

A study to show the current trends in drug use by young people at nightclubs.

By Aamer Rashad Arefin



'Young Britons are still by far the leading consumers of MDMA in Europe and the second largest worldwide, after Australia. An estimated 750,000 regular users consume about 26m tablets a year, although the researchers concede that this is probably an underestimate'¹

(Image above taken from http://www.flickr.com/photos/coast_guard/3883423930/

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Abstract

This study has been carried out to explore some of the current trends and patterns in the use of illegal substances used with a night club environment and the dance music scene. The population studied focuses mainly on young people that visit night clubs.

The trends in use of a whole variety of club drugs has been examined, however the main focal point of this review has been on MDMA and ecstasy as these drugs are the most commonly used by the target demographic of this study. The use of other illegal substances and alcohol in conjunction with ecstasy use has been explored in this study. Some of the reasons as to why young people use such substances has been investigated. Moreover, the health risks and fatalities of drug users have been looked at during the review.

Database searches were carried out in order to gather the relevant information. Studies from the United Kingdom, Australia, Europe, and the United States of America were used to form the data used in this review and allowed the conclusions to be drawn.

Objectives

- Identify what club drugs are and the prevalence of use of such club drugs by young people in the nightclub environment.
- Identify the trends of the use of club drugs.
- Look into some of the reasons why young people partake in the use of illegal club drugs.

Introduction

It has been found that in the United Kingdom alone, over 3.5 million people frequent nightclubs each week. Many of those who frequent nightclubs are young adults, and a large proportion of these people are known to be users of illegal drugs or club drugs. There is a well known association between illegal drug consumption and the dance music scene². The aim of this study is to show the current trends in illegal drug use by those who attend night clubs and are part of the dance music scene.

The illegal drugs considered to be club drugs are MDMA (often referred to as ecstasy – its street name), methamphetamine (Crystal Meth), cocaine, ketamine, LSD and GHB. The drug that is most regularly connected with use within a nightclub environment is ecstasy, and it is ecstasy that has had the most epidemiological data collected³. The prevalence of illegal drugs used has generally risen over the last two decades. An especially noticeable increase has occurred in the prevalence of ecstasy/MDMA use among young people⁴. The United Kingdom is one of the leading nations in levels of use of the ecstasy group of drugs, and recent studies show that almost 50% of those aged 16-22 have reported use of at least one illegal substance.

As ecstasy/MDMA is the most commonly reported drug used at nightclubs, this study will focus mainly on ecstasy³. Other substances taken at nightclubs will be looked at in conjunction with ecstasy use. There is a list of key definitions which can be found in Appendix 1.

Pharmacology of Ecstasy

MDMA or 3,4-methylenedioxyamphetamine is known by the street name ecstasy. MDMA is widely accepted as a human neurotoxin. Over the past two decades ecstasy's popularity has increased, and it is known to be a highly pleasurable drug that is strongly linked with the dance music and club scene⁵. MDMA molecules are strongly attracted to serotonin receptors and transport sites found in the brain. Serotonin producing neurons found in the brain are said to control one's mood, their aggression, sexual activity, sleep and receptiveness to pain. It also plays an active part in memory and regulation of body temperature⁶.

Side Effects of Ecstasy Use

While under the influence of ecstasy the user may be subject to a series of physical side effects, users may continue to be affected by some of these side effects in the comedown period. Such effects include irritability, fatigue, nausea, loss of appetite, weight loss, tachycardia, tremors, tics, tightening of jaw muscles and jaw clenching. It has been found that MDMA is connected with severe, symptomatic hyponatremia, to which young women are particularly susceptible⁷.

Normally, ecstasy/MDMA is taken orally, however, sometimes ecstasy can be administered intravenously which gives rise to the concern of needle contamination. This can cause a series of health problems, in particular the transmission of blood borne diseases. Yet, it is important to note, that the intravenous intake of ecstasy is not normally associated among the dance scene and night club attendees⁸.

