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Health care analysis of eating disorders in Valladolid

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One of the aims of epidemiological research is to provide some information that makes it possible to adapt and structure health care services. There is an open debate on the need and/or adequacy of the specific units for care given to eating behavior disorders (EBD) and a proper health care model. One way to contribute some ideas in this debate is to make a critical analysis of the reality of the care given for eating behavior disorders, observing the activity of the different health care levels, in our case in the province of Valladolid. The existence of several epidemiological studies, coinciding in space and time, makes it possible to conclude that 23% of new cases treated in the Community are detected in primary health care, while the percentage of those seen by the child-adolescent psychiatry departments is reduced to 2.56%, 16% of which are referred from hospital admission. The regional proposal of promoting a reference hospital admission unit for eating behavior disorders for all of the region of Castilla y Leon is considered ineffective according to this reality, the creation of specific functional units being proposed.

Key words:
Eating behavior disorder. Anorexia nervosa. Epidemiology. Health care planning.

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Análisis asistencial en los trastornos del comportamiento alimentario en Valladolid

Uno de los objetivos de la investigación epidemiológica es aportar unos datos que permitan adecuar y estructurar los servicios asistenciales. Existe un debate abierto sobre la necesidad y/o adecuación de las unidades específicas para la atención de los trastornos de la conducta alimentaria (TCA) y el modelo asistencial preciso. Una manera de aportar luz en este debate es realizar un análisis crítico de la realidad de la atención a los

TCA, observando la actividad de los diferentes niveles asistenciales sanitarios, en nuestro caso, en la provincia de Valladolid. La existencia de varios estudios epidemiológicos, coincidentes espaciotemporalmente, permite concluir que en atención primaria se detectan un 23% de los casos nuevos vistos en la comunidad, mientras que el porcentaje de los atendidos por los servicios psiquiátricos infantojuveniles se reduce al 2,56%, de los que un 16% se derivan para ingreso hospitalario. La propuesta regional de potenciar una unidad de ingreso hospitalario para los TCA, de referencia para toda Castilla y León, se considera un medio ineficaz y poco acorde con esta realidad, proponiéndose la creación de unidades funcionales específicas.

Palabras clave:
Trastorno de la conducta alimentaria. Anorexia nervosa. Epidemiología. Organización sanitaria.

INTRODUCTION

Mental health care problems have a high frequency in the population. However, the need for treatment of the mental patient is low¹, or, it could be said, the patterns of apparent and real health care demand do not seem to be balanced with the epidemiological rates of incidence and prevalence estimated in the general populations and in the different health care levels.

The Golberg and Huxley model (fig. 1) and the demand flow charts in mental health are references for the epidemiology of psychiatric diseases. A prevalence of mental diseases in the community of 25% to 35% is established in them. Only 22% come to a primary health care and only 10% of the total is detected in these mental disease services. Less than 4% of the patients are referred from primary health care to the mental health services and 0.5% require admission to general or specific hospitalization Units².

In relationship to the studies conducted in EBD subjects, those done by Hoek et al.^{3,4}, in Holland show the existence of different and less important biases for anorexia nervosa (AN) than for bulimia nervosa (BN) in the detection of these

