

## UPDATE ON EATING DISORDERS: EPIDEMIOLOGY, MORTALITY AND COMORBIDITY

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### SUMMARY

In recent years there have been, in clinical practice an increased influx of services dedicated to eating disorders (DCA). This article provides An examination of some epidemiological aspects aimed at assessing a possible increase in the incidence and prevalence of these syndromes, together with an analysis of the mortality and comorbidities of DCA. The literature search covered the period 2006-2011. The selected articles were evaluated to establish the correct approach using the checklist proposed by the NICE Guideline Manual.

Some recent publications among those examined hypothesize (common impression) a possible increase in eating disorders (especially BN and BED) in the last two decades.

**Key words:** eating disorder - anorexia nervosa - bulimia nervosa - binge eating disorder - epidemiology

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### INTRODUCTION

In recent years there have been, in clinical practice an increased influx of services dedicated to eating disorders (DCA). This article provides An examination of some epidemiological aspects aimed at assessing a possible increase in the incidence and prevalence of these syndromes, together with an analysis of the mortality and comorbidities of DCA.

The reported data were obtained from the work done at the 'Health National Institute' which in 2012 launched a Consensus Conference on DCA.

### METODOLOGY

For the selection of the articles a literature review has been conducted by querying the following databases: Cochrane Library, Embase, PsycINFO, PubMed, and have used the following key words: Eating disorder, anorexia nervosa, bulimia nervosa, binge-eating disorder and EDNEOS.

The literature search covered the period 2006-2011. The selected articles were evaluated on the correct approach through the checklist proposed by the NICE Guideline Manual and were as follows: Amstar for Systematic Reviews, SCALE Jadad for RCTs, NEWCASTLE-OTTAWA SCALE for cohort studies to case-control, STROBE for descriptive studies.

36 heterogeneous studies were selected and only 15 were included in the review (5 Review, 1 Cohort, 4 Longitudinal, 4 transversal, 1 descriptive)

### RESULTS

The values for the prevalence in the life of AN range from 0.3% to 2.2% (0 to 0.3% for males), with a

peak around 4% in the case of studies that "widened" the diagnostic criteria over the DSM IV TR with different types of disorders often referred to as sub-threshold (Swanson et al. 2011, Hudson et al. 2007, Keski 2007).

The same holds for the BN, with prevalence values in life ranging between 1.3 and 2.2 in almost all studies (Swanson et al. 2011, Hudson et al. 2007). For what concerns the BED should be noted that the prevalence data reported by individual jobs are less numerous than the AN and BN, and oscillate between 2.3 and 4.2% (Swanson 2011, Hudson 2007).

Compared to the incidence of eating disorders, showed the following figures have been revealed related only to the NA 270/100000 in women (Keski 2007) and 15.7/100,000 in men (Reavouri 2009).

It should be emphasized that most of the studies examined to assess the prevalence and incidence have been conducted on the population of young adults and / or teenagers aged between 15 and 30 years. Even the geographical area of study is quite characteristic, in fact, selected works make reference to studies conducted in northern Europe (England, Finland and Sweden), Japan, Turkey and USA. Despite the difference in their geographic and socio-cultural context the values of prevalence and incidence of the disease are not very different from each other.

The second aspect that emerges from the studies selected regards mortality in patients with AN. Here, too, the few studies selected show data coherent with each other, in fact, they show an SMR (standardized mortality ratio) equal to a mortality risk of 6-10 times higher for patients with AN than the general population. Risk increases to about 20-40 (Arcelus, 2011) times if death occurs by suicide and if the BMI is <11.5 (Rosling 2011).

Compared to the problems inherent to the coexistence of clinical psychiatric conditions in the presence of an eating disorder, the most comprehensive data (Vardar 2011) show that 44% of the cases affected by DCA present comorbidity, whereas in the controls it is only present in 15% of cases.

Among the syndromes most commonly associated with BN and BED, in the reported studies, there are Major Depression (40-50% for both) and Anxiety Disorders (60-70% for both) (Swanson 2011, Swinbourne 2007, Crow 2009).

It has been possible to find some international data regarding access to treatment for patients with DCA in the articles concerning the first question. In this regard, the data show that adolescents with BN frequently receive treatments of short duration (Swanson 2011) focused primarily on behavioral and emotional problems associated with (Preti 2009), and not directly aimed to combat the eating disorder. In fact, only 27.5% of patients with AN, BN 21.5% and 11.4% of BED receive, over their lifetime, a specific treatment for eating disorders and weight. Instead, about 60-70% of cases (Swanson 2011) receive support services and non-specific care provided, among other things, in a non-specific setting, for example in schools, personal services or in the setting of general medicine.

## DISCUSSION

Selected studies have appeared in limited numbers and with methodological characteristics that merit reflection. The few systematic reviews selected emphasize the smallness of the work done in the field of epidemiology on the DCA even though, in the last five years, the studies mentioned above were conducted with greater frequency. Such research, however, suffers from some methodological deficiencies, such as small sample size and short follow-up times.