Many of the negative and dangerous side effects of ecstasy and MDMA use occurs as a result of the addition of chemical adulterants. An ecstasy tablet's MDMA content can be significantly different from pill to pill, hence the actual purity of an ecstasy tablet varies considerably⁷.

Ecstasy related fatalities

The use of ecstasy and ecstasy related fatalities are widely publicised in the media today. A study from Australia indicated that the use of MDMA has been related to 27 deaths in the United States of America, and over 50 deaths in Europe. The usual cause of death being severe dehydration, strokes, hyperthermia and hyponatremia⁹. However, a

similar study carried out in the U.S. indicates that the number of deaths due to a direct result of MDMA toxicity may be significantly higher. In the area of study, it was found that there were 71 deaths directly due to MDMA toxicity: 3 deaths due to a fall sustained as a result of altered mental status, 1 natural cause of death (coronary artery occlusion), and 67 drug toxicity deaths^{10(page 209)}.

When doctors treat patients suffering from drug toxicity related symptoms there are several issues that they may face. One issue, with respect to Beauchamp and Childress’s four ethical principles, is justice¹¹. It is the doctor’s duty to treat these patients fairly and equitably. Another issue that doctors may face is one of confidentiality¹². Many of the people involved in the use of illegal club drugs are young, and should any harm come to them, there may be the dilemma of how much information can be addressed to family members. The four ethical principles and doctor’s confidentiality are discussed in more detail in the appendices.

Trends in Ecstasy Use

Length and frequency of use:

From a study done in the UK, it shows that 96% of those involved in the study had used ecstasy, with a mean age of first use being 19.58 years. The mean duration of use was 4.65 years, with 41% reporting use for over five years, and 8% using ecstasy for over ten years. 86% of ecstasy users reported using the drug in the last month, while only 3% recounted that their last use was over a year ago. The group reported a mean use of ecstasy 160.5 times. Those who reported that they used the drug in the last year, 12% said they used the drug two or three times a week, 22% reported weekly use, 30% reported use once every two weeks, 16% reported monthly use, 15% reported less than monthly use, while 0.5% reported daily use of ecstasy^{13(page 11)}

Tablets consumed:

Of those studied, 55% said they used two or fewer tablets per session. The mean number of tablets taken is 2.8 per session. Just over a quarter of those studied reported use of four or more tablets per session. The mean maximum number of tablets consumed at any one time is 5.8. Around 54% of users who reported use of ecstasy said their maximum

use in one session was over 5 pills, 16% reported using 10 or more, 5% used 15 or more, and 2% reported using 20 or more pills on one session. The mean maximum number of consecutive days of ecstasy use was 3.3 days. Approximately 14% of ecstasy users reported use of the drug for 5 or more consecutive days, and 3% on 10 or more consecutive days¹³(page 12).

Drugs used with ecstasy:

Polysubstance use is common. Often ecstasy is used in combination with other stimulant drugs or with cannabis and/or alcohol. Below are some tables that illustrate this¹³(page 12).

Table 1¹³ (page 11)

Lifetime and recent drug use histories of sample ($n = 1151$)

Drug	% ever used	Mean age first used ^a (SD)	% ever injected ^a	% used in past month	Mean days used past month ^b (SD)
Ecstasy	96	19.6 (4.7)	0	86	4.5 (3.8)
Amphetamines	92	18.1 (3.9)	3	40	4.7 (5.6)
Cannabis	91	16.1 (3.3)	0	73	17.9 (11.1)
Amyl nitrite	77	17.8 (4.0)	0	22	3.8 (4.8)
Cocaine (powder)	75	20.7 (3.9)	0.2	46	3.2 (4.3)
LSD	71	17.9 (4.1)	0	10	1.9 (1.5)
Benzodiazepines	31	19.4 (4.1)	0.3	8	6.2 (8.2)
Ketamine	26	21.6 (5.2)	0	4	2.4 (2.6)
Crack cocaine	13	21.4 (4.4)	0	2	2.8 (4.2)
GHB	13	22.4 (5.6)	0	3	2.7 (4.1)
Heroin	12	20.3 (3.7)	14	1	4.5 (7.0)
Flatliners (4MTA)	10	20.8 (4.4)	0	1	1.4 (0.7)
Herbal highs	9	21.2 (6.2)	0	2	4.4 (7.5)
2CB (nexus)	5	23.8 (5.7)	0	1	4.3 (8.2)
Viagra	2	27.7 (7.9%)	0	1	1.9 (1.8)

^a Among subjects reporting use.

