Dyspepsia Among Young Conscripts: Correlations with Psychoemotional State and Eating Habits

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SUMMARY: The prevalence of dyspepsia was evaluated in 83 young conscripted soldiers: 38 of them were normally resident in the town where the barracks was sited (Genoa) while 45 came from different districts.

Dyspepsia was observed in 49.4% of total cases, and there were significant differences in the incidence between the two groups. In 40 out of 41 cases, dyspepsia was of the functional type.

Psychoneurotic reactions were found in 69.8% of total cases and these reactions were closely correlated with the occurrence of dyspepsia both in soldiers who were local residents and those who were not. Dyspepsia could not however be correlated with eating habits, or with the consumption of alcohol, coffee or tobacco.

Introduction

The frequency of functional dyspepsia among the young population is not well known^{1,2} but dyspepsia does seem to be very common among young conscripts³.

The aim of this research is to assess the frequency of dyspepsia among a population of conscripted soldiers and correlate these data with the eating and smoking habits, with alcohol and coffee intake and with the psychoemotional state. The study has been done on subjects normally living in the same town (Genoa) where the barracks was located and on subjects coming from other towns.

Materials and Methods

Eighty-three subjects, from 19 to 27 years old, were examined: 38 were resident (RE) and 45 were not resident (NRE) in Genoa.

They had all been conscripted for between two and five months. They all belonged to the same barracks and were all symptomless at the time of conscription.

The subjects, in the barracks, were fed a standard balanced diet of 3000 KCal/day, made up of carbohydrate (2100 kCal), protein (400 KCal) and lipid (500 KCal).

After noting personal and anthropometrical data (weight, height, arm girth and triceps skinfold), the soldiers were interviewed using a questionnaire to evaluate:

(1) The psychoemotional state related to lifestyle before conscription, through questions specifically designed to discover psychoneurotic reactions (eg anxiety depression), adapted from the Minnesota Multiphasic Personality Inventory.

(2) The frequency of meals taken in barracks. Lunch and dinner only were considered. Thus 14 meals per week taken in barracks was the maximum possible.

(3) The frequency and places where the meals were consumed out of the barracks (eg home, restaurants, snacks).

(4) The number of cigarettes smoked/day, grammes of alcohol consumed/day, and cups of coffee taken/day.

(5) The presence of dyspepsia, distinguishing between

epigastric pain, abdominal distension, nausea, vomiting, flatulence, eructation and pyrosis (heartburn). In the patients complaining of dyspepsia, X-ray and sonography of the upper GI tract were performed.

The statistical evaluation of the obtained data was done by means of the X^2 method.

Results

Dyspepsia was observed in 41 out of 83 subjects studied (49.9%): symptoms appeared in 60.5% (23 out of 38) of the RE and in 39.5% (18 out of 45) of the NRE ($P < 0.07$) (Table 1). Among the RE, abdominal distension was found in 69.6%, epigastric pain in 13.1%, pyrosis (heartburn) in 21.7%, nausea in 13.1%

Table 1
Dyspepsia and Psychoemotional Reactions Among Resident and Non Resident Conscripts

	Cases	Dyspeptics	Anxious
Resident (RE)	38	23	24
Non Resident (NRE)	45	18	34
Total	83	41	58

vomiting in 4.3%, flatulence in 10%, and eructation in 5%: among the NRE abdominal distension was present in 66.6%, pyrosis in 22.2%, nausea in 33.3%, vomiting in 11.1%, flatulence in 22.2% and eructation in 11.1% of cases.

X-ray study of the upper digestive tract demonstrated the presence of a lesion in only one of the dyspeptic subjects, a 26 year old NRE with duodenal ulcer.

Psychoneurotic reactions have appeared during the military service in 58 out of 83 cases (69.8%), of which 24 were RE, and 34 were NRE ($P < 0.7$). (Table 1).

Fig 1. Correlation between dyspepsia and number of meals inside the barracks per week.

