

**Prevention of Chronic Kidney Disease among Adolescents: an Experience Report**  
**Prevenção da Doença Renal Crônica entre Adolescentes: um Relato de Experiência**

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**Resumo**

Devido ao crescimento e morbidade das Doenças Renais Crônicas, torna-se relevante medidas preventivas realizadas por enfermeiros, principalmente entre adolescentes. Assim, o objetivo desse estudo é relatar o trabalho de educação em saúde desenvolvido com adolescentes, acerca das principais causas e medidas preventivas relativas à doença renal crônica. Estudo descritivo, tipo relato de experiência, realizado com 52 adolescentes numa escola técnica, acerca das principais causas e medidas preventivas relativas à doença renal crônica. O estudo foi realizado seguindo as etapas: planejamento das ações, realização de palestra, triagem de risco e entrega de material educativo impresso. Foi identificado grupo de risco para doença renal crônica, evidenciado pela presença de morbididades e hábitos que predisõem seu desenvolvimento. Observou-se carência de conhecimentos sobre doença renal, consequentemente, de medidas preventivas relativas à mesma. Ressaltou-se atuação do enfermeiro como educador em saúde, na prevenção de doenças dentro do ambiente escolar.

**Palavras-chave:** Nefropatias; Adolescente; Educação em enfermagem.

**Abstract**

Due to the growth and morbidity of Chronic Kidney Diseases, preventive measures performed by nurses, especially among adolescents, become relevant. Thus, the objective of this study is to report the health education work developed with adolescents about the main causes and preventive measures related to chronic kidney disease. A descriptive study, a type of experience report, carried out with 52 adolescents in a technical school about the main causes and preventive measures related to chronic kidney disease. The study was carried out following the steps: action planning, lecture, risk screening and delivery of printed educational material. A risk group for chronic kidney disease was identified, evidenced by the presence of morbidities and habits that predispose its development. There was a lack of knowledge about renal disease and, consequently, of preventive measures related to it. Emphasis was placed on the nurse's role as a health educator in the prevention of diseases within the school environment.

**Keywords:** Nephropathies; Adolescent; Nursing education.

## Introduction

Chronic Kidney Disease (CKD) is defined as progressive and irreversible loss of functional nephrons. It is classified into five stages that relate to the glomerular filtration rate and, consequently, to the degree of insufficiency. In stage five, chronic end stage renal disease, the kidneys lose total control of the body's homeostasis, due to the large reduction of the nephrons <sup>(1)</sup>. It represents one of the renal pathologies with a gradual increase in alarming proportions, with evidence of increasing incidence and prevalence, requiring high cost treatment of the Unified Health System (SUS) <sup>(2-3)</sup>. Therefore, there is a need to take measures to prevent risk factors and renal disease itself.

According to the Brazilian Guidelines for Chronic Kidney Disease, patients with systemic arterial hypertension, diabetes mellitus, family history of chronic kidney disease, and infectious diseases are considered as a high risk factor for the development of the disease <sup>(4)</sup>. As a result of the growing epidemic of cardiovascular risk factors, chronic kidney disease implies frequent hospitalizations and high socioeconomic costs, and has assumed the status of a public health problem in recent years due to the increase in its prevalence among the world population and its population and impact on the morbidity and mortality of the affected individuals <sup>(5)</sup>.

The National Policy for Comprehensive Care for Kidney Disease patients aims to

prevent disease by promoting health, reducing the number of cases and minimizing hypertension and diabetes mellitus, which are prevalent and determinant pathologies of renal disease in the population <sup>(6)</sup>.

It is estimated that there are currently around 192 million individuals on a chronic dialysis program according to the 2011 census. More than 80% of these patients have their treatment subsidized by SUS. Only about 10% of the total budget of the Ministry of Health is available for the treatment of this portion of patients <sup>(4)</sup>. The increasing cost of assistance and technological incorporation in health, population aging, epidemiological transition with increased incidence and prevalence of chronic diseases, potential impacts of actions for health promotion, disease prevention and the need to stimulate quality of life are some of the motivating factors for the search of strategies to face the challenges posed <sup>(7)</sup>.

Adolescence, the focus of this experience, is a period that requires special attention and interventions, representing a challenge for health professionals because it is a phase that involves changes, concerns, discoveries and physical, psychological and mental development. In this phase, in order to prevent diseases and promote health, educational actions acquire great relevance, as well as actions to identify risk factors and early detection of diseases, in this case chronic kidney disease <sup>(8)</sup>.

