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Epidemiology Of Children With Chronic Diseases In Moroccan Population

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Abstract:
Background: *Chronic diseases are a real public health problem, that decreases the quality of life. The aim of the present study is to investigate gender and age differences in the sociodemographic and clinical profile of children with chronic diseases in Morocco.*

Methods: *A cross-sectional descriptive study was conducted on 940 patients, previously diagnosed with chronic disorders, carried out in different departments of Moroccan Hospital in Rabat, during the period between 2010 and 2020. Subjects were selected through simple random sampling method. Data was collected using questionnaire. The studied parameters were the age, the gender, the type and the duration of illness.*

Results: *During the period, we registered 940 cases of chronic diseases. Male were more affected with a sex-ratio of 1.5. Moreover, the most concerned age group was [05-15 [years with 88 %. The average age was 9.3 ± 3.5 years. The most common chronic diseases in our target population were respiratory diseases (23% of cases), neurological diseases with 22%, followed by cancers with 18 % and diabetes (17%). The average of duration was 3.9 years. There is a statistically significant association between age and type of disease (chi- square test =316.17 p=0). These diseases mainly affect the age group between 5 and 15 years old.*

Conclusion: *The burden of deaths and disability caused by chronic disorders are a global public health challenge. The chronic nature if many of these diseases result in a significant impact in terms of medical care utilization, direct and indirect economic costs, and quality of life.*

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I. Introduction

The term “chronic illness” refers to illness that requires at least 6 months of continuous medical care, permanent lifestyle changes, and continuous behavioral adaptation to the unpredictable course of the illness. Chronic illnesses, such as asthma, diabetes, epilepsy, juvenile rheumatoid arthritis, and sickle cell anemia have no known cures but can be managed medically. They are typically characterized by a variable course marked by periods of acute crisis. These illnesses require the sufferer to accommodate physical changes, frequent medical visits, daily medical regimens, and to prepare for recurring acute medical emergencies. In addition to these chronic stressors, the diagnosis of a chronic illness presents several acute stressors that are related to acknowledgment of permanently impaired health status, loss of life freedoms that are associated with excellent health, and fear related to the increased likelihood of death

The profile of hospitalized children is in the process of change, with increased number of children with chronic diseases in recent decades and reduction in the prevalence of acute diseases. This phenomenon is observed worldwide. Chronic disease is that which affects the functions of the individual in his/her daily activities for more than three months/year, because hospitalization for a month or a year requires the use of special equipment of adjusting, which can undermine the family, temporary or eventually, definitively [1].

Children often have acute, short-term illnesses such as upper respiratory tract or ear infections, gastrointestinal illness with vomiting and diarrhea, or injury-related problems. However, some children develop chronic illness (lasting for years or even lifelong) as a result of genetic (inherited) conditions, environmental factors, or a combination of both. Because prenatal (before birth) exposure to tobacco smoke and alcohol can affect a baby's health, it is important to extend environmental and nutritional concerns to women who may become pregnant [2].

Reduced quality of life (QoL) is a known consequence of chronic disease in children, and this association may be more evident in those who are socio-economically disadvantaged [3].

Chronic illness in childhood undermines children and their family. Generally, the family does not expect the diagnosis of the child is a long or incurable disease. The feelings of the parents may be intense as result of cultural issues of protection of children and affective bonds formed from gestation. The coping with the diagnosis can cause physical and psychological strain, especially for the caregiver. The relatives of these children become people with special needs, since they need guidance on how to deal with the problem, regarding the reorganization of family structure and strategies of coping with the disease and its sequelae [4].

Children with chronic diseases require frequent hospitalizations and special care. This can cause pain and direct material costs to their families, contributing to the increase of poverty. Family is the main base of support, and is considered the first social unit where the individual is part and the first institution that contributes to the development and socialization of individuals [5].

In many families, the mother is the primary caregiver of the child because, in some cases, the father is not able to deal with the material and emotional overload that the child with chronic disease requires, mainly the emotional overload. This highlights, in part, the wide presence of mothers as family caregivers of children during their hospitalization and outpatient appointments [6].

II. Methods

Design and study area

This research was a cross-sectional study undertaken from September 2010 to October 2020, carried out in different departments of the Moroccan hospital in Rabat. Study participants who were followed and who agreed to participate in the study were included in the sampling pool. The patients were selected by the simple random sampling method. Sample size was determined by p=0.05 and confidence interval 95%.

Questionnaire

Data was collected using a questionnaire whose validity was obtained using the content validity. The questionnaire included items on various aspects as follows:

1. Socio-demographic component: age, gender;
2. Type of the chronic disease;
3. Duration of disease.

Data collection

Data was collected by a trained research doctor. It was based on patient record.