Fig 2. Correlation between psychoneurotic reaction and dyspepsia.

Concerning the other habits considered 25 out of 41 (60.9%) of the dyspeptic patients usually drink at least 20 gr of alcohol per day, while 22 out of 42 (52.3%) of patients without dyspepsia also drink at least 20 gr of alcohol per day.

63.4% (26 out of 41) of the dyspeptics and 61.9% (28 out of 42) of the non dyspeptics drink more than a cup of coffee a day. Fourteen dyspeptics are non-smokers, nine smoke less than 10 per day, nine from 10 to 20 per day and nine more than 20 per day. Among the non dyspeptic patients 21 are non smokers, eight smoke less than 10 cigarettes per day, four between 10 to 20 per day, and nine more than 20 per day.

As far as these habits are concerned, there are no significant differences between the RE and NRE.

50.6% of the examined subjects exhibited weight decrease (3.5 ± 2.2 kg) after conscription; no significant weight variation (less than 1 kg) was observed in 43.2% of the subjects, and 7.2% showed an increase in weight (2.7 ± 1.2 kg).

The subjects were subdivided into those who took their meals mainly in the barracks, and those who took their meals mainly outside. 26 out of 38 RE (68.4%) took more than seven meals per week outside, while 22.2% of the NRE (10 out of 45 cases) had their meals mainly outside. The RE consumed most of their external meals at home (23 out of 26) while the NRE took their "external meals" as occasional snacks (16 out of 10 cases) (Figure 1).

Discussion

The analysis of the collected data shows that dyspepsia is common among the conscripted soldiers; in fact, dyspeptic symptoms appeared in 49.4% out of the 83 studied cases after a period of time ranging from two to five months of military service (Table 1). The X-ray examination of the upper digestive tract of the symptomatic subjects suggests that this is predominantly "functional dyspepsia" (40 out of 41 cases). Only one case of duodenal ulcer was found on X-ray.

The comparison between the dyspeptic subjects who were usually resident in the same town (60.6% of cases) where they were serving in the army, with the others who were not (39.4% of the cases) shows a slight preponderance in the former group, although it was not significant from the statistical point of view ($P < 0.07$).

The evaluation of the psychoemotional state revealed a high prevalence of psychoneurotic reactions in the population studied (69.8%), with no significant differences between RE (63.1%) and NRE (75.5%) ($P < 0.7$). However, anxiety was more frequent among RE, while depression was found mostly among NRE.

These data agree with other observations^{4,5} which stress the conflict experienced by young reluctant conscripts, mostly due to the authoritarianism and other stresses of military life such as being unable to pursue one's normal career and interests.

Furthermore, the military environment, the boredom and interpersonal conflicts between individuals of differing age and cultural background inside and outside the barracks, reinforce these psychological reactions^{6,7,8}.

The correlation between anxiety and dyspepsia was particularly high; 37 out of 58 anxious soldiers were dyspeptics, while only 2 (all residents) out of 22 non-anxious ones were dyspeptics ($P < 0.005$), (Figure 2). This confirms previous studies in which the relation between psychoneurotic reactions and functional dyspepsia was observed⁹.

Conversely changes in eating habits, typical of conscripted life, did not have much effect on the incidence of dyspeptic symptoms. In fact, dyspepsia was present to a similar degree in subjects who had their meals mainly inside the barracks, and subjects who had them mainly outside.

These findings underline the relationship between psychoreactive status and dyspepsia in young conscripts. Changes in eating habits seem to play a less important role. Additionally, no positive correlation between dyspepsia and use of coffee, cigarettes or alcoholic drinks was demonstrated.

In conclusion, functional dyspepsia is very common among young conscripted soldiers. The symptoms are present to a similar degree in those living close to their homes, or far from their homes. Dyspepsia is closely related to common anxiety/depressive states, but is not related to eating habits, nor the use of cigarettes, alcohol and coffee.

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