The data was analysed using descriptive statistics technique such as percentage, frequency, mean, and standard deviation to explore the score distributions for objectives 1 to 4. For objective 5 and 6 the non-parametric test like the Mann-Whitney U test was used to analyse and testing the significance at the 0.05 levels of significance is used in the present study since the data it was found to be not normally distributed. A detailed explanation of the data analysis process is given as follows: - 1. For Objective 1 to objective 4.

For the analysis of data, both item-wise and overall analysis were carried out.

- For item wise analysis: each item, the percentage was calculated by dividing the number of students who responded "Yes" by the total number of respondents and multiplying the quotient by 100.

Percentage for an item = (Number of students who responding "Yes" / Total number of respondents) x 100

- For Overall: To determine the overall level for each objective, responses were collected from 201 students using a questionnaire. For each item, the percentage of students who responded "Yes" was computed. The percentages of "Yes" responses across all 10 items were then summed. The overall awareness level was calculated by dividing the sum of item-wise "Yes" percentages by the total number of items.

Overall Awareness Level = (Sum of "Yes" percentages for all items) / (Total number of items in each objective)

- For Interpretation of Levels: The obtained mean percentage was interpreted using modified Bloom's cut-off points, a widely used criterion in knowledge, attitude, and practice (KAP) studies. The categories adopted is presented in the following Table 5:

Table 5 Bloom's Modified Cut-off Points for Knowledge Assessment

<i>Role of School Education in Preventing Adolescent Substance Abuse</i>	<i>Percentage (%)</i>	<i>Interpretation Level</i>
	76–100%	High
	51-75%	Moderate
	50 % and below	Low

➤ For Objective 5 and 6

In order to find out the significant difference between gender and types of management, the collected data was tested for normality and it was found that the data was not normally distributed. Therefore, the Mann-Whitney U test was employed.

➤ Procedure for Data Collection

The researcher followed the following steps for data collection:

- A self-constructed questionnaire was prepared by the researcher based on the objectives of the study on the role of school education in preventing adolescent substance abuse.
- The questionnaire was carefully reviewed and finalized to ensure clarity and relevance.
- Prior permission was obtained from the concerned school authorities in Mawlai East Khasi Hills District, Meghalaya to conduct the study.

- After obtaining permission, the researcher approached the selected higher secondary students and explained the purpose of the study.
- Clear instructions were given to the respondents on how to answer the questionnaire.
- The students were encouraged to give honest and unbiased responses.
- Adequate time was provided to the respondents to complete the questionnaire.
- The researcher assured the participants that their responses would remain confidential and would be used only for academic purposes.
- After completion, all the completed questionnaire were collected by the researcher.
- The collected questionnaires were checked for completeness and accuracy.
- The researcher expressed gratitude to the students and school authorities for their cooperation.

IV. DATA ANALYSIS AND INTERPRETATION

This chapter provides a detailed analysis and interpretation of the data collected on the role of school education in preventing adolescent substance abuse among higher secondary students in Mawlai, East Khasi Hills District, Meghalaya. Data analysis plays an important role in organizing and presenting the collected information in a

meaningful way. This chapter highlights the statistical methods applied to the collected data. With the help of tables and analysis, the investigator was able to summarize the responses to answer the objectives and research questions of the study. The main aim of the study is to understand how school education helps in preventing substance abuse among adolescents.

➤ Normality Test

Determining whether the data follows a normal distribution is important before selecting the appropriate statistical the appropriate statistical tests for analysis. The assumption of normality helps researchers decide whether to use parametric or non-parametric statistical methods. When data is not normally distributed, non-parametric tests require normally distributed data.

In order to determine if the Role of School Education in Preventing Adolescence Substance Abuse among Higher Secondary Students followed a normal distribution, a normality test was used in this study. Statistical methods such as the Shapiro-Wilk and Kolmogorov- Smirnov tests are frequently used to verify normality. The Shapiro-Wilk test, which works well with small to moderate sample sizes, was used in this study (Ghasemi & Zahediasl, 2012). For the present study, the data which have been collected have been tested for normality and is presented in the following Table 6 and Figure 1 below.

Table 6 Test of Normality

Substance Abuse	Shapiro-Wilk		Df	Sig.
	Statistic			
	.941			.000

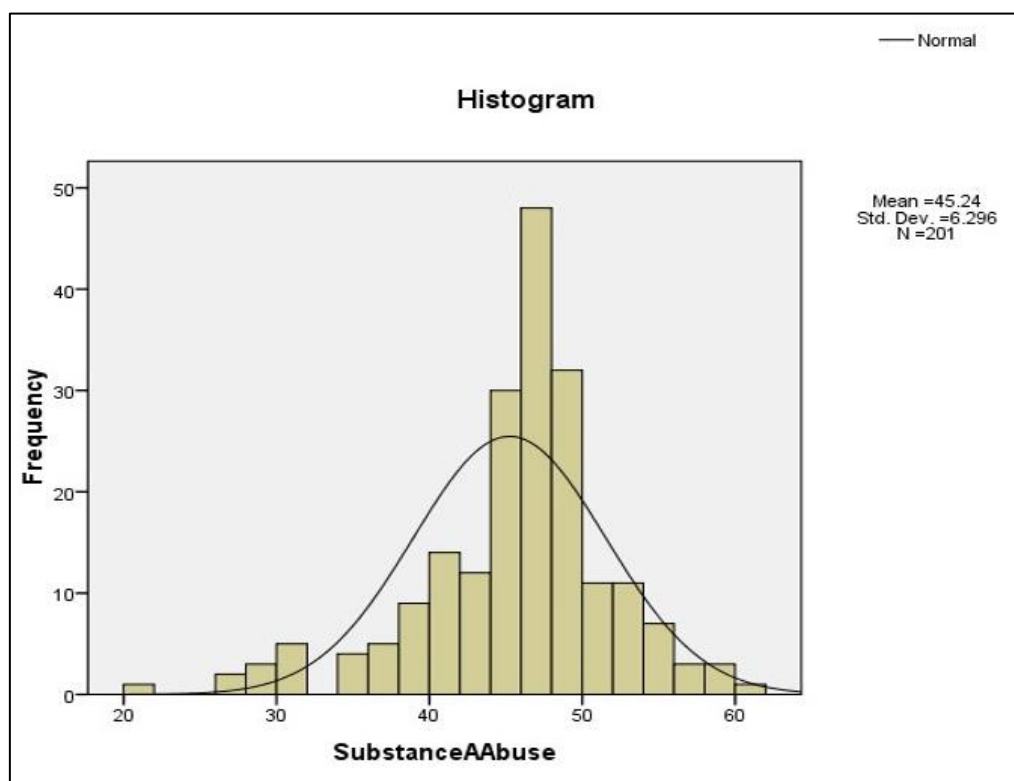


Fig 1 Graph of Normality Test

From Table 6 the results presented indicate that for Substance Abuse, the Shapiro-Wilk test showed a statistic value of 0.941 with $df=201$ and a significance value of .000. Since the significance value of test is less than 0.05 ($p<0.05$), the null hypotheses of normality is rejected.

