

Heroin Addiction and Related Clinical Problems



Periodico trimestrale - Sped. in Abb. Post. - D.L. 353/2003 conv. in L. 27/02/2004 n° 46 art. 1, comma 1, DCB PISA - Aut. tirb. di Pisa n.5 del 9-3-2000

the official journal of



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Heroin Addict Relat Clin Probl 2011; 13(1): 11-14

HEROIN ADDICTION &
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Housing and employment situation, body mass index and dietary habits of heroin addicts in methadone maintenance treatment

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Summary

Forty-nine heroin addicts in methadone maintenance treatment were evaluated with the aim of studying the anthropometric, nutritional and sociodemographic characteristics of these individuals. The BMI of heroin addicts who live with their spouse/partner is significantly higher compared with other housing situations. Most of the heroin addicts evaluated do not consume the minimum servings of fruits, vegetables and grains recommended by the food pyramid, and their consumption of sweets is high. This study reinforced the need for intervention programmes specifically designed to correct the poor nutritional status and diet of drug users, while considering this to be a major public health issue.

Key Words: Heroin addicts; sociodemographic characteristics; nutritional assessment

1. Introduction

Investigations on the interaction between dietary habits and the nutritional status of heroin addicts in methadone maintenance treatment appears to be an important field of research in dietetics, as the drug addicts are a risk group for undernutrition, and little is known about diet and nutrition in this population (1,2).

Previous studies have shown a correlation between drug addiction, education and income levels and body mass index; the lower the educational and income levels, the lower the body mass index (BMI) turned out to be (3,4,9).

Many studies have found that drug abusers have nutritional deficits, including weight loss and changes in dietary patterns. Drug use in itself affects nutritional status for several reasons. A drug may not directly affect energy intake, but it is still likely to affect the frequency and nutritional quality of meals (5,6,10,12).

The aim of this research was to study the anthropometric, nutritional and sociodemographic characteristics of heroin addicts in methadone maintenance treatment.

2. Methods

2.1 Subjects

A cross-sectional study on 49 heroin addicts in methadone maintenance treatment was carried out in the Centre for Integrated Responses (CRI), Braganza, North-East Portugal. Patients who had associated diseases were excluded.

2.2 Data collection

The sample received a previously tested questionnaire consisting of three parts; the first two were answered by the patient, while the third was the documentary result of an interview with him/her. Dietary habits were assessed using a food frequency questionnaire. Anthropometric evaluation was performed by measuring patients' weight and height. Weight was measured with the body analyzer Tanita BC-418 ®. The subjects were weighed without shoes and with light clothes; the figure obtained was accurate to the nearest 0.1 g. Those measured had to keep their feet together, with their heels against the holder of the measuring device, standing upright,

without bending or stretching, and looking straight ahead, without raising or lowering their head. The Frankfurt plane running between the upper end of the ear and the outer corner of the eye had to be kept exactly parallel to the ground. The interviews on dietary habits, designed to facilitate anthropometric evaluations, were conducted by trained dietitians.

2.3 Statistical analysis

All the statistical analysis were carried out using SPSS 17.0 for Windows. The data collected were analyzed using descriptive statistics (means, standard deviations), while the relationships between variables were assessed using non-parametric statistics (the Student t and Mann-Whitney tests). Statistical significance was considered for p values <0.05.

2.4 Ethical issues

This study has preserved the anonymity of participants and the confidentiality of all the data collected, which are used only for research purposes.

All the participants in this study were adequately informed about its objectives and purposes, and only after due permission had been given by them were they included in the study, in accordance with the Declaration of Helsinki.

3. Results

Table 1 presents the social, anthropometric, nutritional and dietary characteristics of the sample (n = 49). Of the 49 participants, 87.8% were male and 12.2% female, with a mean age of 35.39 ±

8.36 years. The mean body mass index was 22.48 ± 3.47 kg/m².

The index proved to be significantly higher in heroin addicts who live with a spouse (n = 11; 25.03 ± 3.93 kg/m²), compared to other housing situations (n = 38, 21.74 ± 2.99) (p = 0.005), while the energy consumed (kcal) shows no significant differences between the two groups.

All heroin addicts reported having lost weight since the onset of drug use and 71.4% now have a normal weight, with 10.2% underweight.