It should also be pointed out that many of the selected studies are affected by the classic cohort effect, i.e. the increase in prevalence rates when certain age groups, in this case the younger ones, are observed. It is therefore clear that these studies, conducted at certain times and for specific age ranges, can lead to growing rates of prevalence. Going back to methodological issues, it is clear that most of the studies regarding the prevalence and incidence of eating disorders have a small sample, (in fact, confidence intervals are often wide); many more samples were considered only in studies based on registers. In addition, the cohorts and the groups were evaluated by means which were not always comparable and standardized (with high accuracy and reproducibility).

For example, the incidence of anorexia in one of the selected studies (Keski 2007) has appeared twice as much as the data available in the literature, such as in populations of young women twins in Finland, where the incidence is 270/100,000. The authors of this study

emphasize some possible causes of this increase in incidence: the underestimation of the diagnosis in previous studies, the presence of a higher incidence of disease in the specific country where the study was conducted, the sample examined (young women twins), and finally the effect cohort.

Further, the heterogeneity of the data is often attributable not only to the mode of selection of the population studied, but also to the inclusion criteria adopted. In many studies, in fact, there were also enrolled patients who had clinical features defined as subthreshold. This definition turns out to be highly discretionary and not standardized, as opposed to the traditional criteria of the DSM IV TR used to define a universally recognized individual with DCA.

Even the age groups, relative to the populations studied, are not very large and frequently include adolescents and young adults (ages where there is a peak incidence of AN and BN and DANAS).

Compared with the data on mortality, some studies have selected cases by identifying hospitalized patients, obviously the more severe. Moreover, even for these studies, too heterogeneous diagnostic criteria have been used for the selection of the sample. These studies are lacking of stratifications in respect to the duration disease and to the untreated disease period, parameters which are important in the assessment of outcome in psychiatry.

In fact, the variability of the data of the SMR from 1.7 to 6.2 (Crow 2009, Papadopoulos 2009), could be due to methodological deficiencies in the study design, such as the heterogeneity of inclusion criteria, the difference of the populations studied (general population or population of patients hospitalized and for that the most serious), the diversity of the sample size, the heterogeneity of the follow-up time and the treatments offered, and the problems relating to cross-over diagnostic (Arcelus 2011). Among the diseases recognized as DCA, the one that showed greater variability in the data related to the crude mortality rate is the NA 0.3% - 4% (Keski 2007, Crow 2009).

For what concerns the course of the disorder other deficiencies have been found. The amount of data is significantly reduced, with valuations, in the case of AN, of the only parameter of the BMI and nothing else, thereby neglecting other psychopathology dimensions and / or social-work functioning.

Finally, the studies that have dealt with the issue of the presence of co-morbidity, in addition to the limits stated above for other areas of interest, also the problem of heterogeneity of the diagnostic tools used to identify other psychiatric disorders present in patients with DCA.

## CONCLUSIONS

Some recent publications among those examined hypothesize (common impression) a possible increase in

eating disorders (especially BN and BED) in the last two decades.

The prevalence data for AN, expressed by some studies dated about a decade ago (Fairbunr 2003, Favaro 2003), for example, reported values of around 0.3-0.7%, in contrast to the prevalence rate reported in particular by one study we have selected which is around 2.2% (Keski 2007). The increase in prevalence appears even more marked for what concerns the DAI and the DANAS with rates respectively that roam between 2.3-4.2% (Swanson 2011, Hudson 2007) and 2.4% (Vardar 2011) compared with previous data also Italian (Favaro 2003).

However, this increase should be confirmed by sufficient evidence in particular with prospective incidence studies. The studies examined go all back to the last 5 years, in fact, they do not allow an analysis of temporal trend, both for the narrowness of the study and for the limited period of time. A meta-analysis (Appendix 1) carried out for the three diagnostic categories (AN, BN, DAI) where they are listed in the raw data obtained from the studies confirmed the difficulty in assessing the trends over time of epidemiological indices.

It would be only right, in addition, to exclude the increase or reduction of prevalence in cross-sectional studies as a result of several factors: differences in the procedures for diagnostic assessment, differences in systems of classifications adopted, recall bias, and ultimately increase over time in the use of the services and care or other services attraitabilità (regarding clinical samples).

However, the epidemiological studies analyzed here, put the DCA in very close relationship with the socio-cultural contexts in which the populations affected reside. The binding of DCA with the socio-anthropological determinants suggests that these diseases can be considered as Culture-bound syndromes, that is strongly linked to the environments in which they develop. This consideration, in a sociological context which is very changeable like the present, makes it necessary to assess, with a certain frequency, the epidemiological data, with the aim of understanding how expression varies in populations with these diseases.

In summary, it is not possible to evaluate the performance of epidemiological indices of eating disorders because of the few elements evicted from the analysis of past and recent literature.

What can be observed in the literature on eating disorders is related to a high risk of death, especially in the particular conditions of BMI and psychiatric comorbidity, and a low rate of use of services, mainly due to the demand of care on the basis of emotional symptoms and not of DCA.

In fact, although the data in the literature show that the DCA require an investment on prevention and care,

however, in some selected studies low and often nonspecific levels of access to care are found (Prete 2009, Arcelus 2011, Swanson 2011).

This endorses the hypothesis that patients with eating disorders tend to "escape" from the system of care, or they get to it for "other" problems (emotional, relational, etc.) related to the clinical presentation of these diseases.

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