The histogram in Figure 1 illustrates the distribution of scores among the respondents. It can be observed that the data does not follow a symmetrical bell-shaped curve, which is a key characteristic of a normal distribution. Instead, the distribution appeared to be slightly skewed. Thus, this indicate that the data is not normally distributed. Based on this finding, nonparametric statistical tests are considered more appropriate for further data analysis in this study.

➤ Analysis of Objective 1:

To determine the extent of awareness regarding substance abuse among higher secondary students.

• Q1. Research Question:

What is the extent of awareness about substance abuse among higher secondary students?

The data collected on the extent of awareness of substance abuse of higher secondary students is presented in Table 7 below: -

Table 7 Awareness of Substance Abuse among Higher Secondary Students (N=201)

Item no.	Statements	Options	F	%
1	I know that substance abuse can seriously harm a person's health.	Yes	189	94.1
		No	12	5.9
2	I am aware that drugs and alcohol can affect students' academic performance.	Yes	188	93.5
		No	13	6.5
3	I know that substance abuse can lead to addiction.	Yes	185	92
		No	16	8
4	I have learned about the harmful effects of substance abuse.	Yes	175	87
		No	26	13
5	I know that substance abuse can affect mental health.	Yes	188	94
		No	13	6
6	I am aware that substance abuse can cause problems in family relationships.	Yes	177	88
		No	24	12
7	I know that substance abuse can lead to risky behaviour.	Yes	171	85
		No	30	15
8	I know that substance abuse can cause serious diseases.	Yes	176	88
		No	25	12
9	I am aware that substance abuse is illegal in many cases.	Yes	179	89
		No	22	11
10	I believe awareness about substance abuse is important for students.	Yes	189	94
		No	12	6

✓ Interpretation:

The above Table 7 shows the frequency and percentage distribution of responses for each awareness item which are as follows: -

- Item 1: Substance abuse can seriously harm a person's health: Out of 201 higher secondary students, 189 (94.1%) agreed, while only 12 (5.9%) disagreed. Thus, this demonstrate that higher secondary students know the consequences of substance abuse towards health.
- Item 2: Drugs and alcohol can affect students' academic performance: Out of 201 higher secondary students, 188 (93.5%) agreed, whereas 13 (6.5%) did not. This high percentage of responses suggests that higher secondary students strongly relate poor academic performance with substance use.
- Item 3: Substance abuse can lead to addiction: Out of 201 higher secondary students, 185 (92.0%) are aware of the danger of addiction, while 16 (8.0%) were not.
- Item 4: I have learned about the harmful effects of substance abuse: Out of 201 higher secondary students,

175 (87.0%) stated having learned about harmful effects, but 26 (13.0%) had not. This shows that more exposure and information need to be made to students.

- Item 5: Substance abuse can affect mental health: Out of 201 higher secondary students, 188 (94.0%) responded "Yes" compared to 13 (6.0%) who said "No." Thus this shows that majority of higher secondary students are aware about the consequences it has towards mental and physical health.
- Item 6: Substance abuse can cause problems in family relationships: Out of 201 higher secondary students, 177 (88.0%) agreed, while 24 (12.0%) did not. This shows that majority of higher secondary students recognize the influences of social and family it has.
- Item 7: Substance abuse can lead to risky behavior: Out of 201 higher secondary students 171 (85.0%) responded "Yes" and 30 (15.0%) responded "No." This shows that quite a number of higher secondary students are aware of the risky behavior it creates but it is also alarming that there is still 15% who are unaware of behavioral risks of substance abuse.

- Item 8: Substance abuse can cause serious diseases: Out of 201 higher secondary students 176 (88.0%) are aware, whereas 25 (12.0%) are not. This shows that higher secondary school students have information's about the serious diseases it may cause. However, it is still important that more exposure and awareness should be given to students to prevent it.
- Item 9: Substance abuse is illegal in many cases: Out of 201 higher secondary students, 179 (89.0%) answered

awareness of legal consequences, while 22 (11.0%) did not. This shows that most students are informed about the legal aspect.

- Item 10: Awareness about substance abuse is important for students: Out of 201 higher secondary students, 189 (94.0%) agreed, with only 12 (6.0%) disagreeing. This calls for student's value preventive education.

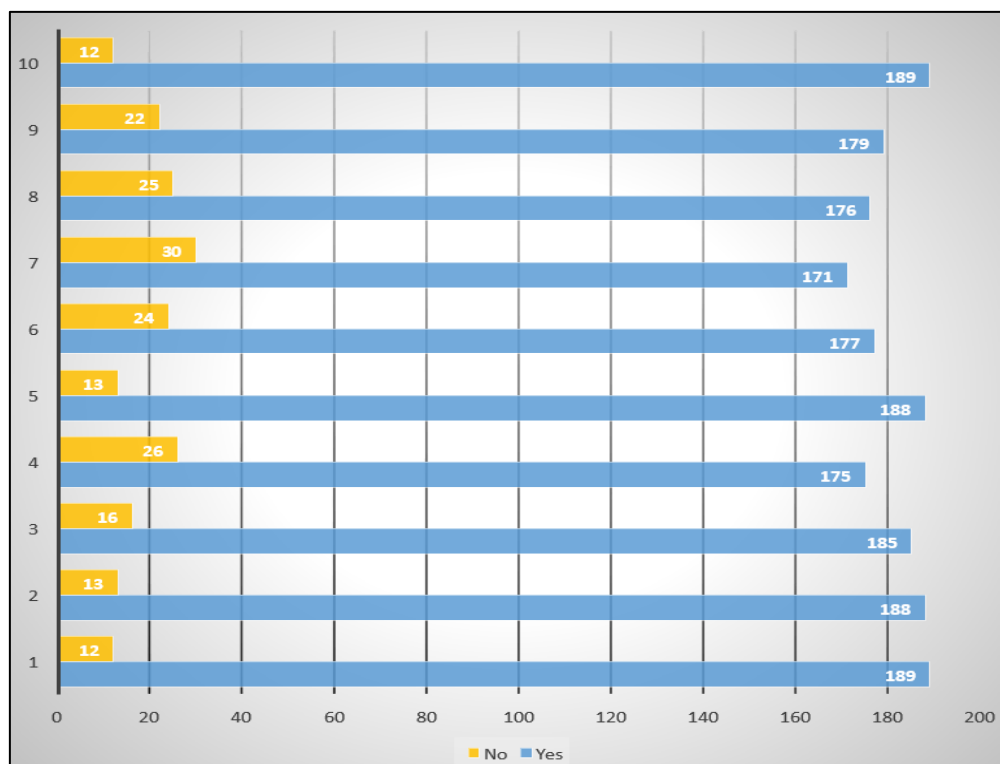


Fig 2 Frequency of Yes and No Responses for Awareness Items

From the above Figure 2 illustrates the frequency distribution of “Yes” and “No” responses across the ten awareness items. For all items, the frequency of “Yes” responses was markedly higher than “No” responses. This pattern indicates consistently high awareness of substance abuse among higher secondary students, with risky behavior (Item 7) showing the greatest proportion of “No” responses.

• *Overall Findings on Awareness of Substance Abuse:*

When the item-wise percentage were averaged the overall extent of awareness was found to be 90.46%. Thus, the overall awareness level was interpreted using modified Bloom's cut-off points (Bloom, 1956; Kaliyaperumal, 2004), which is presented in the following Table 8.

