Author's response to reviews

Title: Predictors of Premature Mortality in Swedish Drug Abusers: A Prospective Longitudinal Study 1970 - 2006

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Dear doctor Odenwald;

Thank you for your comments. I will do my best to answer to your questions below and re-submit:

Question 1. The cohort in the study is defined as all patients admitted consecutively to the detox unit from the start in January 1970 and throughout the cohort period ending in December 1977 (n=561), who had 1) an intake examination and 2) a substance abuse diagnosis based on urine sample. Patients were asked to provide a verbal consent to take part in research at admittance, only 10 refused. Ten patients dropped out before an intake interview was completed. We spell this out in the revised version.

Question 2: The diagnostic standard was ICD-8. In an ongoing update of the present cohort to ICD-10, two psychiatrists have independently checked the ICD-8 diagnoses of psychoses and of personality disorders in the hospital records (291, 294, 295, 296, 297, 298, 299). A (#=.98) show a good agreement between the two raters. In the case when a patient was admitted with a suspected or florid psychosis, a second opinion was always secured from the senior consultant in psychiatry in the special ward for psychoses in the same hospital. The rate of psychoses was 14.4% of the entire cohort, of which 4.5% were diagnosed as Schizophrenia, substance induced (toxic) psychosis (6.5%), manic-depressive psychosis (1.5%) or other (2.5%). The specific psychosis diagnoses were not spelled out in the table since the focus is on drug-related and non-drug related deaths. About 20% of the patients in the cohort had a diagnosis of personality disorder: "persona pathologica" (301.00 - 301.99). Almost all of these had an anti-social disorder (301.70).

Question 2b: The group of patients (14.8%) named "neurosis" were diagnosed according to ICD-8 in the hospital records. We agree that this aggregation of diagnoses is a bit crude. Most patients in this group had a diagnosis of "neurotic depression" (300.40), 12% and/or anxiety (300.00), 8%. In addition a few patients
were diagnosed with phobias (300.20), hysteria (301.50) or obsessive-compulsive disorder (300.30). About half of the patients had at least one psychiatric diagnosis apart from the drug diagnosis. We have completed the manuscript according to these issues (method: assessment at baseline and follow-up. Results: characteristics of the cohort.

Question 3. Causes of death data were missing for only 4 individuals (deceased outside Europe) of 204 deaths. Uniquely, death certificates and autopsy protocols from other Scandinavian countries were obtained. The death certificates were used to identify patients in the cohort who were deceased by the end of 2006 and included date of death. In addition, the forensic autopsy protocols were obtained for 85% of the patients. Another 5% were autopsy protocols issued in general hospitals. Only 10% of the dead were diagnosed from death certificates alone. The reason to include autopsy protocols and toxicological analyses in the final part of the process was to achieve a precise decision on whether the death was drug-related, non drug related and also whether causes of death were related to suicide, intoxications etc. The addition of toxicological reports gave a higher precision in determining what was drug related and not drug related. All these diagnoses were coded as ICD-10 diagnoses. The first hundred were rated independently. Only nine of 100 ratings differed when rating drug related versus non drug related death (#=.98). Finally all diagnoses were coded after mutual agreement between the raters (see Methods, coding and identifying causes of death +Results, causes of death).

Question 4: CS is central stimulants, almost exclusively Amphetamine. The curve for stimulants is the same as for non drug abusers with no impact on premature mortality. The premature mortality is the same for stimulant abusers as it is for those not abusing drugs.

Question 5. All patients provided verbal consent. The permission from the research ethical committée is in the acknowledgements. We transfer it to the method section.

With kind regards,

Mats Fridell, professor of clinical psychology, Ph.D.