In view of these challenges, considering also the need to combat the development of chronic diseases, in order to promote the prevention of health problems and strengthen the relationship between public health and education networks, the Ministry of Health created the Health in School Program, an intersectoral policy of Health and Education, aimed at children, adolescents, youth and adults in Brazilian public education, where health education actions are developed in the school environment, by a multiprofessional team, where the nurse also participates<sup>(9)</sup>.

One of the duties of the nurse is that of educator. Health education is embedded in the actions of the nurse as a process that helps people learn health-related behaviors that can be incorporated into their daily lives, with the goal of improving health and promoting self-care. The educational process is understood as a systematic, planned and scientifically based course of action involving educator and learner<sup>(10)</sup>.

In this perspective, this study aims to report the health education work developed with adolescents on the main causes and preventive measures related to chronic kidney disease.

## Method

This is a descriptive study of the type of experience that occurred in May 2017, with adolescents of a State Technical School of the Lakes Region, in the state of Rio de Janeiro,

about the main causes and preventive measures related to the disease renal disease. Fifty-two students from the second year of technical high school, aged 16 to 19 years, selected at the discretion of the board participated.

The action was carried out by four nurses, in the context of the discipline of Theoretical-Practical Foundations of Teaching, which contributes to the initiation of teaching, taught in the Professional Master's Degree in Nursing Care of the Aurora Nursing School of Afonso Costa, Universidade Federal Fluminense. The authorization to carry out the action was acquired through a letter of agreement, previously sent and signed by the school unit's management.

The activity was developed in the following stages:

### Action Planning

Two meetings were held at the school unit. The first meeting, in advance of 21 days, was intended to clarify the action and request consent for its accomplishment, through a dialogue with the school management about the subject to be approached. The second meeting, in advance of 15 days, had the objective of carrying out a survey about existing resources in the school and possibilities of action. With the help and suggestion of the biology teacher, due to the association between the subject to be approached and the one applied in the

discipline in that semester, about the urinary system, it was decided to hold an educational lecture, brief survey of risk factors and distribution of printed educational material type folder.

### **Realization of the Educational Strategy**

The adolescents of the selected groups were invited verbally to the auditorium, where the purposes of the work were clarified, being free to participate or not, according to the interest of each one. The lecture was carried out using as a strategy the presentation of slides and videos with information inherent to the anatomy and renal function, chronic renal disease and its causes, substitutive therapies and the relevance of preventive measures, considering that the disease can arise in different age groups, including adolescence, as well as long-term evolution.

### **Brief Survey of Risk Factors**

After exposing the main topics about chronic kidney disease, it was performed a blood pressure measurement of all the listeners, with the intention of identifying changes in the BP of the students and presenting this practice to them, considering the relationship between high blood pressure values and chronic complications which may develop later. The team of nurses split up and, during the blood pressure measurement and also those who waited their turn to gauge, questions were discussed in the form of a

chat, in a random and informal way, namely: Are you hypertensive or diabetic? ; Is there anyone with diabetes or hypertension in the family?; Is there anyone with kidney disease in the family?; Do you eat foods with a lot of salt? Have you participated in any lecture on prevention of chronic kidney disease?; Have you already taken for blood sugar testing? For those who waited they were asked to raise their hands, if a positive answer.

### **Delivery of printed educational material**

In order to promote learning and dissemination of information, the activity was completed with the delivery of an educational folder with the main topics about chronic kidney disease. In order to strengthen the action and evaluate the knowledge acquired by the adolescents during the educational actions, the folder was read and a brief discussion about the subjects contained in the material was made, in order to resolve possible doubts and reinforce the information. In this way, the doubts that arose were clarified and the students verbalized the knowledge acquired about the subject. Using the opportunity of the moment, they were asked to share the information obtained with friends and family, emphasizing the importance of acting as multipliers of information.

In all stages of the study, the technical terms inherent to the health area were

replaced by simpler, more popular and didactic terms in order to attract the attention of the adolescents, as well as to promote a better understanding of the topic.

### **Experience Report**

Fifty-two adolescents, aged 16 to 19 years, participated in the action. Regarding gender, 38 were female and 14 were male. Of the 52 participants, when asked if they had participated in any lecture about the prevention of chronic kidney disease, 40 of them answered that they were not, and only 12 answered yes, making evident the deficiency on the approach of this subject within the said age group. There was good acceptance of the theme and everyone participated in the different stages.

