Hand out – Summery – Eating on the Edge

Connections between nutrition, food content, and diet, if neglected, can function as counterproductive forces in rehabilitation and treatment efforts.

For those who want to have more insight into the scientific approach I refer to the PhD Thesis accessible at the web: Eating on The Edge, a study focusing on dietary habits and nutritional status among illicit drug addicts in Oslo. I am also concerned with implementing my research results, for example, I have made several books, one of which is a cook book for drug addicts which I made together with students: Simply - Good food.

3 main issues:
1. How the body responds to substance use and poor dietary habits.
2. In short our investigation of dietary habits and nutritional status among street drug addicts in Oslo.
3. How to improve the diet and nutritional status in drug addicts.

All human beings in biological sense, in its origin, are subject to some basic needs to survive: oxygen, water, energy and essential nutrients. Oxygen is for free; water and food are not. During one year an adult man needs to eat and drinks more than one ton. No other single, natural factor has that impact on the life cycle or life span as the diet. So, what you eat and how much you eat can have long-lasting impacts.

Rewarding behaviors that humans as well as higher animals naturally want are drinking, eating, sexual behavior, maternal and paternal behaviors and social interactions. The reward circuitry of the brain is very complex, and addictive drugs enhance the functioning tremendously. Repeated feelings of reward are related to development of addiction.

Substances can be taken to relieve pain, alleviate depression, calm down, feeling invulnerable and dull sensitivity. But these effects come at an expense for the normal regulation of the nervous system, the endocrine or hormonal system, the gastrointestinal, the cardiovascular and the respiratory system.

Potential effects of substance use on nutritional status:
Appetite suppression, reduced nutrient intake, decreased nutrient bio availability, increased nutrient losses/malabsorption, altered nutrient synthesis, activation, and utilization, impaired nutrient metabolism and absorption, increased nutrient destruction, higher metabolic requirements of nutrients, inadequate weight gain/weight loss, iron deficiency anemia and decreased financial resources for food. (Story M and Stang J (2000).

Drug use interfere with the normal regulation and thus adds a heavy burden to the normal function of the human body.

A poor diet in itself can cause or exacerbate many of the same complications originating from drug abuse, inadequate diets relates to malnutrition and speed up the aging processes as does use of drugs, causing degenerative processes and diseases to occur earlier in the life cycle.
By nature we can’t survive without food, but obviously we can survive without using drugs.

The investigation
The inclusion criteria were at least being 18 years old, presently under influence of illicit drugs and they should not be participating in any drug related treatment program for the time being. The sample totaled to 123 men and 72 women. Biochemical analyses and anthropometric measurements were performed to supplement and substantiate the dietary recall. More than thirty different parameters were analyzed at international accredited laboratories in Norway. Blood samples were analyzed with respect to the most used substances in the twenty five first respondents. With regard to the type of drugs reported to be used, 98 percent were detected. This implies that all respondents were intoxicated (drugged) at the time of examination.

The average male and female respondents

<table>
<thead>
<tr>
<th></th>
<th>Man (n=123)</th>
<th>Woman (n=72)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age, year</td>
<td>36.2 SD 7.0</td>
<td>34.5 SD 7.4</td>
</tr>
<tr>
<td>Mean age drug debut</td>
<td>14.4 SD 4.2</td>
<td>16.1 SD 6.6</td>
</tr>
<tr>
<td>Drugs, numbers, median (min/max)</td>
<td>3.2 (1-11)</td>
<td>3.4 (1-8)</td>
</tr>
<tr>
<td>Tobacco smoking</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Completed Primary and lower secondary school 64% 61%
Public source of income 87% 84%
Private source of income 67% 80%
Rent or own a home 21% 24%
Stay at hospice, night shelters etc. 51% 51%
Stay with friends and family 8% 21%
Sleeping rough 8% 10%
Hepatitis C 85% 85%
Abscess infection 19% 33%

Most of the respondents were polydrug users. More than 80 percent used heroin, and all but two injected it. Among those who used other substances but heroin, 42 percent of them injected.