^b of those who had used index drug in the last year.

Table 2¹³ (page 12)

Drugs used with ecstasy and to assist the comedown from ecstasy ($n = 1106$)

	Drug use with ecstasy %	Drugs used to help comedown%
Alcohol	88	60
Amphetamines	83	–
Cannabis	82	82
Cocaine	58	0.5
Amyl nitrite	51	–
LSD	30	–
Ketamine	14	–
Prozac	6	–
Crack cocaine	6	–
Herbal highs	4	–
Benzodiazepines	–	18
Heroin	–	2
Antihistamine	–	5
Viagra	2%	–

Ecstasy use in conjunction with alcohol:

Using the 5 item AUDIT (Alcohol Use Disorders Identification Test), on which a score of anything greater than 5 indicates harmful drinking, 70% of ecstasy users scored 5 or more. The mean score was 6.89, and on average it was seen that men scored higher than women¹³ (page 13).

Differences in drug use between gender, sexual orientation and race:

One study has shown that males are more likely to use illegal drugs than females¹⁴. However, another article taking references from studies carried out in the United Kingdom, Australia and United States has shown ‘gender equitable rates of club drug use, especially ecstasy among young people’³ (page 885).

It has been found that lesbian or bisexual women and heterosexual men are those most likely to have used club drugs over the course of their lives. Gay/bisexual men and heterosexual women are significantly less likely to have used club drugs in their lives³ (page 889).

Table 3³(page 889).

Club drug prevalence by gender and sexual orientation

	Total sample (n = 1,914)	Heterosexual men (a) (n = 449)	Gay/bisexual men (b) (n = 560)	Heterosexual women (c) (n = 496)	Lesbian/ bisexual women (d) (n = 385)
	Prevalence (%)	Prevalence (%)	Prevalence (%)	Prevalence (%)	Prevalence (%)
Any drug ever	70.0	73.5 ^{b,c}	65.5 ^{a,d}	67.5 ^{a,b,d}	75.8 ^{b,c}
Ecstasy ever	45.2	46.8 ^c	46.9 ^c	38.1 ^{a,b,d}	50.0 ^c
Ketamine ever	21.0	24.8 ^c	24.8 ^c	14.0 ^{a,b,d}	19.7 ^c
GHB ever	11.1	11.7 ^c	15.1 ^{c,d}	7.2 ^{a,b}	9.2 ^b
Cocaine ever	41.0	42.3 ^c	43.2 ^c	34.4 ^{a,b,d}	44.7 ^c
Crystal meth ever	15.3	13.2 ^{b,c}	21.5 ^{a,c,d}	9.8 ^{b,d}	15.5 ^{b,c}
LSD/acid ever	25.5	32.6 ^{b,c}	20.7 ^{a,d}	20.7 ^{a,d}	30.5 ^{b,c}
Club drug use last 3 months	22.0	23.0 ^c	25.0 ^c	17.3 ^{a,b,d}	23.4 ^c

All reported differences at $p \leq 0.05$:
 a = sig diff from heterosexual men.
 b = sig diff from gay/bisexual men.
 c = sig diff from heterosexual women.
 d = sig diff from lesbian/bisexual women.

It has also been found that, in general, certain races are more likely to partake in club drug use. Whites are significantly more likely to use club drugs in comparison to Blacks, Latinos, Asian/Pacific Islanders and those of Mixed or Other races^{3 (page 890)}.