Data analysis

Data were analyzed using IBM SPSS 19.0 for Windows. Descriptive as well as analytical analyses were employed to determine epidemiological profile of patients and to describe the most common chronic diseases in the Moroccan children. The results are expressed in terms of numbers for the qualitative variables and on average ± standard deviation for the quantitative variables. Differences between categorical groups were determined by using (χ^2) test. P-values‹0.05 were considered to be statically significant in all analyses.

III. Results

Description of socio demographic variables

Between September 2010 and October 2020, we administered questionnaire to 940 patients with chronic diseases. 60% were male and 40% were female, sex ratio was estimated to 1.5, in favor to the males [Figure 1].

The mean age of participants was 9.3 ± 3.5 years, with extremes ranging from 00 to 14 years. The most concerned age group was between 5 and 15 years old. [Figure 2].

Type of disease

chronic diseases were most frequent in male that in female. Regarding the type of disease, we found that the most common chronic diseases in our target population were respiratory diseases (23% of cases), neurological diseases with 22%, followed by cancers with 18 % and diabetes (17%) [Figure 3].

Regarding the association between the different types of disorders and the age of the patients, we found that there is a statistically significant association (chi-squared =316.17, p= 0) [Figure 4].

In our population, we found that there is no a statistically association between chronic disease types and patient gender.

Duration of disease

The average of duration was 3.9 years.

IV. Discussion

The care of children with chronic disease is complex, requiring the family to implement strategies for its coping.

Chronic diseases by their frequency have become a major public health problem. Indeed, of the 940 patients, we find a male predominance, these results are consistent with the results of the literature, indeed, gender is a very important factor in the onset of the disease. The distribution by age is similar to the literature [5].

We found that the most common diseases were respiratory diseases, followed by neurological diseases cancers and diabetes. These results are known par literature data [1].

The results show a statistically significant association between type of disease and gender, these results are similar to those in the literature.

In our study we found that there is a statistically highly significant association between patient age and illness with an average age of 9.3 ± 3.5 years, these results are similar to those of the literature [6].

Considering that the treatment of the chronic disease of the child requires periodic hospitalizations and continuous monitoring, its coping requires from the family more than time availability, it requires dedication, reorientation of finance, tasks and commitment to the reorganization of family daily lives. This shows that the family caregiver needs to create a new organization to take care [7].

Another care strategy used by the family is the inclusion of children with chronic disease in their own care. The knowledge that children with chronic diseases have about their infirmity and self-care requirements related to them, can give them basis for the continuation of adequate therapy and prevention of recurrence of the disease. When individuals with chronic diseases assume an active role in their health-disease process, they contribute to the reduction of recurrent hospitalizations and suffering resulting from it [8].

Participants reported the frustration of not having specialized health institutions to treat their children in their hometowns. Caring for the needs of children with chronic disease becomes part of daily family life, occupying the living of the family, which feels responsible for maintaining the quality of life of the child [9].

Thus, it was noticed that family caregivers need to allocate time to take care of themselves in order to devote themselves in the best way to care for the child. Given the above, it is essential that the caregiver creates strategies that enables the practice of some physical activity. The challenge for caregivers is to balance the care demands of chronic condition of their child and their quality of life [10].

V. Conclusion

This study provides useful findings that could be elaborated and expanded in future studies on chronic disorders in Moroccan children. We should increase the awareness of professionals and people in general about the public health aspects of these diseases, and emphasize the need for the prevention and the necessity to provide care at all levels, including primary health care.

Chronic diseases effect on mortality and morbidity are quite high. The chronic nature results in a significant impact in terms of medical care utilization, direct and indirect economic costs, and quality of life.

Children with chronic disease from lower socio-economic backgrounds experience reduced QoL compared with their wealthier counterparts. Initiatives to improve access to and usage of medical and psychological services by children and their families who are socio-economically disadvantaged may help to mitigate the disparities and improve outcomes in children with chronic illnesses. Based on the above, home care for children with chronic disease becomes a challenge to be managed by the family. Consequently, this must organize itself to find out how to handle and face the child’s chronic condition.

Caring for a child with chronic diseases can generate accumulation of demands on the family, requiring a redefinition of roles so there is no burden on the primary caregiver. Generally, the first support comes from relatives. The families reorganize themselves in order to be able to help.

It is necessary to enable the family to prevent disease sequelae by planning specific care actions. To perform objective evaluations, both for the child and the family dynamics, become effective sources of support and care to them. Therefore, it is necessary to distinguish their needs, identify their individual and collective demands, using information and communication as therapeutic tools available to take care, favoring the reduction of their difficulties to face the process of chronic disease in child

VI. Declaration

Ethics approval and consent to participate:
Permission to conduct the study at the hospital was received from the hospital administration.

Availabality of data and material: The data sets during and/or analyzed the current study available from the corresponding author on reasonable request.