Total energy consumed averaged 2,324.98 ± 1,021.40 Kcal/day. Those who were unemployed consumed more fat relative to total energy (p = 0.044) and lower amounts of carbohydrates relative to total energy, compared with other work situations.

On eating habits, among all groups, unemployed drug users are those who had the fewest meals per day (2.27 ± 0.94 meals; p = 0.008). All the groups investigated failed to comply with the recommendations on minimum daily consumption of fruit (2 servings), vegetables (3 servings) and grains (6 servings), on the basis of the recommendations of the food pyramid RB. The average daily consumption of sweets was 5.63 ± 2.16 servings per day.

4. Discussion and Conclusion

This study suggests that there is indeed a relationship between the nutritional status and food consumption profile of heroin addicts in methadone maintenance treatment, and sociodemographic factors such as employment and housing situation.

The fact that BMI was significantly higher in heroin addicts living with a spouse may be attributable to the presence of a caretaker figure who instills sensible eating habits and prepares meals. The presence of another person seems to be a factor influencing an

Table 1. Social, anthropometric, nutritional and dietary characteristics of the sample

	Housing Situation			Employment Situation	
	Total N=40	Spouse/Partner N=11	Others N=38	Unemployed N=22	Others N=27
Gender (%)					
Male	87.8	63.6**	94.7**	86.4	88.9
Female	12.2	36.4**	5.3**	13.6	11.1
Age (years)	35.39±8.3	34.18±7.1	35.74±2.9	38.50±7.2*	32.85±8.4*
BMI (Kg/m ²)	22.48±3.4	23.03±3.9*	21.74±2.9*	22.35±2.9	22.59±3.8
Underweight (%)	10.2	9.1	10.5	9.1	11.1
Normal weight (%)	71.4	54.5	76.3	77.3	66.7
Overweight (%)	16.3	27.3	13.2	13.6	18.5
Obesity (%)	2.0	9.1	0.0	0.0	3.7
Qualifications (%)					
1 st cycle	18.4	63.6	5.3	22.7	14.8
2 nd cycle	26.5	18.2	28.9	36.4	18.5
3 rd cycle	30.6	18.2	34.2	22.7	37.0
Secondary education	20.4	0.0	26.3	18.2	22.2
Bachelor	2.0	0.0	2.6	0.0	3.7
Graduation	2.0	0.0	2.6	0.0	3.7

*p<0.05 **p<0.01

Table 1. Social, anthropometric, nutritional and dietary characteristics of the sample

	Housing Situation			Employment Situation	
	Total N=40	Spouse/Partner N=11	Others N=38	Unemployed N=22	Others N=27
Weight loss (%) (yes)	100	100	100	100	100
Weight loss (kg)	8.38±6.6	9.45±7.6	8.04±6.3	7.6±4.7	9.04±7.9
Number of meals daily	2.78±1.1	2.87±1.4	2.76±1.0	2.27±0.9*	3.19±1.1*
Energy (kcal)	2324±98±1021.4	1909.06±582.6	2445.36±1093.3	2301.77±1219.8	2342.84±850.4
Protein (gr)	94.56±32.9	80.98±23.8	98.49±34.4	97.79±38.7*	91.93±27.9*
Protein (%)	16.76±3.1	17.15±2.6	16.64±3.3	17.64±3.3	16.04±2.9
HBP (gr)	69.49±23.8	59.30±18.8	68.58±24.9	69.98±28.1	63.65±19.7
LBP (gr)	25.98±12.6	21.48±5.7	27.29±13.8	24.02±9.2	27.52±14.8
Carbohydrates (gr)	265.25±111.9	229.82±85.1	275.51±117.1	243.76±104.9	282.76±115.6
Carbohydrates (g±sd)	45.73±5.8	47.48±3.6	45.23±6.2	43.27±6.8*	47.73±3.9*
Simple	107.74±52.8	97.37±53.2	110.75±53.0	90.91±46.3*	121.46±54.6*
Complex	142.53±62.1	120.00±33.7	149.06±67.18	134.21±55.4	149.32±67.4
Fat (gr)	77.50±37.4	63.13±21.2	81.95±40.0	82.41±49.0	73.50±24.7
Fat (gr)	30.38±5.89	29.40±4.78	30.54±6.2	32.27±7.29*	23.55±3.8*
Saturated	24.40±8.92	21.28±8.2	25.31±9.0	24.23±9.7	24.54±8.4
Unsaturated	37.87±14.1	31.95±9.3	39.61±14.9	38.88±14.5	37.09±14.0
Fiber (gr)	18.01±8.3	15.87±6.0	18.64±8.8	16.19±6.0	19.50±9.7
Iron (mgr)	13.49±5.2	11.52±3.4	14.04±5.57	12.87±5.33	14.00±5.2
Calcium (mgr)	966.85±485.7	815.43±353.4	1010.39±513.4	926.34±635.28	999.86±327.2
Alcohol (gr)	20.37±25.4	13.78 15.9	22.28±28.6	17.24±20.2	22.93±30.7
Alcohol (% kcal total)	6.07±5.5	5.53±2.2	6.23±6.8	5.54±6.9	6.51±6.5
Energy without alcohol (kcal)	2182.35±959.2	1812.59±507.3	2289.39±1020.6	2181.08±117.2	2183.39±768.5