Table 8 Bloom's Modified Cut-Off Points for Knowledge Assessment

<i>Role of School Education in Preventing Adolescent Substance Abuse</i>	Percentage (%)	Level of interpretation
	76–100%	High
	51–75%	Moderate
	50 %& below	Low

Therefore, the obtained mean of 90.46% reflects a high level of awareness among the respondents. Therefore, the findings confirm that the vast majority of higher secondary students are aware of the health, academic, social, and legal consequences of substance abuse.

➤ *Analysis of Objective 2:*

To examine the extent of school-based substance abuse prevention programmes in higher secondary schools.

- Q2. Research question: What is the extent of school-based substance abuse prevention programmes implemented in higher secondary schools?

The data collected on the extent of school-based substance abuse prevention programmes of higher secondary students is presented on Table 9 below: -

Table 9 Extent of School-Based Substance Abuse Prevention Programmes as Perceived by Higher Secondary Students (N=201)

Item no.	Statements	Options	F	%
11	My school provides education about substance abuse prevention.	Yes	173	86.1
		No	28	13.9
12	Teachers discuss the dangers of substance abuse in class.	Yes	158	78.6
		No	43	21.4
13	My school organizes awareness programmes about substance abuse.	Yes	152	75.6
		No	49	24.4
14	My school invites experts to talk about drug abuse prevention	Yes	129	64.1
		No	72	35.9
15	Posters or materials about substance abuse are displayed in my room.	Yes	58	28.8
		No	143	71.2
16		Yes	160	79.6
	My school encourages students to avoid drugs and alcohol.	No	41	20.4
17	School education helps students understand the risks of substance abuse.	Yes	180	89.5
		No	21	10.5
18	Awareness programmes in school influence students to stay away from drugs.	Yes	180	89.5
		No	21	10.5
19	School counselling helps students deal with substance abuse issues.	Yes	175	87.0
		No	26	13.0
20	I feel that school programmes are useful in preventing substance abuse.	Yes	174	86.5
		No	27	13.5

✓ *Interpretation:*

The above Table 9 shows the frequency and percentage distribution of responses regarding the extent of school-based substance abuse prevention programmes which are interpreted as follows: -

- Item 11: My school provides education about substance abuse prevention: Out of 201 higher secondary students, 173 higher secondary students (86.1%) reported “Yes” while 28 (13.9%) said “No”. This indicates that a large majority acknowledged the presence of preventive education in schools.
- Item 12: Teachers discuss the dangers of substance abuse in class: Out of 201 higher secondary students, 158 (78.6%) higher secondary students responded “Yes” compared to 43 (21.4%) “No”. While still high, over one-fifth of students reported that teachers do not discuss dangers in class.
- Item 13: My school organizes awareness programmes about substance abuse: Out of 201 higher secondary students, 152 higher secondary students (75.6%) affirmed, whereas 49 (24.4%) did not. This shows that about three-fourths of higher secondary students experienced formal awareness programmes, but a notable proportion did not.
- Item 14: My school invites experts to talk about drug abuse prevention: Out of 201 higher secondary students, 129 higher secondary students (64.1%) said “Yes” and 72 (35.9%) said “No”. This item recorded the second-lowest “Yes” responses, suggesting that expert involvement is not uniform across schools’ involvement is not uniform across schools.
- Item 15: Posters or materials about substance abuse are displayed in my room: Out of 201 higher secondary

students, only 58 (28.8%) higher secondary students responded “Yes” while 143 (71.2%) responded “No”. This was the lowest scoring item by a large margin and the only item where “No” responses outnumbered “Yes”. It indicates a major gap in use of IEC materials at the classroom level.

- Item 16: My school encourages students to avoid drugs and alcohol: Out of 201 higher secondary students, 160 higher secondary students (79.6%) agreed, while 41 (20.4%) disagreed. General encouragement from school authorities was reported by most students.
- Item 17: School education helps students understand the risks of substance abuse: Out of 201 higher secondary students, 180 (89.5%) higher secondary students said “Yes” and 21 (10.5%) said “No”. Tied with Item 18 as the highest, this reflects strong perceived effectiveness of school education.
- Item 18: Awareness programmes in school influence students to stay away from drugs: Out of 201 higher secondary students, 180 (89.5%) higher secondary students responded “Yes” and 21 (10.5%) “No”. Students strongly believed that awareness programmes have a positive influence.
- Item 19: School counselling helps students deal with substance abuse issues: Out of 201 higher secondary students, 175 (87.0%) higher secondary students answered “Yes” and 26 (13.0%) “No”. Counselling services were reported as available and helpful by most students.
- Item 20: I feel that school programmes are useful in preventing substance abuse: Out of 201 higher secondary students, 174 (86.5%) higher secondary students agreed, while 27 (13.5%) did not. This shows overall positive perception of the utility of school programmes.

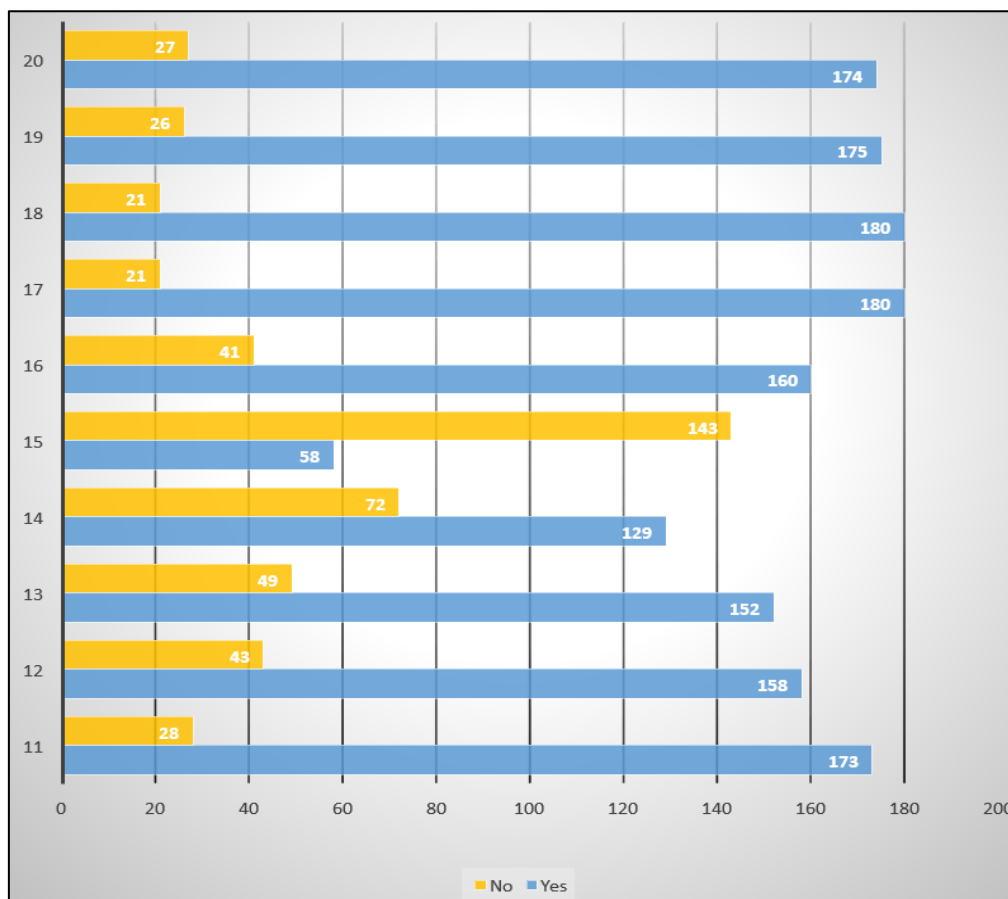


Fig 3 Frequency of Yes and No Responses on School-based Prevention Programmes

Figure 3 displays the frequency of “Yes” and “No” responses for ten school-based prevention programme components. This indicates uneven implementation of prevention strategies across schools, with event-based programmes reported more frequently than classroom-level resources.