Reasons for the Use of Club Drugs

A study involving focus group discussions based in Edinburgh asked several of the participants why they used club drugs. Below are some of the answers given^{15 (page 253)}:

TOM: There’s different reasons for all drugs, I mean like ecstasy, there’s the . . . kind of like openness and a loved up feeling that you get [which] depending on how you look at it is either fake or not. But, like, you get that feeling on E that you want to just sit and talk to people and just get to know people and meet people and stuff. Whereas with acid, if I’m taking acid with a group of people I usually do it cause it’s fucking funny and like everybody just laughs at everything and everything is funny and you all know why and you don’t need to say you know why ’cause you just do and you’re on the floor in pain laughing.

DIANNE: There’s still nothing quite like when you’re on . . . on the peak of a pill and you’re having a really good dance and your favourite tune comes on . . .

Case Histories

Box 1:

Subject A, a 19 year old female, reported first use of ecstasy at the age of 15. Another substance used at the early stage of drug use also includes cannabis. The main area of use of drugs is nightclubs. Now, at age 19, she uses mostly MDMA, ketamine and cannabis. Drug use occurs on average 8-10 times a month. How much is used varies each time, but in general one gram of MDMA is used. MDMA is preferred to ecstasy as confidence has been lost in pills due to impurity and low quality. Reasons for use are a heightened experience when under the influence and to provide energy.

Box 2:

Subject B, a 19 year old male, reported first use of the club drugs ecstasy and cocaine at age 15, along with cannabis. Now the main site of use is nightclubs. The drug most commonly used is MDMA, and is normally taken once a month. Usually half a gram of MDMA is taken on each occasion. MDMA is preferred to ecstasy as confidence has been lost in pills due to impurity and low quality. Drugs are used for a feeling of euphoria and energy.

Methods

The aim of this systematic review is to find the current trends in drug use by young people who visit night clubs. Certain medical databases were used in order to find other articles which were relevant to the study. The studies required were those which looked at the use of illegal drugs, but only those drugs used within a nightclub environment. It was necessary that the articles were focussed on young people.

The main database used was Scopus, as this is the largest database including articles found in Medline and Pubmed, and therefore would provide a wider collection of articles to review. Google scholar was also used as at the start of the search as an indicator to the number of related articles available on the internet.

First, important search terms needed to be identified from the title of this review. The search terms used are found below in the table:

