

# Risks in Adolescence for Clustered Cardiovascular: A Factor Analysis

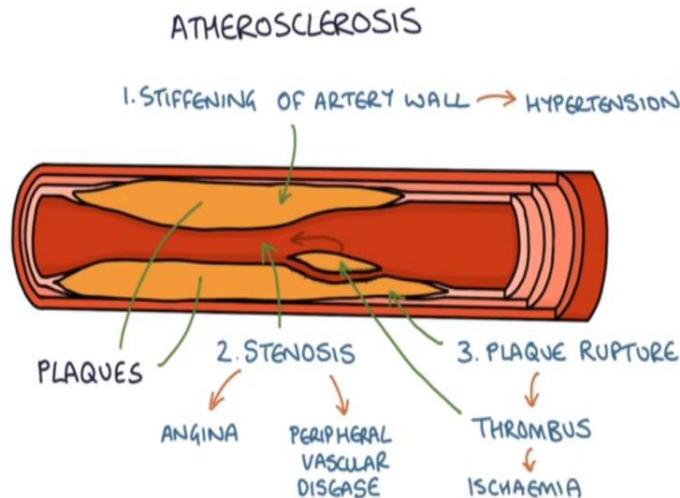
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## ABSTRACT

The research concludes that risk clusters of cardiovascular diseases (CV), even though the onset of atherosclerotic heart diseases, can not be seen before adulthood, start early in childhood. Buggy et al. (2012) states that cardiovascular disease clustering (CVD) risk factors in children as young as 9 years of age were found. They recommend that preventive strategies start at the early age of school. Goodman et al. (2005) point out the predominant correlation between obesity and risks for clustered cardiovascular disease among youth. Their conclusion stems from an exploratory factor analysis done among the students from seventh to twelfth at a school district cohort in Ohio which constituted a diverse but large population of non-Hispanic Black and White children. Different (though limited) studies on the subject only confirm and extend the developments made by each other. This article is a literature review into studies that aimed to analyze factors for clustered cardiovascular risks in adolescence.

## 1. INTRODUCTION

### 1.1 Important terms



[Credit: Zero to Finals]

The term “**cardiovascular**” is defined as “relating to the circulatory system, which comprises the heart and blood vessels and carries nutrients and oxygen to the tissues of the body and removes carbon dioxide and other wastes from them.” The term ‘**clustering**’ (or **cluster**) is a verb and is synonymous to gather, congregate, group, etc.

**Atherosclerosis** refers to a chronic condition of artery wall inflammation caused by the accumulation of fat, cholesterol, and other substances on the walls of the artery. This fat is known as **plaques** on artery walls.

**Hypertension** is when your artery walls begin to get stiff due to these plaques and which may restrict blood flow. The plaque may also burst (that is known as **plaque rupture**) and this may cause blood clots within the artery, a condition known as Ischaemia.

## 1.2 Introduction to the problem

Children younger than 9 years of age with CVD clustering were reported as having risk factors. Risk factors were found. The need for early childhood preventive measures is almost tantamount to science, but just a tiny fraction of studies on this matter, as Goodman et al. (2005,) fully understand the primary priority of young people. There is only minimum literature on risk factors for cardiovascular disease in adolescents and young children. The findings and conclusions of such studies have further assisted and/or expanded. Such studies, as mentioned above, have established the risk factors for cardiovascular diseases in young people. It, therefore, becomes important to further push for studies on the risks for CDV in young children and adolescents. This article is a brief literature review of the existing studies on the subject and analyzes different factors such as obesity, carbohydrate-metabolic, blood pressure, cholesterol, etc. In doing so, the article compares the findings of different studies and ends with a simple conclusion. It further pushes for more studies on the subject.