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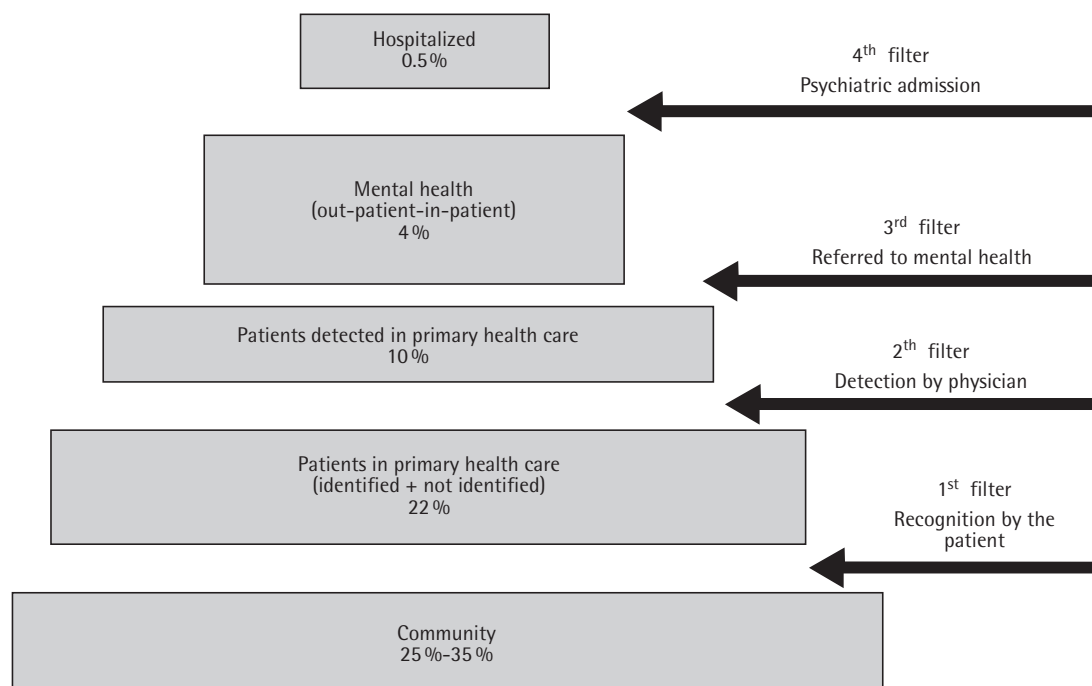


Figure 1 Golberg and Huxley model on mental health care demand pattern flow charts.

disorders. In AN as well as in BN there is lack of awareness of disease, however, in BN, masking behaviors of binges, due to feelings of guilt and shame, and the absence of external visible signs, such as weight loss in AN, make it difficult to detect it, reducing attention given in the mental health services from 34% to 6% of the cases (table 1). In a previous publication, this author, Hoek⁵, also established differences in the care patterns in regards to other mental diseases. Thus, 35% of the patients with AN receive treatment versus only 10% of those who have neurotic depression and 2% of psychotics. However, when admissions are studied, 45% of the psychotic patients have been admitted on one or more occasions versus 22% of those who suffer neurotic depression and 20% of patients with AN.

In two different studies on the prevalence of eating disorders on care patterns, both Cullberg and Nakamura K et

al. concluded that only 16% of all the cases detected in the community are finally seen in primary health care and/or social services.

In their study, Dakamura K, et al.⁷ justify the low demand due to the lack of need for assistance by the patient him/herself as well as by the lack of knowledge or experience of the professional, the demands being masked in most of the cases, and the most frequent demand is for physical or somatic problems (constipation, hair loss, etc.). In addition to the low detection, this study shows that not all the subjects are referred to the mental health services and that 63.7% of the cases detected are referred to psychiatry and the rest to other services (internal medicine, 20.0%; pediatrics, 10%; gynecology, 5%, in others, 1.3%). In the Pagsberg and Wang study made in Denmark using the system of registry of psychiatric cases performed in all the health care system, it was found that less than half of the cases were detected in this registry.

However, as has already been mentioned, not all the authors defend this low detection and care for EBD. Thus, when Whitaker et al. compared the detection of EBD with other psychiatric diagnoses, they indicated that the use of the services in AN is high, and that it can reach 83.3% while for BN, it is reduced to 27.8%, this being 35.1% in other psychiatric diagnoses.

Based on this reality, the regional strategy of mental health and psychiatric care in Castilla y Leon 2003 justifies the promoting of a reference hospital unit in the city of Burgos

Table 1	Prevalence per 100,000 adolescents of AN and BN in the different care levels			
	AN	% of community	BN	% of community
Community	370		1.500	
Primary health care	160	43	170	11
Mental health	127	34	87	6

and justifies this option based on the data from the epidemiological studies conducted in the region.

The first objective of this study is to explain the results of a combination of the epidemiological studies on EBD, coincidental in space-time on three levels, adolescent population, primary and specialized care, and the second one is to make some health care proposals, considering the real limitations and insufficiencies of the network and psychiatric facilities.

The «special functional units» for treating eating behavior disorders are a complimentary and necessary answer that responds to the principle of community care but also to the necessary specificity needed to treat these disorders which, on the other hand, are an object of demand by the society.

