FATALITIES ASSOCIATED WITH MEPHEDRONE IN COMBINATION WITH OTHER STIMULANT DRUGS IN YOUNG PEOPLE AGED 16-24 YEARS

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INTRODUCTION

- Mephedrone is a synthetic stimulant drug of the cathinone class. Between the summer of 2009 and March 2010 the use of mephedrone grew rapidly in the UK's recreational drug scene[1], with users reporting its effects as similar to other stimulant drugs like amphetamines, ecstasy or cocaine. During this period mephedrone-related deaths were occurring at an unprecedented rate in the UK and there was concern amongst authorities about the health consequences of mephedrone and related cathinones. As a result of these concerns, in April 2010 mephedrone was classified under the Misuse of Drugs Act 1971 as a Class B drug[2]
- It is usually sold in the form of powder; crystals; or tablets and it is available illegally via the internet[3]
- It is commonly used by young people in combination with other drugs, especially stimulants, and it may be found mixed in with other stimulant drugs, such as caffeine, amphetamine and other methcathinones[4]
- It elicits amphetamine-like properties by acting as a substrate for monoaminergic transporters, causing reverse transport of norepinephrine, dopamine, and serotonin in the synaptic cleft and increasing cytoplasmic levels of these neurotransmitters[5]
- Study's aim: To analyse fatalities involving mephedrone in association with other stimulant drugs occurring in the UK among 16-24 year-olds

METHODS

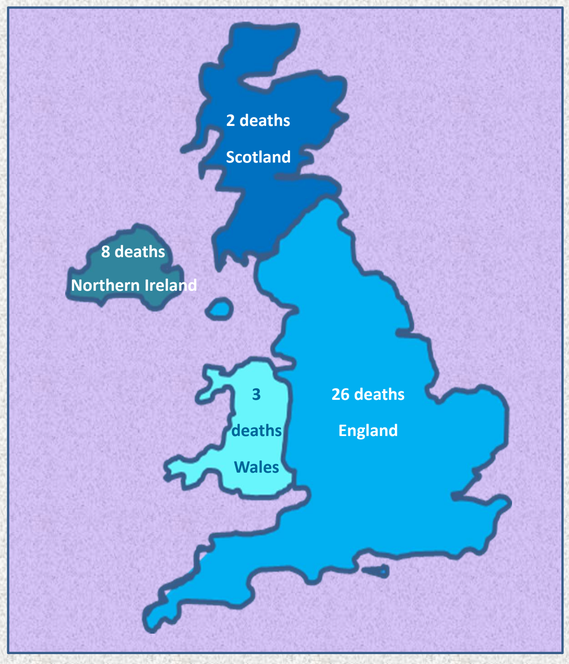
- A literature search using PubMed was undertaken using the following keywords: synthetic cathinone*, mephedrone, methcathinone*, "meow meow", mephedrone toxicity
- Analyses were performed using data extracted from the database of the *national programme* on Substance Abuse Deaths (*np*-SAD). The Programme has been collecting and analysing drug-related deaths in the UK since 1997, and maintains a database of more than 28,000 cases, with Coroners and relevant regional authorities voluntarily submitting information on drug-related deaths on a daily basis[6]
- A search of the entire database was performed for deaths involving mephedrone amongst 16-24 year-olds
- The following aspects of decedents were examined: gender; ethnicity; employment status; living arrangements; country of death; cause of death information; post mortem toxicology; and drugs implicated in death

