

available such compounds may be expensive and may not have corresponding deuterated standards for use in quantification by mass-spectrometry [6].

Aside from the analytical challenge, the lack of clinical studies on the effects of these drugs and their toxicity has made interpretation of toxicological findings difficult. In an attempt to assist in a better understanding of the extent of their use and particularly fatalities that have been linked to these compounds, findings during casework have been collated in respect to fatal and non-fatal cases submitted to our laboratory where new psychoactive substances have been detected and/or implicated.

2. Experimental

2.1. Analytical methods

Routine analysis involved the use of immunoassay, ultra/high performance liquid chromatography coupled with diode array detection (U/HPLC–DAD), liquid chromatography with hybrid linear ion trap tandem mass spectrometry (LC–MS/MS) coupled with DAD, and in some cases ultra-high performance liquid chromatography with high mass accuracy quadrupole time-of-flight mass spectrometry (UHPLC–QTOF–MS). The methods have been published elsewhere [7,8].

2.2. Casework

Analysis was undertaken as part of routine case investigations on behalf of HM Coroners or Police Forces using *in life* and/or post-mortem specimens, further details of case types are described below. Drug screening involved a non-targeted approach for common drugs of abuse (including alcohol) and prescription drugs with more specific analysis where required.

3. Results and discussion

3.1. Drug frequency

Fig. 1 shows the frequency of new psychoactive drugs detected in casework between January 2010 and December 2012. Overall such drugs were detected in 203 cases, with 120 of those being solely from Jan to Dec 2012, showing an increase in frequency compared to 2010 and 2011. The drugs found were collated into the following drug classes (in decreasing order of frequency); cathinones, piperazines, “miscellaneous” compounds, tryptamines and aminoindans. Of the specific drugs detected, desoxypradol, 5-methoxy-DALT and 5-iodoaminoindan (5-IAI) were only found in 2010 casework, whereas pentylone, MDPBP and 2-aminoindane were only found in casework in 2011. 5- and

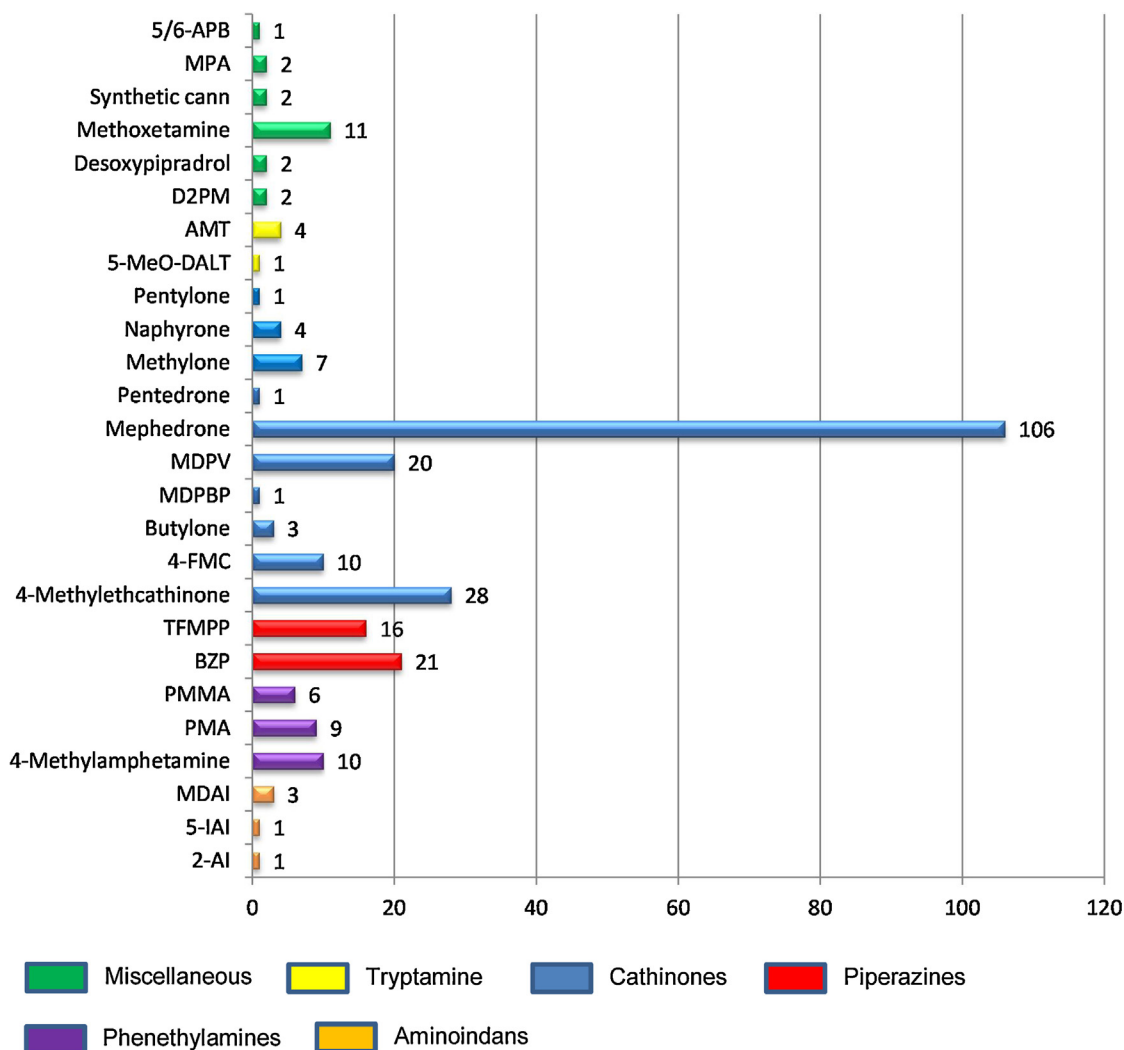


Fig. 1. The frequency of new psychoactive substances in cases between 2010 and 2012 (203 cases).

Download English Version:

<https://daneshyari.com/en/article/95563>

Download Persian Version:

<https://daneshyari.com/article/95563>

[Daneshyari.com](https://daneshyari.com)