Some adolescents presented increased susceptibility to chronic kidney disease, by means of the brief survey previously described, and were considered a risk group, according to a positive response to questions during blood pressure measurement, considering that: Hypertension is common in chronic kidney disease, and may occur in more than 75% of patients of any age. Diabetics are at increased risk for chronic kidney disease and cardiovascular disease, and should be monitored frequently for renal damage. The relatives of patients with chronic kidney disease have an increased prevalence of hypertension, diabetes mellitus, proteinuria and renal disease <sup>(11)</sup>.

It was possible to perceive the participants' interest in obtaining information related to health care. Some students said they took care of themselves, but many of them reported that they exaggerated the consumption of salt-rich foods. When asked about blood pressure measurement and blood glucose check, most students had already checked blood pressure and few had any knowledge about capillary glycemia.

Chronic kidney disease is associated with a higher risk of morbidity and mortality and has a major financial impact on the health system. The high costs are related to medical consultation, medications and tests needed to detect the disease, as well as expenses with substitution therapies <sup>(12)</sup>. However, it is a preventable and preventable disease, and can be detected through simple and inexpensive tests made available by SUS.

Currently, there are few epidemiological surveys aimed at chronic kidney disease in children and adolescents, regardless of the stage of disease progression.

Increasing educational and awareness-raising activities on kidney disease and kidney disease in childhood and adolescence are activities in harmony with the goals of the World Health Organization to reduce mortality from noncommunicable diseases, focusing on lifestyle changes, including reducing consumption of salt, control of dietary energy and reduction of alcohol intake, and effective

interventions including blood pressure, cholesterol and glycemic control <sup>(3)</sup>.

The importance of promoting the health of adolescents and young people, emphasizing the need to establish intersectoral and interdisciplinary intervention processes, changes in the management and work of health teams to interconnect these two fields of health care, and schools concentrate large numbers of adolescents and young people, being a favorable place for disease prevention projects <sup>(13)</sup>.

In this sense, the role of the nurse as an educator in different settings is highlighted, especially in the school environment. Regarding the organization of care for the adolescent in Primary Health Care, policies define the school as a situational context for the care practices of this social group, understanding the school as a privileged space for the construction of personal values, beliefs, concepts and ways of knowing the world <sup>(14)</sup>.

Understanding high-risk diagnoses and events that occur in childhood has the potential to identify and intervene preventively in people at greatest risk of developing chronic kidney disease during their lives. By concentrating on kidney disease in childhood, low-cost solutions can be performed, as early treatment and preventive measures of the disease may prevent the late onset of advanced kidney disease <sup>(15)</sup>. Considering the main causes of chronic kidney

disease of hereditary origin such as diabetes and hypertension, preventive measures at all ages become relevant.

While the Family Health Strategy is centered on actions to promote health and to prevent and control family-centered diseases, the Health in School Program aims to contribute to the integral training of students in the public basic education network through prevention, promotion and health care. Among the objectives of the health program in the school, the articulation of health and education actions is highlighted, in order to broaden the scope and impact of actions and address vulnerabilities <sup>(14)</sup>.

It is worth mentioning that renal diseases can be prevented if detected early, so that the knowledge of signs and symptoms may be necessary to avoid the evolution of the disease. Further efforts are needed to realign and expand these multidisciplinary collaborations, with a more acute focus on the early detection and treatment of renal disease <sup>(3)</sup>.

Nursing actions in the school environment, aimed at health promotion, should be centered on the human being from an integral perspective. The school environment, because it is daily frequented by the adolescent, is conducive to the development of educational strategies of prevention, since health education promotes reflection on the topic addressed, implying behavior change <sup>(15)</sup>.

Adolescence can be a risky phase, due to the unhealthy habits of many adolescents, so getting knowledge about the health / disease binomial provides the individual's empowerment regarding self-care, thus highlighting the noblest incumbency of the nurse which refers to health education.

### Conclusion

This action contributed to improve the quality of life of youngsters and adolescents, through health education about chronic kidney disease and highlighted the relevance of prevention of this disease. It is worth emphasizing the role of the nurse as an educating agent and that nursing care transcends the hospital and health care fronts, since educational and preventive measures can occur in different places, and the school is a successful scenario to disseminate information about prevention of diseases.

The need to adopt preventive measures of renal disease among adolescents was noted, and in addition to educational projects carried out at school, other information and disease prevention initiatives should be taken, mainly using mass media. The language used during health education for adolescents is a determining factor for the success of the educational process. The nurse assumes a fundamental role as an educator to provide information on disease prevention, promoting the empowerment of health care among adolescents.

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