The «functional» aspect is stressed in order to reject the idea of generating parallel networks of care according to the diseases but rather to integrate care for these disorders in a generic unit (hospitalization units, day hospital, mental health care centers and primary health care) of each health area. However «specificity» is also stressed because this health care network should be complemented with the creation of reference teams (psychiatrist, psychologist and/or nutritionist/endocrinologist) in the health care area, that can attend and/or orient the most complex cases in the patient setting when necessary, becoming a support resource to the generic services of psychiatric care, but also working in preventive aspects, especially on the school level and primary health care one.

METHODOLOGY

The data of several epidemiological studies in relationship with EBD conducted in the adolescent population, works that coincide over time, all of them done in the year 1999, and in the reference population, adolescents of Valladolid, but with different samples are presented. The samples were made up of students between 12 and 18 years from school sites and adolescents seen in: primary health care, outpatient services of child-adolescent psychiatry and psychiatric hospitalization, collecting all the health care levels in this way.

The use of private health care resources, which for certain diseases may entail an important referral bias, has not been considered in the study. However, at that time, no specific service was available to treat these disorders, although there was a self-help association. All the works have a different care setting, but represent data that can be extrapolated to adolescents from Valladolid between 12 and 18 years.

- In the first phase of a two-phase study in a student population of Imaz¹⁰ in adolescents from 12 to 18 years in the setting of the province of Valladolid, with

a sample of 3,434 adolescents with a participation of 91.3%, the subjects answered questionnaires on general health (Golberg 28) and EDI-2 of Gardner and their anthropometric measures were obtained. In a second phase, in a sample of 547 subjects with 84.1% participation, the semistructured SCID interview was applied and DSM-IV diagnostic criteria were used. The initial sample was selected using stratified random biphasic sampling (first level=school centers and second level=classroom). In the diagnostic confirmation sample, the second phase, the sample was randomly chosen based on risk level detected in the initial phase.

- The different publications of a study¹¹⁻¹³, with a regional setting in Castilla y Leon conducted in 1999 through a sentinel network of doctors, that grouped 167 primary health care physicians (27 pediatricians and 140 general practitioners) also collected the data on the mental health care centers for both child-adolescents and adults. They include an estimated population of 120,000 inhabitants that corresponds to 5% of the total population of the regional community. Although the age of the study population is more extensive, the conclusions regarding the adolescent population between 12 and 18 years are presented. It differentiates cases detected in 1999 from those that occurred in previous years.
- The last study, that has not been published, collects the data gathered from the hospitalization registry in the period ranging from 1991 to 2000 in the Hospital Clínico Universitario of Valladolid, the only reference hospital in the public health care network for psychiatric admissions of adolescence in the province of Valladolid.

The public care reality in the province of Valladolid, the setting in which the analysis is performed, does not have any special and/or specific service for treating EBD. In the province, there are two child-adolescent psychiatry units, one for each health care area (east and west of Valladolid), each one with a reference hospital, that divide the province, but there are no specific health care measures for the admission of adolescents with psychiatric diseases. Patients who require hospital admission are admitted to the pediatrics department or in the psychiatric hospitalization unit for adults of the Hospital Clínico Universitario, of the East area of Valladolid, which is also the reference center for children under 18 years of age of the West area of Valladolid. The recent creation of a psychiatric day hospital in this hospital did not contemplate treatment for EBD when this study was done.

RESULTS

The epidemiological data in the student population in adolescents between 12 and 18 years places the life prevalence values of EBD at 7.235% (standard error or SE:

0.0120; standard deviation or SD: 0.2593). Punctual prevalence of EBD in the community, in the adolescents has some global data: EBD: 3.851 % (SE: 0.0089; SD: 0.1794); AN: 0.558%; BN: 0.352%; non-specified eating behavior disorder or NSEBD: 2.831%; bingeing disorder: 0.110%. Annual incidence values are: EBD: 1.631 % (SE: 0.0059; SD: 0.1268); AN: 0.192%; BN: 0.095%; NSEBD: 1.328%. Incidence data in both genders, in this same work, for the year 1999 are found at 1.631 % (SE: 0.005; SD: 0.1268).

When differentiated by gender, the summarized prevalence data in males are: EBD: 1.705 % (SE: 0.0081; SD: 0.1297); AN: 0.114%; NSEBD: 1.590%, and in females: EBD: 6.429 % (SE: 0.0168; SE: 0.2459); AN: 1.092%; BN: 0.775%; NSEBD: 4.322%; bingeing disorder: 0.241 % (table 2).

