

Evaluation of Phentermine and l-Ephedrine for Amphetamine-like Effects

Phentermine (α,α -dimethyl phenethylamine, Ionamin[®]) and l-ephedrine were evaluated for their relative ability to produce amphetamine-like subjective and physiologic effects in man. Each of 10 subjects received at weekly intervals oral phentermine, 25, 50 and 100 mg; oral l-ephedrine, 75 and 150 mg; oral d-amphetamine, 15 and 30 mg; and placebo utilizing a double blind crossover design. Subjective and physiologic effects utilizing our standard procedures^{14,15} were assessed at 0.5, 1, 2, 3, 4, 5, 12 and 24 hours after drug administration.

Both phentermine and l-ephedrine produced typical amphetamine-like subjective and physiologic effects. Potency estimates indicated that oral phentermine is 1/2 as potent and oral ephedrine is 1/3 to 1/7 as potent as oral d-amphetamine (Table 7). The potency of these two drugs in producing euphoria relative to previously studied drugs is shown in Table 8.

Table 7. Relative potencies and 95% confidence limits from the comparison of phentermine, l-ephedrine, d-amphetamine, and placebo. Potencies expressed as mg of phentermine or d-amphetamine equivalent to 1 mg d-amphetamine.

<u>Subjective Measures</u>	<u>Phentermine</u>	<u>l-Ephedrine</u>
Morphine-Benzedrine Group Scale	2.5(1.7-3.6)	6.7(3.6-41.2)
Amphetamine Scale	2.5(1.8-3.6)	5.2(3.2-8.5)
<u>Physiologic Measures</u>		
Systolic blood pressure	2.4(2.0-2.9)	3.4(2.6-4.1)
Diastolic blood pressure	1.8(1.0-2.9)	6.8(4.4-16.0)
Pulse decrease	-----	3.5(0.1-7.1)
Temperature increase	2.4(2.0-2.9)	-----