RESULTS

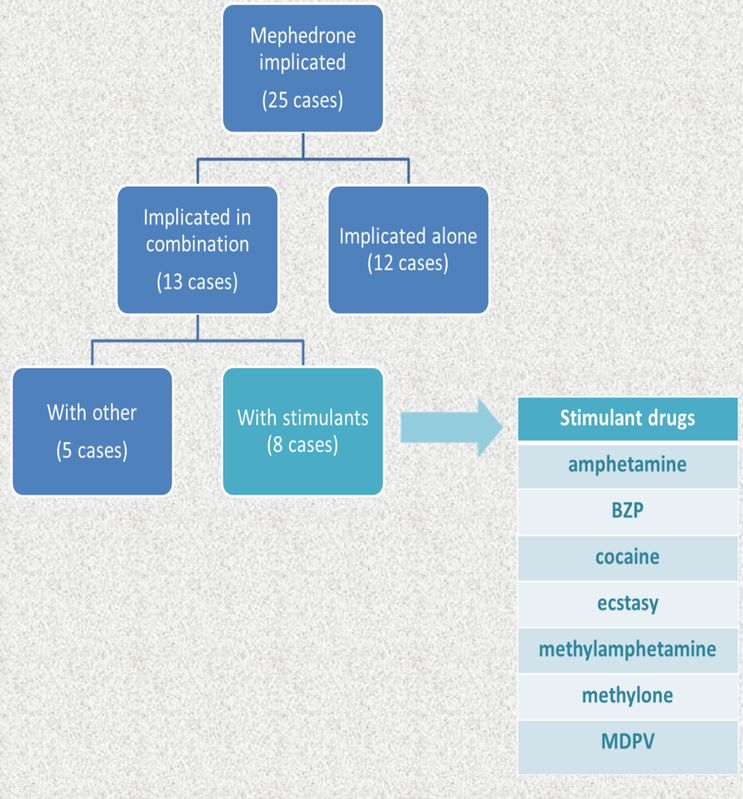
Socio-demographic aspects of mephedrone-related deaths

Variable	Category	Number (%)
Total		41 (100.0)
Ethnicity	White	36 (87.8)
	Pakistani	1 (2.4)
	Not known	4 (9.8)
Employment status	Unemployed	14 (34.1)
	Employed	13 (31.7)
	Student/ pupil	8 (19.5)
	Not known	6 (14.6)
Living arrangements	With parents	19 (46.3)
	With partner	5 (12.2)
	Alone	4 (9.8)
	With friends	3 (7.3)
	No fixed abode	1 (2.4)
	Other	2 (4.9)
	Not known	7 (17.1)

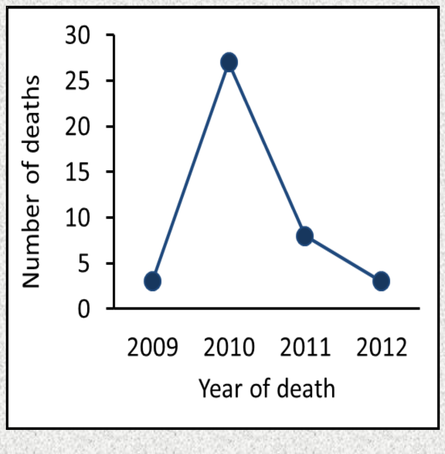
Number of mephedrone-related deaths by country



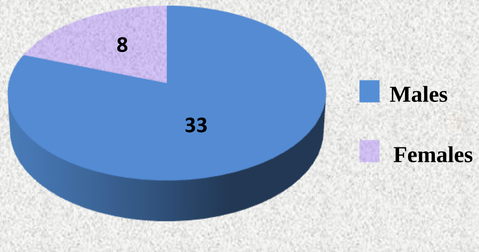
Drugs implicated in deaths in combination with mephedrone



Time trend in mephedrone-related deaths



Number of mephedrone-related deaths by gender



CONCLUSIONS

- The mephedrone-related fatalities reported here among young people suggest a significant level of caution is needed when ingesting mephedrone alone or in combination with other drugs, especially stimulants
- Present data confirm concerns regarding the acute toxicity potential of this drug, indicating the urgent need to educate young people in particular on this topic
- Several other synthetic cathinones are widely available and often taken in association with mephedrone, causing an increasing concern amongst the relevant authorities over the mental and physical consequences of consuming these drugs

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For information on *np*-SAD and ICDP as a whole, either scan the QR barcode, or email the team at icdp@sgul.ac.uk