In the study done by the Board of Castilla y Leon in the population that goes to the primary health care centers, a suspected EBD prevalence was established at 41.9 per 100,000 inhabitants (76 per 100,000 in women and 8.6 per 100,000 in men of all ages). A prevalence of EBD in general population was established at 0.05%, it being 0.1% in the female population and almost 0.5% in women between 15 and 30 years of age. In ages ranging from 15 to 19 years, estimated frequency of EBD in women was 640.2 per 100,000. A total of 58.2% of these corresponded to new cases (table 3).

In the data obtained in the mental health care, EBD incidence rate reached 37.8 per 100,000 inhabitants. A total of 25 new cases were detected in those under 18 years of age, accounting for 41.7 per 100,000 in the child-adolescent mental health care teams of Valladolid.

Finally, the registry data of cases from the Hospital Clínico Universitario of Valladolid are presented on the admission of adolescents between 17 and 18 years. Mean admissions are calculated from the year 1996 to 2000, to solve perverse effects that could occur in one year (fig. 2).

Table 2	EBD prevalence in 12-18 year old adolescents			
	EBD	AN	BN	NSEBD
Life prevalence				
Total	7.235	0.598	1.518	4.962
Point prevalence				
Total	3.851	0.558	0.352	2.831
Male	1.705	0.114	0.000	1.590
Female	6.429	1.092	0.775	4.322
Annual incidence				
Total	1.631	0.192	0.095	1.328

Table 3		EBD prevalence in primary health care
Age group		Rate per 100,000 women
From 5 to 14		39.4
From 15 to 19		640.2
From 20 to 29		178.8

The estimated population in the province of Valladolid between 12 and 18 years of age is 49,998. Based on this information and the estimated prevalence data for the different care levels, the following care profile is presented:

- In the community: EBD incidence is 1.63 %, so that the forecast for new cases with this diagnosis in the province would be 978 individuals.
- In primary health care: EBD prevalence is 640.2 per 100,000 (the highest value of those available is chosen: women between 15 and 19 years), 58.2 % of which, according to the study, correspond to new cases. Thus, 320 predictable cases would be detected, 186 of which would correspond to new cases.
- In child-adolescent psychiatry: EBD incidence is 37 per 100,000; 25 cases were detected in the two areas of the province of Valladolid.
- In psychiatric hospitalization: four admissions in hospitalization for all of Valladolid in the year 1999, which accounts for an incidence of 8 per 100,000.

CONCLUSIONS

The epidemiological studies in the community of the Spanish State¹⁴⁻¹⁹, place the prevalence data at values of approximately 4%-5% in adolescent girls, data mildly less than those reported in the Valladolid study that reaches 6.4% for the same age group and gender. This increase is justified by the methodology used since, on the contrary to the other investigations, it takes into account the false negatives whose importance is mentioned by doctor Rodríguez-Cano in a recent publication. However, in addition to this bias, there are others related to the group of subjects who did not participate in the first study phase and that also mask the presence of disease.

It is unquestionable that the community studies, with an adequate selection of population sample, are works that reflect reality the best. Thus, 100% of the cases are established in that data, this being the reference used. Only a percentage of them is detected by the health care services, a value that is reduced to 14%, oddly identical to the data supplied by Nakamura⁷ and Cullberg⁶ in their works. This percentage is clearly insufficient, given that only one out to