- Overall Findings on School-based Prevention Programmes: When the item-wise percentages were averaged, the overall extent of school-based substance abuse prevention programmes was 76.53% which falls within the high extent category. This is displayed in Table 4.3 above. Therefore, the obtained mean of 76.53% which reflects a high level of awareness among the respondents.

➤ *Analysis of Objective 3:*

To examine students’ perceptions of the effectiveness of school education in preventing substance abuse among higher secondary students.

• *Q3. Research Question:*

How do higher secondary students perceive the effectiveness of school education in preventing substance abuse?

The data collected on the students’ perceptions of the effectiveness of school education in preventing substance abuse of higher secondary students is presented on Table 10 below: -

Table 10 Perceptions of the Effectiveness of School Education in Preventing Substance Abuse

Item no.	Statements	Options	F	%
21	School education helps students make better decisions about avoiding drugs.	Yes	184	91.5
		No	17	8.5
22	Lessons in school increase students’ awareness about substance abuse.	Yes	174	86.5
		No	27	13.5
23	Educational programmes help students resist peer pressure.	Yes	184	91.5
		No	17	8.5
24	School activities encourage students lead a healthy lifestyle.	Yes	182	90.5
		No	19	9.5
25	Teacher plays an important role in preventing substance abuse among students.	Yes	184	91.5
		No	17	8.5
26	School education helps students understand the consequences of drug use.	Yes	183	91.0
		No	18	9.0

✓ *Interpretations:*

Table 10 presents the frequency and percentage distribution of responses regarding students' perceptions of the effectiveness of school education in preventing substance abuse. Responses were highly positive across all items, with "Yes" percentages ranging from 86.5% to 91.5%.

- Item 21: School education helps students make better decisions about avoiding drugs: Out of 201 higher secondary students, 184 higher secondary students (91.5%) responded "Yes" while 17 (8.5%) said "No". This indicates a very strong perception that school education directly supports decision-making against drug use.
- Item 22: Lessons in school increase students' awareness about substance abuse: Out of 201 higher secondary students, 174 (86.5%) higher secondary students answered "Yes" compared to 27 (13.5%) "No". This was the lowest "Yes" response in this table, but still reflects high perceived effectiveness of classroom lessons in building awareness.
- Item 23: Educational programmes help students resist peer pressure: Out of 201 higher secondary students, 184 (91.5%) higher secondary students responded "Yes" and 17 (8.5%) "No". Students strongly perceived that educational programmes equip them to handle peer pressure, a key risk factor for substance abuse.

- Item 24: School activities encourage students lead a healthy lifestyle: Out of 201 higher secondary students, 182 (90.5%) higher secondary students said "Yes" while 19 (9.5%) said "No". This shows that most students link school activities to promotion of healthy lifestyle choices.
- Item 25: Teacher plays an important role in preventing substance abuse among students: Out of 201 higher secondary students, 184 (91.5%) higher secondary students agreed, while 17 (8.5%) disagreed. Teachers were perceived as highly influential, tied with Items 1 and 3 for the highest "Yes" response.
- Item 26: School education helps students understand the consequences of drug use: Out of 201 higher secondary students, 183 (91.0%) higher secondary students responded "Yes" and 18 (9.0%) "No". This reflects strong agreement that school education clarifies the risks and consequences of substance abuse.

All six items recorded "Yes" responses above 86%, with four items (21, 22, 23, 25, 26) at or above 91%. "No" responses remained low, ranging from 8.5% to 13.5%. The variation across items was minimal compared to Table 4.4, indicating consistent and strongly positive perceptions of school education's effectiveness.

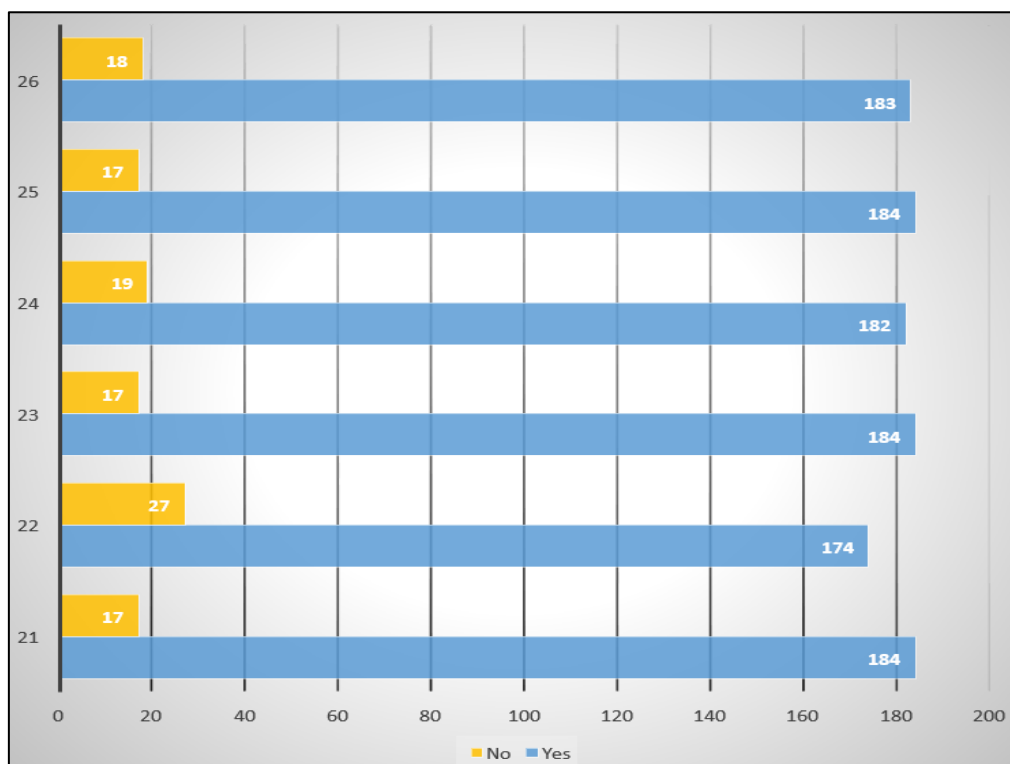


Fig 4 Perceptions of the Effectiveness of School Education in Preventing Substance Abuse

Figure 4 displays the frequency of "Yes" and "No" responses regarding students' perceptions of school education's effectiveness in preventing substance abuse. This indicates a strong consensus among students that school education is effective.