Table 4

Search Terms
Drug use
Young people
Nightclub
Trend
Ecstasy
MDMA

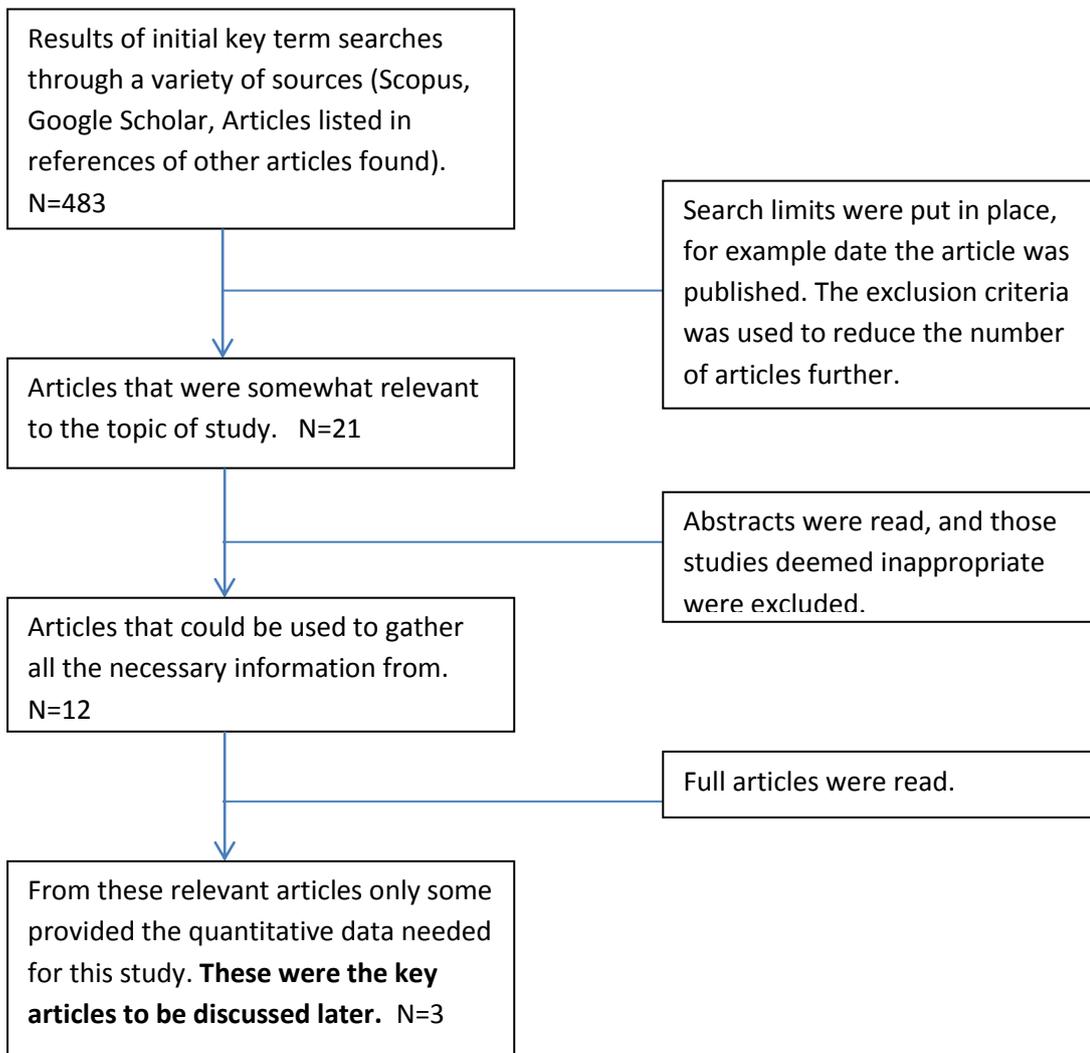
Searches often returned few results, therefore a snowballing method of searching was carried out in which several variations of the key search terms were used to give a large enough article base to gather the appropriate information needed for this study. Also, from the articles that were attained from database searches, other studies were accumulated from the references in those articles. Once a large enough article base was acquired, it was then possible to exclude articles that were not relevant.

Table 5

Exclusion Criteria
Articles that were not focussed on young people in particular
Articles that were not focussed on those who visit night clubs
Articles that did not concentrate on the use of club drugs
Duplicate Articles

Below is a diagram explaining the processes through which the search results were obtained:

Figure 1:



Results

From the database search 12 articles were found. 9 of these articles were used to provide background information to the notion of club drug use and to explain the effects and consequences of the use of such illegal club drugs, with the focus being given to ecstasy/MDMA. The other 3 key articles were used to provide quantitative information on the prevalence of drug use and the general patterns and habits of club drug use amongst young people. Below is a table illustrating the inclusion criteria for the data used in this systematic review.

Article	Drugs and the dance music scene: a survey of current drug use patterns among a sample of dance music enthusiasts in the UK.	Prevalence and predictors of club drug use among club-going young adults in New York City.	Patterns, trends, and meanings of drug use by dance-drug users in Edinburgh, Scotland.
Randomised	No	Yes	No
Targets young people	Yes	Yes	No
Targets club attenders	Yes	Yes	Yes
Uses a Questionnaire	Yes	Yes	Yes
Uses information from Focus Groups	No	No	Yes
Large sample size	Yes	Yes	No

The key articles each have their own qualities, yet they also have their own flaws and limitations. These will be evaluated below:

Drugs and the dance music scene: a survey of current drug use patterns among a sample of dance music enthusiasts in the UK

The article clearly stated the aims of its research, which included finding the prevalence of drug use among those who visit nightclubs and the trends in which such club

drugs are used. The use of the questionnaire was appropriate to gather the information needed for the research and provided a large sample size of data subjects. The recruitment strategy targeted the key demographic of study, as the questionnaire placed in a magazine that targeted youths who were interested in the nightclub scene. No ethical or moral issues were broken as a result of the research being carried out as only those interested in taking part in the research completed the questionnaire. All findings were analysed and the qualitative data gathered was arranged into quantitative data which addressed the research question that was formed.