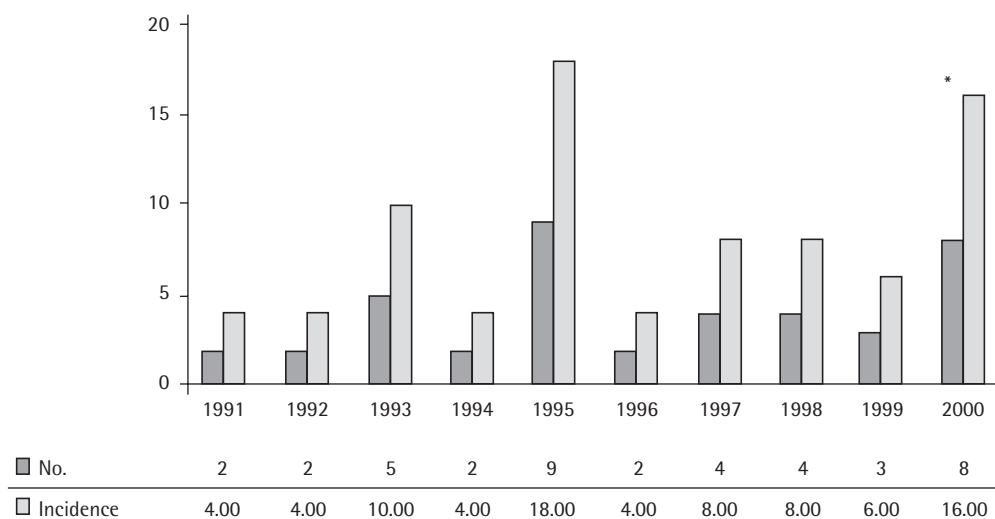


Figure 2 EBD incidence in hospital registry of the Hospital Clínico Universitario: first admissions between 12 and 18 years. Population of Valladolid between 12 and 18 years = 49,998.

every five cases seem to be detected in primary health care. According to the analysis, that is limited to new cases, the percentage of those that are detected in primary health care is almost 19% of the total.

If the analysis continues, with the data obtained it is observed that the population seen in the child-adolescent psychiatry services is reduced to 3% of the cases. This corresponds to 16% of the cases supposedly detected in primary health care. These percentages are limited to the annual incidence since no data is available on the prevalence in the child-adolescent psychiatry teams.

The prevalence of EBD in the hospitalization services is 0.41% of the clinical pictures that are developed in the community. They correspond to 14% of the new subjects who are seen in child-adolescent psychiatry and who are finally, in this percentage of cases, admitted to the hospital in the current health care situation. It is expected that the creation and development of a child psychiatry hospitalization unit in the University Hospital may modify these values.

If we compare (table 4 and fig. 3) the theoretical care model of Golberg and Huxley and the data on care given to EBD in Valladolid, it is observed that the EBD was being underestimated in regards to that which could be expected in the detection of mental disease by primary health care physicians according to this theoretical model. Thus, 23% was detected versus 33%. However, the most striking in the comparison may be the lack of referral of the cases detected to the child-adolescent psychiatry services, this being only 13% versus the theoretical 40%. On the other hand, the percentage of pictures seen in specialized care that require admission is similar, 14% versus theoretical 13%.

The data reflect a reality that is considered to be unsatisfactory, with a high percentage of cases that are not detected by primary health care and above all low referral to the outpatient services of child psychiatry. This is an aspect that other authors, such as the mentioned Hoek et al.²¹ continue to repeat in subsequent publications.

Table 4

Comparison of new cases of EBD according to care level in Valladolid and theoretical model of Golberg and Huxley of the distribution of mental disease in different care levels

	No. extrapolated	% of EBD total	Relative %
Valladolid study data			
Community	978	100.00	
Detected in primary health care	186	19	19
Psychiatry (child-adolescent outpatient+hospitalized)	29	3	16
Hospitalized	4	0.41	14
	% of population total		Relative %
Golberg and Huxley theoretical model			
Community	30		
Come to primary health care	22		
Detected in primary health care			
Psychiatry (outpatient + hospitalization)	10		33
	4		40
Hospitalized	1		13