- Overall Findings on Perceived Effectiveness of School Education: When the item-wise percentages were averaged, the overall perceived effectiveness of school education in preventing substance abuse was 90.42%. The findings suggest that higher secondary students overwhelmingly perceive school education as effective in preventing substance abuse.

➤ Analysis of objective 4: To identify factors influencing students' resistance to substance use.

- Q4. Research Questions: What factors significantly influence students' resistance to substance use?

The data collected on the levels of awareness of substance abuse of higher secondary students is presented in Table 11 below:

Table 11 Factors Significantly Influence Students' Resistance to Substance Use

Item no.	Statements	Options	F	%
27	Support from family helps students avoid substance abuse	Yes	176	87.5
		No	25	12.5
28	Good friends encourage students to stay away from drugs	Yes	179	89
		No	22	11.0
29	Strong personal values help student resist substance use.	Yes	187	93.0
		No	14	7.0
30	School guidance helps students avoid harmful substances	Yes	187	93.0
		No	14	7.0
31	Participation in sports and activities keeps students away from drugs.	Yes	185	92.0
		No	16	8.0
32	Peer pressure makes it difficult for students to avoid substance abuse.	Yes	145	72.1
		No	56	27.9

✓ *Interpretation:*

Table 11 presents the frequency and percentage distribution of responses regarding factors that influence students' resistance to substance use. "Yes" responses ranged from 72.1% to 93.0%.

- Item 27: Support from family helps students avoid substance abuse: Out of 201 higher secondary students, 176 (87.5%) answered "Yes" while 25 (12.5%) said "No". This indicates that a large majority perceive family support as a protective factor.
- Item 28: Good friends encourage students to stay away from drugs: Out of 201 higher secondary students, 179 (89.0%) answered "Yes" compared to 22 (11.0%) "No". Therefore, this shows that a positive peer influence act as a strong factor in resisting substance use.
- Item 29: Strong personal values help student resist substance use: Out of 201 higher secondary students, 187 (93.0%) answered "Yes" and 14 (7.0%) answered "No". This shows that students view personal values as the most important internal factor.
- Item 30: School guidance helps students resist substance use: Out of 201 higher secondary students, 187 (93.0%) said "Yes" while 14 (7.0%) said "No". This show that school guidance was perceived as equally important as personal values, indicating strong trust in the school's role.
- Item 31: Participation in sports and activities keeps students away from drug: Out of 201 higher secondary students, 185 (92.0%) agreed, while 16 (8.0%) disagreed. This shows that engagement in extracurricular activities is seen as a major protective factor by most students.
- Item 32: Peer pressure makes it difficult for students to avoid substance abuse: Out of 201 higher secondary students, 145 (72.1%) responded "Yes" and 56 (27.9%) "No". As the only risk factor, this shows that students recognized peer pressure as a challenge to resistance.

Therefore, from the above analysis, some factors are identified which are as follows:

- ✓ Strong Personal Values: Out of 201 students, 187 students (93%) said "Yes" and only 7% said "No." This means most students think their own good habits and beliefs are very important. Things like self-respect, discipline, and being responsible help them say "no" to bad things. This shows that when schools teach good values and character, it really helps students. If students believe in doing the right thing inside their heart, they won't be easily pushed by friends or other people to use substances.
- ✓ Healthy Habits: Participation in Sports and Activities (92.0%) 185 higher secondary students (92.0%) agreed that involvement in sports and extracurricular activities keeps students away from drugs. The low 8.0% "No" response shows strong consensus that an active lifestyle is protective. This has direct implications for school policy: strengthening sports, clubs, NSS, NCC, and arts may function as indirect substance abuse prevention.
- ✓ School support: School Guidance (93.0%) School guidance was perceived as equally important as personal values. 93.0% of students affirmed that guidance from school helps them avoid harmful substances. This highlights the critical role of teachers, counselors, and structured school programmes. It aligns with Objective 3 findings where 91.5% said teachers play an important role. The consistency across items suggests that students trust school-based support systems and view them as credible sources of help. Only 14 students disagreed, indicating minimal skepticism about school guidance
- ✓ Family support: Support from Family (87.5%) Family support was rated lowest among the five protective factors, though still high at 87.5%. 176 higher secondary students agreed it helps avoid substance abuse, while 25 (12.5%) disagreed. This was the highest "No" among protective factors. The slightly lower score may indicate variability in family environments. While most students experience family as protective, a notable minority may

lack this support. This suggests schools cannot assume all students have strong family backing and may need to compensate through counselling and mentoring for at-risk students.

- ✓ Peer group support: Good Friends (89.0%) positive peer influence was affirmed by 89.0% of students. Good friends were seen as encouraging resistance to drugs, which contrasts sharply with Item 6 on negative peer pressure. This shows higher secondary students differentiate between peers as a risk and peers as a resource. The 11.0% who said “No” may reflect experiences of isolation or lack of supportive friendship networks. The finding reinforces that peer-led interventions and positive peer role models can be effective strategies in schools.
- ✓ Social Risk Factor/Peer Pressure: Peer Pressure (72.1%) as the only negatively worded item, 72.1% of students agreed that peer pressure makes it difficult to avoid substance abuse. Even so, nearly three-fourths of higher secondary students acknowledged peer pressure as a real challenge. The 27.9% who said “No” may represent

students with strong resistance skills, limited exposure to peer pressure, or high self-efficacy. This shows peers are perceived as both the strongest protective and strongest risk factor simultaneously.

➤ Analysis of Objective 5:

To find out the significant difference between male and female higher secondary students on role of school education in preventing adolescence substance abuse.

The significant difference in Role of School Education in Preventing Adolescence Substance Abuse among Higher Secondary Students between Male and Female is given in Table 12 and the Null hypotheses is stated as follows.

- H_{01} : There is no significant difference in Role of School Education in Preventing Adolescence

Substance Abuse among between Male and Female in Higher Secondary Students

Table 12 Difference Between Male and Female Higher Secondary Students on Role of School Education in Preventing Adolescence Substance Abuse.

Role of School Education in Preventing Adolescent Substance Abuse	Gender	N	Mean Rank	Sum of rank	Mann Whitney U Test	Z	pvalue
	Male	112	97.46	10916.00	4588.00	0.96	0.33
	Female	89	105.45	9385.00			

**Not Significant at 0.05 level*

From the table 12 above, it is observed that “there is no significant difference between male and female higher secondary students with respect to the role of school education in preventing adolescent substance abuse.” The results of the Mann-Whitney U test show that for males (N=112), the mean rank is 97.46, while for females (N=89), the mean rank is 105.45. The sum of ranks for males and females is 10,916.00 and 9,385.00, respectively. The computed MannWhitney U value is 4588.00 with a Z value of 0.969. The p-value is 0.332, which is greater than the standard significance level of 0.05.

Hence, the result is not statistically significant. This indicates that there is no significant difference between male and female higher secondary students. Therefore, the null hypotheses are accepted.

➤ Analysis of Objective 6:

To find out the significant difference between higher secondary students from government aided and private schools on role of school education in preventing adolescence substance abuse.

The significant difference in Role of School Education in Preventing Adolescence Substance Abuse among Higher Secondary Students from government aided and private school is given in Table 13 and the Null hypotheses is stated as follows

- H_{02} : There is no significant difference in Role of School Education in Preventing Adolescence Substance Abuse among Higher Secondary Students from government aided and private school.