*p<0.05 **p<0.01

addict's nutritional status, not only because the addict has someone who prepares meals, but the fact of being together itself helps to provide motivation to prepare meals.

The other housing situations (living alone or with parents) show a lower BMI. The average age of respondents is 35.74 years, which suggests that even those who live with their parents have no adult to monitor or take responsibility for meals, since their parents have ages of around 60 years. Usually parents of advanced age experience greater difficulty in performing household chores, including cooking meals; this factor leads to a lower intake by their children.

A normal BMI (71.4%) was recorded for most members of the sample; this result is in agreement with the study by Zador *et al* (12), which gave identical results, and the fact that they are individuals in methadone maintenance treatment leads to an improvement in the general state of health, including nutritional status (8).

Unemployed heroin addicts consume a higher percentage of fat, possibly due to their greater intake of snacks, which have a high concentration of fat and energy, in cafes offering easy access and low prices. Compared with the other groups, participants in this group have fewer meals per day (2.27 ± 0.94/day), which is in agreement with the lower BMI observed in these individuals, which might be accounted for by their limited economic resources.

Failure to comply with the minimum daily intake of servings of fruit, vegetables and grains may be due to the fact that heroin addicts worry mainly about satiety when they have feelings of

scorn about their next meal. These results are supported by a study performed by Smit *et al* (11), which identified low intakes of fruits and vegetables in drug users.

The high consumption of sweets (5.63 ± 2.16 servings/day) may be due to the fact that heroin addicts in methadone maintenance treatment are susceptible to a craving for sweets, as noted in the study performed by Nolan *et al* (7).

These findings agree with the study by Santolaria-Fernández *et al.* (10), which concluded that social and family aspects affect food consumption when they produce an irregular lifestyle and loss of interest in meals.

Sociodemographic conditions must be taken into consideration in the process of intervention with this population. More studies must be performed in order to clarify other nutritional and food behaviour variables in drug user populations.

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	Housing Situation			Employment Situation	
	Total N=40	Spouse/Partner N=11	Others N=38	Unemployed N=22	Others N=27
Grains (% portion/day)					
<6	93.6	100.0	92.1	95.5	92.6
6-11	6.1	-	7.9	4.5	7.4
Milk (% portion/day)					
<2	34.7	27.3	36.8	54.5**	18.5**
2-3	14.3	18.2	28.9	13.6	14.8
>3	51.0	54.5	2.6	31.8	66.7
Vegetable (% portion/day)					
<3	98	100	97.4	100	96.3
3-5	2	-	2.6	-	3.7
Fruits (% portion/day)					
<2	69.4	72.7	68.4	77.3	53.0
2-4	28.6	27.3	28.9	22.7	33.3
>4	2.0	-	2.6	-	3.7
Meat and Beans (% portion/day)					
<2	38.8	54.5	34.2	36.4	40.7
2-3	32.7	36.4	31.6	27.3	37.2
>3	28.6	9.1	34.2	36.4	22.2
Sweets (% portion/day)	5.63±2.1	5.28±2.1	5.73±2.1	5.53±2.6	5.72±1.7

*p<0.05 **p<0.01

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Role of funding source

This study was supported by internal funds.

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The authors contributed equally to this work.

Conflict of interest

The authors have no relevant conflict of interest to report in relation to the present study.

Received August 9, 2010 - Accepted December 20, 2010