Prevalence and predictors of club drug use among club-going young adults in New York City

This article plainly stated its aims from the beginning. Its aim was to find out the prevalence of illegal drug use amongst club goers. Prevalence was observed based on gender, sexual orientation and race. The use of surveys carried out in a club environment was appropriate as it targeted young club goers. No ethical issues were broken as only those who consented to give information were questioned. All the findings were displayed in the form of quantitative data relevant to the research question.

Patterns, trends, and meanings of drug use by dance-drug users in Edinburgh, Scotland

The article has clear objective identified. The study aims to find the patterns of drug use by dance music enthusiasts and some of the reasons behind using such substances. The use of the research methods were appropriate as the surveys and focus groups were carried out in nightclubs and ensured the key demographic were targeted. No ethical issues were broken as participation was voluntary. All data collected was presented in such a way that the research question was addressed.

All three articles used questionnaires or focus groups to acquire the necessary information. This form of data collection is known as time-space sampling. It is used to study hard to reach populations, such as illegal substance users.³ It is not the most effective way of gathering information however it is the most appropriate for this study. Randomising households or phone numbers can often lead to unreliable results and thus prevents reasonable conclusions to be drawn from the study. Also for reason of methodological difficulty, cost and practicality, some form of non-randomised sampling

process will have to be done, as it is the only method available for obtaining the data required, in this case the patterns of drug use.¹³

A possible limitation to be considered is that as the sample may not be a true representation of young people who use club drugs in general. Those readers with the greatest interest and commitment to drugs may be more likely to respond, thus the trends found in the studies may be higher than actually seen in general¹³.

Some of the key positives of the data presented in the key articles are:

- Large data samples were obtained, thus making the data more reliable.
- All the articles are relatively recent (the last decade), hence suggesting that the findings are fairly accurate with the trends shown today.

Conclusion

From studies carried out, dance music enthusiasts and those who frequent nightclubs are significantly more likely to partake in the use of illegal club drugs compared to other demographics¹⁶. The most common club drug used by young people is ecstasy³, and often several ecstasy tablets are taken over the duration of a night¹³. Poly drug use is common amongst club goers^{13, 16}. Also, use of club drugs is normally joined by excessive alcohol consumption, with over 70% drinking a hazardous level of alcohol¹³.

It has also been found that there are differences in drug use between certain demographics. Males have higher use of ecstasy relative to women. In terms of sexual orientation, Lesbian/bisexual women and heterosexual males report higher drug use compared to heterosexual women and gay/bisexual males. Also Caucasians have higher use of club drugs relative to other races³.

Acknowledgements

I would like to thank Dr. O'Neill and Siobhan Harkin very much for all their efforts and input over the course of their SSM period. Their advice and counselling has been invaluable to me. Similarly, I would like to the speakers and lectures that they brought in to speak to us over the course of this SSM, whose first hand experiences gave a further and more in depth understanding of the real issues at hand.

I would also like to express gratitude to all the staff at the Westvale Clinic. They provided me with information on drug use trends in the Liverpool area. This showed that the major drug problem in the Mersey side district does not arise from club drugs, but nonetheless the information received was helpful.

Appendix 1 – Definitions

Young people or Young adults	Those aged between 18-29 ³
Substance abuse	The use of illicit drugs or the abuse of prescription or over-the-counter drugs for purposes other than those for which they are indicated or in a manner or in quantities other than directed ¹⁷
Club drugs	The term club drug is a fairly amorphous term used to describe drugs historically taken in social or party situations, but increasingly used across a wide range of contexts by many different groups of users ^{7(page 1241)}

Appendix 2 – Childress and Beauchamp’s Four Ethical Principles¹¹

Beauchamp and Childress’s Four Principles is one of the most widely used frameworks and offers a broad consideration of medical ethics issues generally, not just for use in a clinical setting.