Table 13 Difference between Higher Secondary Students from Government Aided and Private Schools on Role of School Education

Role of School Education in Preventing Adolescent Substance Abuse	Management	N	Mean Rank	Sum of rank	Mann Whitney U Test	Z	p-value
	Private	19	23.89	454.00	264.00	6.085	.000
	Govt. Aided	182	109.05	19847.00			

***Significant at 0.05 level*

From Table 13, it is observed that there is a significant difference between higher secondary students from private and government-aided schools with respect to the role of school education in preventing adolescent substance abuse.

The results of the Mann–Whitney U test show that for students from private schools (N = 19), the mean rank is 23.89, while for students from government-aided schools (N = 182), the mean rank is 109.05. The sum of ranks for private

and government-aided school students is 454.00 and 19847.00, respectively. The computed Mann–Whitney U value is 264.00 with a Z value of 6.085. The p-value is 0.000, which is less than the standard significance level of 0.05.

Hence, the result is statistically significant. This indicates that there is a significant difference between higher secondary students from private and government-aided schools regarding the role of school education in preventing adolescent substance abuse. Therefore, the null hypothesis is rejected.

V. FINDINGS, DISCUSSION, EDUCATIONAL IMPLICATIONS, SUGGESTION, RECOMMENDATIONS, AND CONCLUSION

Chapter V presents the final stage of the study titled “Role of School Education in Preventing Adolescent Substance Abuse among Higher Secondary Students.” This chapter summarizes and explains the major findings obtained from the analysis of data discussed in Chapter IV. The findings are presented according to the objectives of the study.

The chapter also discusses the findings in relation to provides studies, theories, and real-life situations. In addition, it explains the educational importance of the study and how the findings may help improve school-based prevention programmes, curriculum development, and the overall growth of students. Finally, suggestions and recommendations are given for teachers, school administrators, policymakers, and future researchers.

➤ Major Findings

This section presents the main findings of the study based on the analysis and interpretation of the collected data. The findings show students' level of awareness about substance abuse, the role of school education, and students' opinions about preventing substance abuse. For better understanding, the findings are presented according to the objectives of the study.

- To find out the level of awareness regarding substance abuse among higher secondary students: The present study found that higher secondary students possess a high level of awareness regarding substance abuse, with an overall mean percentage of 90.46%. The findings indicate that most students are aware of the harmful effects of substance abuse on physical and mental health, academic performance, addiction, and legal issues. This suggests that students have a good understanding of the negative consequences of substance abuse. However, comparatively lower awareness was found in certain areas related to risky behaviours and social consequences, indicating the need for more comprehensive awareness programmes. The present findings are supported by Haddad, Shotar and Zyoud (2010), Subba, Subba and Shah (2015), Moke et al. (2021), and Dosunmu and Odesanmi (2025), who reported that students generally possess good knowledge and awareness regarding substance abuse. Similarly, Kumari and Dhakal (2024)

found that adolescents had a moderate to high level of awareness regarding substance abuse. However, the findings differ from those of Sharmila et al. (2023), who reported that a majority of higher secondary students had poor knowledge regarding substance abuse.

- To examine the extent of school-based substance abuse prevention programmes in higher secondary schools: The present study revealed that there is a high extent of school-based substance abuse prevention programmes in higher secondary schools, with an overall mean percentage of 76.53%. The findings show that schools conduct awareness programmes, provide preventive education, offer counselling support, and encourage students to avoid substance use. This indicates that schools are actively involved in substance abuse prevention. However, some preventive activities, such as the regular use of posters, teaching-learning materials, and expert visits, were found to be less common. The findings are consistent with Stefanidi and Tsitsas (2015), who emphasized the importance of school involvement and supportive educational environments in preventing adolescent substance use. Similarly, Onuorah, Agbaje and Ugwueze (2024) and Rashmi et al. (2024) reported that school-based prevention programmes effectively improve students' knowledge and attitudes regarding substance abuse. The findings also agree with Edinoh, Felicia and Shofoyeke (2025), who highlighted the importance of counselling services, curriculum-based prevention programmes, and extracurricular activities in reducing substance abuse among students.
- To examine students' perceptions of the effectiveness of school education in preventing substance abuse: The study found that higher secondary students perceive school education as highly effective in preventing substance abuse, with an overall mean percentage of 90.42%. Students believed that school education increases awareness about substance abuse, helps them make informed decisions, resist peer pressure, and develop healthy lifestyle habits. The findings suggest that school education plays an important role in shaping students' attitudes and behaviours towards substance abuse prevention. The present findings support the study of Onuorah, Agbaje and Ugwueze (2024), which found that school-based substance use prevention education significantly improved students' knowledge and attitudes towards substance use. Similarly, Rashmi et al. (2024) reported that educational interventions enhanced awareness and strengthened students' ability to resist substance use. The findings are also in agreement with EK and Rafi (2025), who found that educational programmes effectively improved students' knowledge regarding substance abuse.
- Factors influencing resistance to substance use: The present study found that various personal, social, and school-related factors influence students' resistance to substance use. Strong personal values and school guidance were identified as the most important protective factors, followed by participation in sports and

extracurricular activities, positive peer influence, and family support. At the same time, peer pressure emerged as one of the major factors that can encourage substance use among adolescents. These findings indicate that both individual and environmental factors play an important role in preventing substance use among students. The findings are supported by Alhyas et al. (2015), who identified parental support and school-based awareness programmes as protective factors against substance use. Similarly, Subba, Subba and Shah (2015), Gift and Mweya (2024), and George and George (2024) found that peer pressure is one of the major causes of substance use among adolescents. The findings also agree with Zamora et al. (2025), who reported that parental monitoring acts as a protective factor against substance use, and Edinoh, Felicia and Shofoyeke (2025), who emphasized the importance of counselling services, school programmes, and extracurricular activities in preventing substance abuse among students.

- To find out the significant difference between male and female higher secondary students on role of school education in preventing adolescence substance abuse: The present study found no significant difference between male and female higher secondary students regarding the role of school education in preventing adolescent substance abuse. This indicates that both male and female students have similar perceptions about the role played by schools in preventing substance abuse among adolescents. The findings are consistent with Dogra, Tiwari and Bhardwaj (2024), who reported no significant difference in knowledge regarding substance abuse between male and female students. Similarly, Guddad, Nelson and Desai (2023) found no significant association between knowledge regarding substance abuse and selected demographic variables. These findings suggest that awareness and perceptions related to substance abuse prevention may be similar among both male and female students.
- To find out the significant difference between higher secondary students from government aided and private schools on role of school education in preventing adolescence substance abuse: The present study found a significant difference between students from government-aided and private schools regarding the role of school education in preventing adolescent substance abuse. This suggests that students from different types of schools differ in their perceptions of the school's role in substance abuse prevention. The findings are in agreement with Dogra, Tiwari and Bhardwaj (2024), who found a significant difference in knowledge regarding substance abuse between students of government and private educational institutions. Similarly, Odofin and Iqabari (2023) reported that school type significantly influenced factors related to substance abuse among adolescents. These findings indicate that the school environment and educational practices may play an important role in shaping students' understanding of substance abuse prevention.

➤ Discussion

The findings analysed and interpreted in Chapter IV are discussed in this section. The discussion is related to the review of related literature presented in Chapter II and is organized according to the objectives of the study.