Competing interests: The authors declare that they have no competing interests.

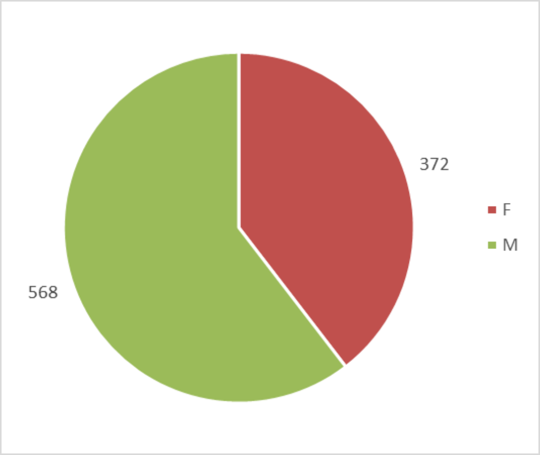


Fig. 1: Description of participants by gender (n=940).

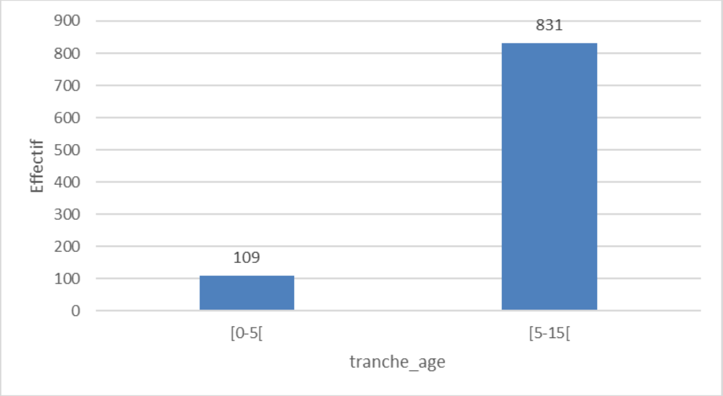


Fig. 2: Description of participants by age range (n=940).

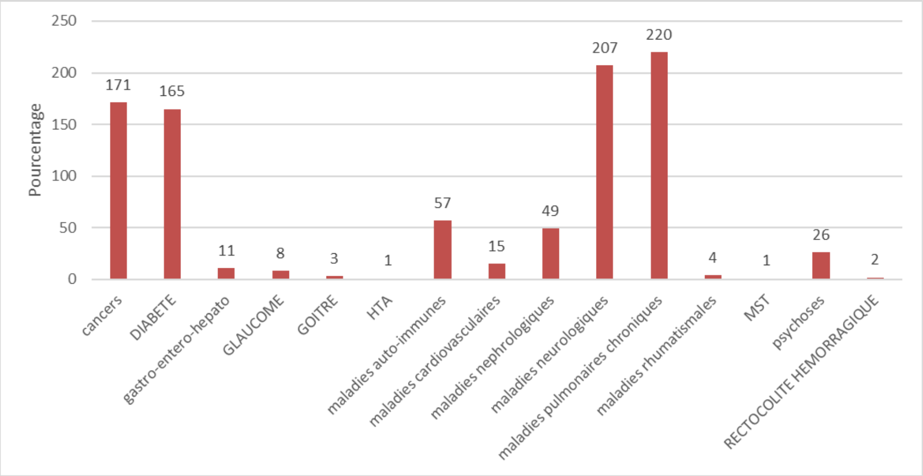
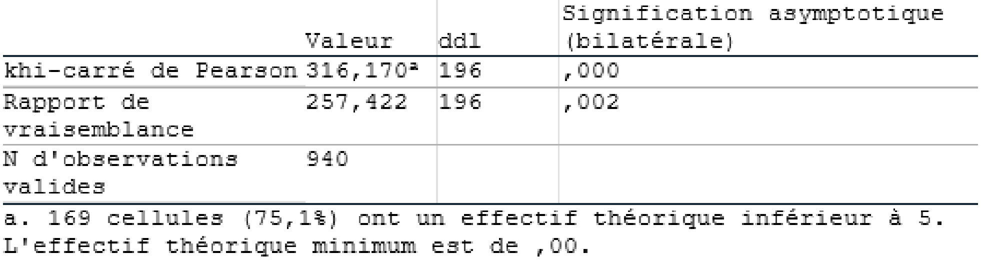


Fig. 3: Description of participants by type of disease (n=940).



	Valeur	ddl	Signification asymptotique (bilatérale)
khi-carré de Pearson	316,170ᵃ	196	,000
Rapport de vraisemblance	257,422	196	,002
N d'observations valides	940		

a. 169 cellules (75,1%) ont un effectif théorique inférieur à 5. L'effectif théorique minimum est de ,00.

Fig. 4: Distribution of diseases by age of patients, (n=940)

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