Even though it was not part of the questionnaire, the drug addicts told us about having low self-esteem, feeling excluded not having any meaning in life, not having a dignified life.

Eleven persons, or 6 percent of the addicts had not eaten anything the past 24 hours. In the other end of the scale 6 percent had had more than 8 eating events. The male addicts had on average 2.6 eating events (SD 1.4), while women had 2.7 (SD 1.6) meals. Males had dinner more often than females, who had more snack meals. 3 Those who had abscess infections at the time of sampling had eaten fewer meals. 30 percent of the meals were eaten during the night because night-time activities may make the drug addicts sleep at day time.

People not abusing drugs tend to eat 3-4 regular meals daily additional to one to two snack meals. We found a positive association between meal number and body mass index among the addicts. More meals probably mean gaining weight.
Daily energy intake varied from 0 to 7000 kcals and 0 to 8800 kcal for women and men respectively with mean intakes corresponding to 1600 kcal (SD 1260) for the women and 2200 kcal (SD 1330) for the men. This irregular tendency is not particular for Norway, and has been stated in other studies of drug addicts. Sandwiches and snacks accounted for as much as 60% of the energy intake. Energy intake was positively correlated with age, male gender, days institutionalized and number of eating events.

Heroin use tend to increase craving for sugar. Added sugar provided 30 percent (SD 23) of the energy intake with a maximum amount of 850 gram, some 40 energy percent for the women and about 28 energy percent for the men. The recommendation is max 10 energy percent, or about 50 grams a day.

We found that the food they bought themselves had a higher sugar content than the food they received from charitable sources, friends and family.

Sugar stimulates the endogenous production of endorphins, which declines during regular drug use. This may explain the high preference for sugar and sweet foods in this population. Besides it initially boosts the energy support. Glucose also stimulate the brain rewarding circuitry similarly to opiate. Thus, high sugar intake probably can add burden to the addiction and simultaneously decline the activity in the inhibition center in the prefrontal cortex, normally balancing intake from exaggeration. The high sugar intake was stated from blood analyses. It may be speculated that high intakes of sugar may provide addiction, and a reduction in intake of sugar will improve the nutritional value of the diet, and probably reduce the craving for drugs.

Almost 65 percent of our respondents experienced limited access to food. They also reported that they could have eaten more if the food had been served when and where it could be easier for them to eat when they had the opportunity. Six percent had not eaten anything the past 24 hours, and this was the same for both genders.

The food they got from providers generally had a higher nutrient quality than what they bought themselves. 68% stated that they bought most of the food themselves, while 32% named family/friends and charitable organizations as providers of most of the food. Eleven percent also admitted thefts from grocery stores, and 4% had collected food from garbage bins. Which means than the drug addicts cannot take the responsibility for their own diet. They will need assistance or food aid.

Smoking hashish, receiving disability pension, recently participating in treatment or rehabilitation programs and staying with family and friends, were positive factors for food accessibility. However, regular use of heroin and Rohypnol, drug injection, dealing drugs as a source of income and staying in hospices/night-homes in the past month probably had a negative impact on access to food. Most of these findings are supported by international studies of drug addicts. And according to Johansen et al (2012) drug addicts could also benefit from skills development, which can give them a more life-sustainable identity. Improving cooking skills would probably increase access to food, and can also provide a practical repertoire of recipes. Preparing tasty food that can be enjoyed by others may help a drug addict to make acquaintances for reasons other than dealing drugs, thus potentially improving his or her social life, another important motivational factor in recovering from drug addiction.
Drug addicts probably could benefit from more accessible food, and at least one or two more meals of healthy food per day. Individual adapted dietary supplements are recommended.

“There is an unique potential in recovering a dignified self-perception through the diet and the implicated caretaking. The ideal of a caretaking relation is that the caregiver meets the care receiver in a not degrading and not repressive way, thus giving confirmation through caregiving that intentionally will lead to self-care and empowerment” (Anne Smehaugen, 2002).