• Discussion on Objective I:

The present study found that higher secondary students have a high level of awareness regarding substance abuse, with an overall mean percentage of 90.46%. Most students aware of the harmful effects of substance abuse on physical health, mental health, academic performance, family relationships, and legal matters. The percentage of "Yes" responses ranged from 85.0% to 94.1%, showing that students generally have good knowledge about substance abuse. However, lower awareness was seen in some risky behaviour related to substance abuse, which shows that there are still some areas where students need more information and guidance.

These findings are partly similarly to the study conducted by Kumari and Dhakal (2024), which found that 66.7% of adolescents had a high level of awareness regarding substance abuse. Although both studies showed that many students are aware of substance abuse, the present study reported a higher level of awareness. This difference may be due to greater exposure to awareness programmes, school education, social media, and other information sources in recent years. Kumari and Dhakal (2024) also mentioned that mass media was one of the main sources of information and that peer pressure and curiosity were important factors influencing substance use. In present study the high level of awareness among students may also be connected to exposure through schools, media, and awareness campaigns.

Even though students showed a high level of awareness, the findings support the view of Kumari and Dhakal (2024) that awareness alone is not enough. There is a need to strengthen school-based awareness and prevention programmes especially in areas related to risky behaviours and decision-making.

Therefore, it can be concluded that higher secondary students have a good level of awareness regarding substance abuse, but continuous educational efforts are still necessary to improve their understanding and help prevent substance use effectively.

• Discussion on Objective II

The findings of the study showed that the overall extent of school-based substance abuse prevention programmes was high (76.53). This indicates that schools are actively involved in addressing substance abuse among students. Most respondents reported that their schools provide education related to substance abuse prevention, organize awareness programme, offer counselling services, and help students understand the harmful effects of substance use. The findings also showed very high responses regarding the effectiveness of school education and awareness programmes, which suggests that students recognize the positive role of schools in prevention.

However, the study found that some prevention activities are not implemented equally in all areas. For example, inviting experts and displaying posters or informational materials in classrooms were reported less frequently. The low use of classroom materials shows that prevention activities are often limited to special programmes and are not always included in daily classroom learning. The high percentage of “No” responses related to classroom materials highlights the need for more continuous awareness efforts within the school.

These findings are similar to the study conducted by Ajibade, Adeyemo, Adisa, and Ejidokun (2015), which identified substance abuse as a serious problem among secondary school students and stressed the importance of counselling services and awareness programmes are widely available and are considered helpful by students. The earlier study also recommended strengthening school-based prevention programmes, which is supported by the present findings.

Therefore, it can be concluded that although school-based substance abuse prevention programmes are present to a high extent, there is still a need to improve their consistency and quality. More classrooms-based activities, expert involvement, and regular awareness materials may help make these programmes more effective.

• Discussion of Objective III

The present study found that higher secondary students have a highly positive perception of the effectiveness of school education in preventing substance abuse, with an overall mean percentage of 90.42%. Most students agreed that school education helps them make better decisions, resist peer pressure, understand the harmful effects of substance abuse, and develop healthy lifestyles. Teachers were also seen as playing an important role in guiding students and influencing their attitudes and behaviour. The high percentage of positive responses shows that students strongly believe in the importance of school education in substance abuse prevention.

These findings support the study conducted by Chan et al. (2016), which explained that adolescent substance abuse is often influenced by peers and social surroundings outside school. Their study highlighted the importance of preventive programmes in schools and communities. Similarly, the present study shows that school education helps students gain the knowledge and confidence needed to resist negative influences, especially peer pressure.

The findings are also similar to the study conducted by Anyanwu, Ibekwe, and Ojinnaka (2016), which identified substance abuse as a major issue among secondary school students and stressed the importance of health education, parental support, and community involvement. The present study also found that students see classroom teaching, awareness programmes, and teacher guidance as useful methods for preventing substance abuse.

However, although students have a strong positive perception of school education, earlier studies have shown that substance abuse still exists among adolescents. This means that awareness and positive attitudes alone may not completely prevent substance use. Prevention efforts should therefore continue with support from families, schools, and communities.

Thus, it can be concluded that higher secondary strongly believe that school education is effective in preventing substance abuse. However, a combined effort involving schools, parents, and the community is necessary for better prevention outcomes.

• Discussion of Objective IV

The present study revealed that several factors influence students' resistance to substance abuse, with an overall agreement percentage of 87.75%. Strong personal values and school guidance were identified as the most important protective factors. This suggests that students who have good moral values and proper guidance from schools are more likely to avoid substance use.

The study also found that participation in sports and extracurricular activities, positive peer influence, and family support play important roles in helping students resist substance abuse. These findings show that students' behaviour is influenced by personal, social, and environmental factors. At the same time, peer pressure was identified as a major challenge faced by many students, making it difficult for them to avoid substance use in some situations.

These findings are in line with the study conducted by Anyanwu, Ibekwe, and Ojinnaka (2016), which identified family background age, and other social factors as important influences on substance abuse among adolescents. Their study found that students from unstable family backgrounds were more likely to engage in substance abuse, while students involved in positive activities showed lower levels of substance use. This supports the present findings regarding the importance of family support and extracurricular activities.

The importance given to school guidance in the present study also supports the recommendations made by Anyanwu et al. (2016), who emphasized health education, parental involvement, and community participation in prevention efforts. The findings suggest that schools act as an important support system for students.

However, the findings related to peer pressure shows that peer influence can have both positive and negative effects. While positive friends can help students avoid substance abuse, negative peer pressure can increase the risk of substance use.

Therefore, it can be concluded that resistance to substance abuse among higher secondary students is influenced by personal values, school support, family environment, and peer relationships. Special attention should

be given to reducing peer pressure through activities such as peer education and life skills training programmes.

- *Discussion of Objective V:*

The findings of the present study showed that there is no significant difference between male and female in higher secondary students regarding the role of school education in preventing adolescent abuse. Therefore, the null hypotheses fail to be rejected. This means that both male and female students have similar views regarding the role of school education in substance abuse prevention.

These findings are similar to the study conducted by Dogra, Tiwari, and Bhardwaj (2024), which also found no significant difference between male and female students in terms of knowledge about substance abuse. Their study explained that awareness levels are not mainly influenced by gender but may depend more on educational and institutional factors.

In the same way, the present suggests that school education is equally effective for both male and female students. Awareness programmes, counselling services, and educational activities appear to reach both groups in a similar manner.

However, even though to gender difference was found, it is still important to continue these programmes to maintain equal awareness and understanding among students. Other factors such as school environment and quality of educational programmes may have a greater influence than gender.

Thus, it can be concluded that gender does not significantly affect students' perceptions regarding the role of school education in preventing substance abuse, and that school-based prevention programmes are equally beneficial for both male and female students.

- *Discussion of Objective VI*

The findings of the present study revealed that there is a significant difference between higher secondary students from government-aided and private schools regarding the role of school education in preventing adolescent substance abuse. Students from government-aided schools showed higher means scores compared to students from private schools. The statistical results confirmed that the difference was significant, and therefore the null hypotheses was rejected.

This suggests that students from government-aided schools perceive a stronger role of school education in preventing substance abuse.