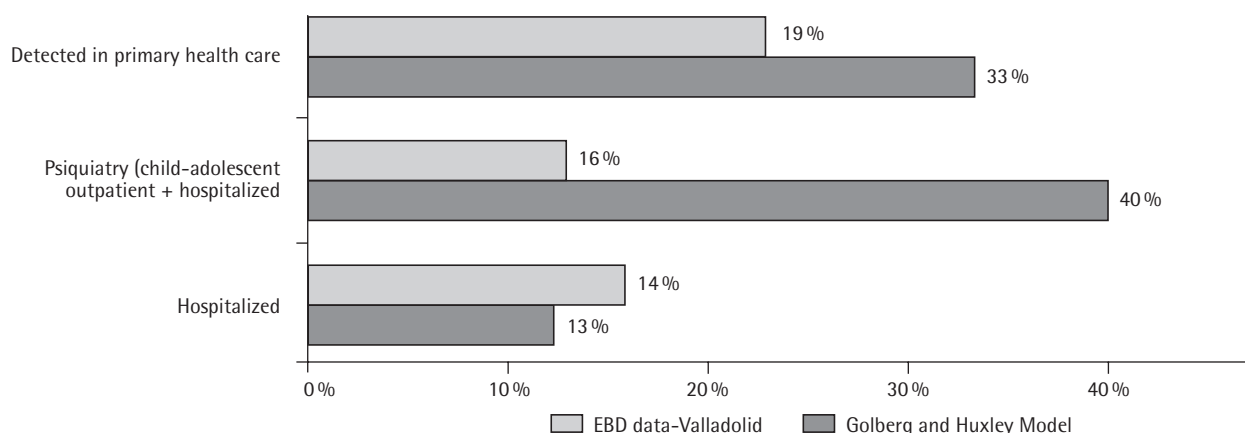


Figure 3 Comparison of new cases of EBD according to care level in Valladolid and theoretical model of Golberg and Huxley of the distribution of mental disease in different care levels.

This situation may reflect the perception of both society and primary health care professionals and the insufficiency and lack of adaptation of the network resources to this type of disease as well as those regarding the lack of awareness of disease and rejection of psychiatric care by the patients and families that occur in many of these pictures.

Thus, it is concluded that primary and secondary preventive aspects must be promoted given the prevalence observed and the health care deficiencies observed. Consequently, the option of promoting regional reference services for treating EBD and by definition, admission units and those outside of the community and health care network setting, should not be of

priority since the efforts should be aimed at intervening in the school and family setting, in the primary health care teams and even in the mental health and psychiatric care units under the current circumstances.

Therefore, reference teams that assume the care of the most complex pictures, but that also serve as reference and coordination for the different care levels, are needed in each health area.

The proposal is oriented towards the creation of functional units to treat EBD subjects can work on different care levels without overlooking the necessary development of

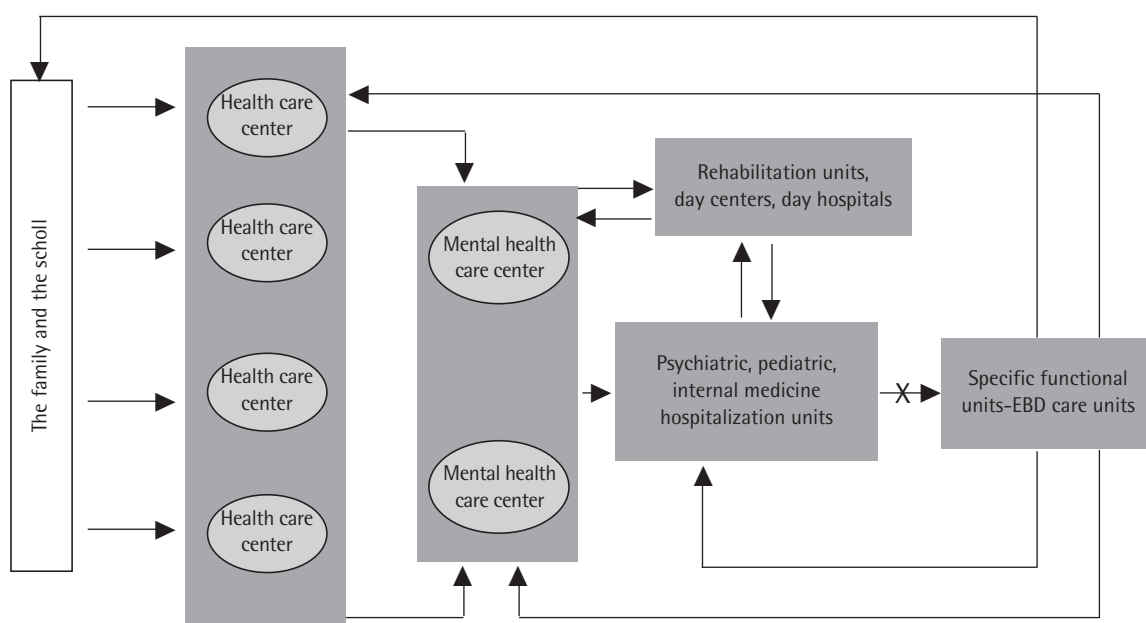


Figure 4 EBD care functional units.

hospitalization units for children and adolescents which are presently lacking in the Community of Castilla y León (fig. 4).

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