The Four Principles are general guides that leave considerable room for judgement in specific cases.

Respect for autonomy: respecting the decision-making capacities of autonomous persons; enabling individuals to make reasoned informed choices.

Beneficence: this considers the balancing of benefits of treatment against the risks and costs; the healthcare professional should act in a way that benefits the patient

Non maleficence: avoiding the causation of harm; the healthcare professional should not harm the patient. All treatment involves some harm, even if minimal, but the harm should not be disproportionate to the benefits of treatment.

Justice: distributing benefits, risks and costs fairly; the notion that patients in similar positions should be treated in a similar manner.

Appendix 3 – Confidentiality¹²

“Confidentiality is central to trust between doctors and patients. Without assurances about confidentiality, patients may be reluctant to seek medical attention or to give doctors the information they need in order to provide good care. But appropriate information sharing is essential to the efficient provision of safe, effective care, both for the individual patient and for the wider community of patients.”

Appendix 4 – Reflection

Over the course of this SSM I have been able to observe current trends in drug use in the Merseyside district. From my observations I have noticed that those who seek the help and guidance of the NHS services are not those who partake in recreational use of club drugs. There is a stigma attached to certain demographics that are known to take drugs, such as those involved in the dance music scene. In general, the majority of these recreational drug users are able to carry one with their everyday lives and their habits would generally go unnoticed apart from when in a nightclub environment. This can lead to one posing the question what is the harm in such behaviours?

It is important to remember that partaking in such behaviours exposes the user to severe health risks. Despite total number of fatalities not being huge there is no doubt that there is a danger in use of illegal club drugs. The trends in use also appear to be alarming. I found from this study that it is the norm for dance music enthusiasts to participate in poly drug use, which increases exposure to many more health risks. In general, it may appear that this demographic may not be such a burden on the NHS or society, but the long term affects to the user’s health is not fully understood and in the future this could be a big problem that may have to be tackled.

Appendix 5 - Timetable

Date	What was done
24/01/2011	Introduction to SSMs
25/01/2011 – 27/01/2011	Placement at Westvale Clinic
28/01/2011	Secondary SSM lectures
04/02/2011	Presentations
11/02/2011	Deadline

Appendix 6 - Presentation

This presentation may differ slightly from the systematic review as it is now, due to the presentation being done a week in advance to the deadline. Changes to the focus of this review occurred over the last week.

What are the current trends in drug use by young people at nightclubs.

What I will be finding out:

- What are the most common drugs being used by young people in night clubs.
- Prevalence of drug use by young people and young people who attend clubs.
- The affects that these drugs have. For example, the affects at time of use and the associated health problems, affects of overdose in relation to A&E admissions, and other social factors that arise as a result of drug use.

Search Method – How I found this article.

- I first identified some 'key terms' within my title. These were 'drug use', 'young/youth/adolescent' and 'nightclub'
- By using various search tools on the Scopus database I was able to find an article that was somewhat related to the question at hand.
- Looking through the references of that article eventually lead me to this article.

The article I will appraise:

'Drugs and the dance music scene: a survey of current drug use patterns among a sample of dance music enthusiasts in the UK.'

- A. R. Winstock, P. Griffiths, D. Stewart

Advantages of this article

- The article is a primary source as the data collected was obtained by the authors.
- The research carried out was aimed at a key demographic known to use drugs.
- The data sample was large, collecting accounts from over 1000 people.
- The data was collected in such a way that addressed the research issue. The questionnaire would have been designed in such a way as to get the necessary answers for further review.

Disadvantages of this article.

- The questionnaire was included in a magazine in which dance music enthusiasts would read and hence data obtained only applies to this demographic. This makes it difficult to apply any conclusions drawn to the general population.
- As the questionnaire had to be mailed in, there can be problems of assessing reliability of the data. As no contact was made with the subjects, there is no way of knowing how truthful the subjects were in answering the questionnaire.

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