## 2. ANALYSIS OF RISK FACTORS

### 2.1 Literature Comparison

This is difficult to understand because there are no clear endpoints (e.g. apparent illness and death) as the risk of a cardiovascular disorder (CVD) is high. Splitting individual risk factors as an appropriate approach has been proposed to evaluate the magnitude of the risk of CVD in relatively secure children, given that many risk factors are expected to be increased simultaneously in the same person. In the study, Bugge et al. did not observe the grouping of CVD risk factors. (2012, 2012). At age 9 the risk factor for CVD at the age of 3.33 was established, representing 13.8 percent of the population, and 3.33 times the estimated number of participants. However, it is most important to group the risk factors for CVD in children if this is a reliable position. Follow-up is a concept used for defining the progress of a function over time. This requires both variable time continuity and the ability to estimate its value using a single metric. A recent literature review on determining risk factors for CVD from childhood to adulthood has shown that the cardiometabolic risk factor from infant or adolescent to adult has been precisely monitored in the studies despite variance in methodology. The study concluded, however, that less specificity in childhood and adolescence related risk factors remains uncertain. Knowledge of such coherence will theoretically show that the health influences and possible interventions can be assessed over an optimum childhood period. Moreover, the risk factor cluster in adolescents for CVDs has shown that compartmental factors such as obesity and cardiorespiratory fitness are linked. In my view, only one study was conducted among young people and no work was conducted into the effect of obesity on cluster-based risk surveillance. This research was intended to examine surveillance of the risks of CVD in clusters between the ages of 6 and 13 and to research how different peaks influence the precision of the monitoring.

The risk factors considered in the study were similar to those in young children and adolescents in the adult population. Included were cholesterol, triglycerides, fasting insulin, glucose, BMI, blood

pressure, fibrogen, and waist circumferences. Goodman et al. in a school district of Ohio. (2005) analyzed between 7 and 12 graders of the exploratory factor. Four factors not associated with adiposity, cholesterol, carbohydrate-metabolic, and blood pressure have been identified. Lambert and other Members. Three unrelated factors (glucose, lipids, blood pressure) have been identified in children and adolescents. The four factors explained about 67 % of the total variance for Goodman and his company in the statistical study. The similarities of these two studies were, however, different from their respective experiments. This pattern is linearly related.

Note that the PCA implies that the variables and causes have a causal link. Though previously researched in the main component analysis the trends for the loading of the metabolic syndrome and the risk clustering factor, a test of a particular cause model or structure can not be included in the mathematical approach. The measured variables are statistically represented by PCA derivatives. There is no broader definition than the initially measurable quantities. Confirmatory factor analysis helps researchers to describe the behavior of a specific mechanism or model. Only one adult research has confirmative factor analysis to verify the function of the underlying metabolic syndrome. The results supported the model with four factors. The continuous development of this arrangement, as is the relation between this pattern of influence and a growing variety of CV risks, is uncertain.

Bugge and al. (2012) supplements Goodman et al. 's study by considering the clustering of CVD risk factors in younger and younger education. Furthermore, Bugge et al. conduct the study (2012) In summary of the risk factors for CVDs for children less than 16 years, these studies provide a summary.

## 2.2 Risk Factors

These studies show obesity in healthy adolescents to be a strong predictor of CV risk. The abstract variables resulting from these threats were correlated

with individual threats to cv and the factor-based composition risk. The correlations between the risk of hyperinsulinemia and CV were higher and stronger compared with obesity. These findings also demonstrate that CV risk clusters can be applied in pediatric populations to derive descriptive variables and a composite risk ranking. An outline and risk score so that longitudinal research may improve knowledge of the history of CV disease by assessing risk trajectories.

Blood pressure has also been shown to interact substantially with risk factors in cardiovascular clusters. Furthermore, fat build-up on the walls of the artery results in increased blood pressure, because the artery has a short path. Low blood glucose is next on the list of risk factors. Catalonia et al. (2000) focused on glucose tolerance as risk factors in young adults and adolescents for cardiovascular clusters.

It was important to note that in all factor fields, the high risks accumulated were not high for one factor alone, the majority of risks accumulated were high risk and almost one in five factors were low risk. These findings show the importance of a regional approach to risk management and the need for studies to show how many different risks interact over time to create clinical conditions.

## 3. CONCLUSION

We did a literature review of the limited studies on the subject and we assessed different risk factors found in early childhood and adolescence for CVD. We noted the need for preventive measures from an early age and we had quite some interesting findings to discuss. I want to make one more important point here: there is a tendency to establish early in life to the interaction between these physiological conditions. Nevertheless, it is also important to deduce whether and how high rates for one single factor predict long-term studies of the growth of CV disease in adulthood.

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