These findings are similar to the study conducted by Dogra, Tiwari, and Bhardwaj (2024), which also reported differences based on the type of institution. Their study found that government college students had higher levels of knowledge regarding substance abuse compared to private college students. The study highlighted the importance of institutional environment in shaping students' awareness and understanding.

Likewise, the present study suggests that differences in school atmosphere, teaching methods, counselling services, and awareness programmes may have influenced the variation between government-aided and private schools. Government-aided schools may provide more opportunities for students to participate in awareness activities and public health programmes related to substance abuse prevention. However, the lower scores among private school students indicate the need to strengthen prevention programmes and awareness activities in such schools. It is important that all students receive equal opportunities to benefit from substance abuse prevention programmes, regardless of the type of school they attend.

Therefore, it can be concluded that the role of school education in preventing substance abuse differs according to the type of institution. More efforts are needed to strengthen prevention programmes in all schools, especially private schools, to ensure equal awareness and effective prevention among higher secondary students.

- *Educational Implications of the Study:*

The implications of this study come from the findings related to its objectives. It highlights the crucial role of school education in preventing substance abuse among higher secondary students. The implications are discussed below:

- *Implications of Objective I*

The study found that higher secondary students have a good level of awareness about substance abuse and its harmful effects on health, studies, addiction, and legal problems. This suggests that schools are playing an important role in creating awareness among students. However, students showed less understanding of risky behaviours and the social consequences of substance abuse. Therefore, schools need to strengthen awareness programmes so that students can gain a more complete understanding of substance abuse and its effects.

- *Implications of Objective II*

The findings revealed that substance abuse prevention programmes are being conducted in schools to a high extent. This indicates that schools are actively involved in preventing substance abuse through awareness programmes, counselling services, and educational activities. However, some preventive activities, such as the use of posters, informational materials, and expert visits, were found to be less common. Therefore, schools should continue to strengthen and maintain these programmes to ensure that all students have equal opportunities to learn about substance abuse prevention and develop healthy behaviours.

- *Implications of Objective III*

The study showed that students generally have a positive view of the role of school education in preventing substance abuse. This indicates that students see schools as an important source of information, guidance and support. However, the differences in students' responses suggest that not all students benefit in the same way. Therefore, schools should continue improving their prevention efforts to reach and supports all students effectively.

- *Implications of Objective IV*

The findings identified factors such as peer pressure, family environment, and personal influences as important factors affecting students' resistance to substance abuse. This suggests that prevention programmes should focus not only on increasing awareness but also on helping students deal with challenges. Addressing these factors can help students make healthier choices and avoid substance abuse.

- *Implication of Objective V*

The findings showed no significant difference between male and female higher secondary students regarding the role of school education in preventing adolescent substance abuse. This suggests that both male and female students have similar perceptions and awareness about the role of school education in substance abuse prevention. Therefore, schools can implement prevention programmes that provide equal opportunities and benefits to both boys and girls. At the same time, schools should continue to ensure that all students receive adequate support, guidance, and access to awareness programmes regardless of gender.

- *Implications of Objective VI*

The study found a significant difference between government-aided and private school students regarding the role of school education in preventing substance abuse. This suggests that prevention efforts may not be equally effective across different types of schools. Therefore, schools should be given equal attention, and prevention programmes should be implemented consistently so that all students can benefit equally.

➤ *Suggestions of the Study*

The following suggestions are based on the findings and implications of the present study:

- *Suggestions for Objective I*

Schools should organize regular awareness programme to improve students' understanding of substance abuse. More attention should be given to areas where students showed less awareness, such as risky behaviours and social consequences. Teachers can use group discussions, role plays, case studies, and awareness campaigns to make learning more interesting and meaningful. Schools may also invite experts to conduct workshops and encourage parents to participate in awareness activities. In addition, students should be taught life skills such as decision-making and self-control to help them avoid substance abuse.

- *Suggestions for Objective II*

School should strengthen the implementation of substance abuse prevention programmes by conducting regular awareness activities, seminars, and counselling sessions. These programmes should be properly planned and carried out consistently in all schools. Teachers should also include substance abuse-related topics in classroom teaching. Working together with counsellors, health professionals, and experts can further improve the effectiveness of these programmes.

- *Suggestions for Objective III*

Schools should continue to strengthen their role in preventing substance abuse by using teaching methods that actively involve students. Teachers should regularly provide guidance and information about the harmful effects of substance abuse. Activities such as discussions, counselling sessions, and awareness programmes can help improve students' understanding and attitudes towards substance abuse.

- *Suggestions for Objective IV*

Schools should create a supportive and positive environments where students feel comfortable seeking help when needed. Life skills such as decision-making, self-control, and the ability to resist negative influences should be encouraged. Parents and guardians should also be involved in prevention efforts so that students receive guidance both at home and at school. Counselling services should be available to help students manage peer pressure and personal challenges.

- *Suggestions for Objective V*

Schools should ensure that substance abuse awareness programmes provide equal opportunities for both boys and girls. All students should be encouraged to participate in awareness activities and discussions. Attention should be also be given to the different needs and experiences of students so that prevention programmes can benefit everyone equally.

- *Suggestions for Objective VI*

Schools should work towards reducing the differences in substance abuse prevention efforts between government-aided and private schools. Common guidelines and programmes should be followed to ensure that all students receive the same quality of information and support. Teacher training and awareness activities should also be provided equally across schools to improve the effectiveness of prevention programmes.

➤ *Overall Recommendations:*

Based on the findings of this study, schools should strengthen their role in preventing substance abuse among higher secondary students through organized and ongoing educational efforts. While students showed a high level of awareness, the quality and regularity of school-based prevention programmes still need improvement. Schools should host regular workshops, seminars, awareness campaigns, and counselling sessions to ensure that all students receive proper guidance and information about substance abuse. More focus should address areas where students demonstrated lower awareness, particularly risky behaviour and social consequences. Additionally, life skills education should be part of the school curriculum to help students build decision-making skills, critical thinking abilities, self-confidence, resistance skills. School should also promote collaboration among teachers, parents, counselors, and the community to create a supportive environment for students. Furthermore, equal importance should be given to both government-aided and private schools to ensure that all students have the same opportunities and support in substance abuse prevention programmes.

➤ Conclusion

This study examined how school education helps prevent substance abuse among higher secondary students. The findings showed that students are very aware of substance abuse and its harmful effects on health, academic performance, social relationships, and legal issues. However, the study indicated that school-based prevention programmes are somewhat limited, highlighting the need for more consistent efforts. Students generally view school education positively, showing that schools play an important role in helping them avoid substance abuse. The study also found that factors like peer pressure, family environment, and personal awareness greatly influence students' ability to resist substance abuse. The research showed no significant differences based on gender but a significant difference based on school type, suggesting these factors affect students' awareness and views. In conclusion, while school education is vital in preventing substance abuse, there is a need to improve awareness programmes, promote life skills education, and ensure equal opportunities in all schools. Since the study was limited to higher secondary students in Mawlai C&RD Block, East Khasi Hills District, Meghalaya, future studies may be conducted in larger geographical areas and among different educational levels to obtain broader findings. Strengthening school-based education, along with supportive environmental factors, can significantly shape students' attitudes and behaviours, which will help effectively prevent substance abuse among higher secondary students.

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