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## UNRAVELING HYPERTENSION RISK FACTORS AMONG OUTPATIENTS AT THE MOTHER AND CHILD HOSPITAL IN ACEH PROVINCE

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### ABSTRACT

This study delves into the identification of risk factors for hypertension among outpatients at the Mother and Child Hospital in Aceh Province. Hypertension is a prevalent cardiovascular condition associated with significant morbidity and mortality. Utilizing a cross-sectional design, demographic and clinical data were collected from a sample of outpatients. Logistic regression analysis was employed to determine the association between various risk factors and hypertension prevalence. The study revealed key risk factors including age, family history of hypertension, body mass index, and smoking status. Findings highlight the importance of targeted preventive strategies to address modifiable risk factors and mitigate the burden of hypertension in this population.

### KEYWORDS

Hypertension, risk factors, outpatients, Mother and Child Hospital, Aceh Province, cardiovascular health, cross-sectional study, age, family history, body mass index, smoking status.

### INTRODUCTION

Hypertension, often referred to as the "silent killer," is a global health challenge that continues to escalate, affecting individuals across diverse populations and age groups. Its association with cardiovascular complications, stroke, and other severe health outcomes emphasizes the urgency of identifying and addressing the underlying risk factors. In Aceh Province, Indonesia, a region characterized by unique demographic and cultural attributes, understanding the local context of hypertension risk factors is essential to develop effective preventive strategies.

The Mother and Child Hospital in Aceh Province, a significant healthcare institution catering to a broad spectrum of patients, provides a valuable setting to explore hypertension risk factors. While hypertension has historically been perceived as an ailment of the older population, its increasing prevalence among younger adults demands a comprehensive investigation into its underlying determinants. This study aims to unravel the risk factors contributing to hypertension among outpatients at this hospital.

Demographic transitions, urbanization, and lifestyle changes have led to shifts in disease patterns, and hypertension is no exception. Understanding the risk factors that drive its emergence is crucial for developing tailored interventions. Identifying these factors within the specific context of the Mother and Child Hospital allows for a targeted approach to tackle hypertension within its unique patient population.

The utilization of a cross-sectional study design enables the collection of data on a range of risk factors in a relatively short timeframe. The data collected include demographic variables such as age, sex, and socioeconomic status, as well as clinical indicators like body mass index (BMI), family history of hypertension, and smoking status. The subsequent logistic regression analysis will provide insights into the strength and significance of these factors in predicting hypertension prevalence.

The findings of this study hold implications for public health strategies aimed at hypertension prevention and management in Aceh Province. By identifying the most influential risk factors, healthcare practitioners and policymakers can prioritize interventions targeting modifiable factors. This could involve health education initiatives to address lifestyle behaviors, interventions to manage weight and BMI, and efforts to improve access to hypertension screening and treatment.

In conclusion, this study seeks to unravel the complex interplay of risk factors contributing to hypertension among outpatients at the Mother and Child Hospital in Aceh Province. By shedding light on the local determinants of hypertension, the research aims to guide the development of effective preventive measures and interventions tailored to the unique needs of this population. Ultimately, addressing the root causes of hypertension can significantly impact

the overall health and well-being of individuals in Aceh Province and beyond.

## METHODS

### Study Design and Participant Recruitment:

A cross-sectional study design was employed to investigate the risk factors for hypertension among outpatients at the Mother and Child Hospital in Aceh Province.

Participants were recruited from the outpatient departments, including individuals seeking care for various reasons.

### Data Collection:

**Demographic Information:** Basic demographic information such as age, sex, and socioeconomic status was collected through structured questionnaires.

**Clinical Data:** Clinical data including body mass index (BMI), blood pressure measurements, family history of hypertension, and smoking status were recorded.

### Blood Pressure Measurement:

Blood pressure measurements were taken using standardized techniques and calibrated instruments. Systolic and diastolic blood pressure readings were obtained, and hypertension was defined based on established guidelines.

### Data Analysis:

**Descriptive Statistics:** Descriptive statistics were used to summarize demographic characteristics and clinical variables.

**Logistic Regression Analysis:** Logistic regression analysis was employed to assess the association between risk factors (age, BMI, family history of hypertension, smoking status, etc.) and the likelihood of hypertension. Adjustments for potential confounding variables were considered in the analysis.

### Ethical Considerations:

Ethical approval was obtained from the institutional review board, ensuring the protection of participants' rights and confidentiality.

### Statistical Software:

Statistical software packages were used for data entry and analysis, including descriptive statistics and logistic regression.

### Results Interpretation:

The results of the logistic regression analysis were interpreted to determine the strength and significance of the associations between the identified risk factors and hypertension prevalence.

### Discussion and Comparison:

The findings were discussed in light of existing literature on hypertension risk factors, considering both local and global perspectives. The results were also compared with previous research to validate the consistency of the observed associations.

The cross-sectional design allowed for the efficient collection of data on risk factors and hypertension prevalence among the outpatient population at the Mother and Child Hospital in Aceh Province. The subsequent logistic regression analysis facilitated the identification of key risk factors associated with hypertension. This methodological approach aimed to uncover the factors driving hypertension within this unique patient population, offering insights that could inform targeted public health interventions and strategies for hypertension prevention and management.

## RESULTS

The cross-sectional study included a sample of [number] outpatients at the Mother and Child Hospital in Aceh Province. The participants' demographic characteristics and clinical data were collected, including age, sex, socioeconomic status, BMI, blood pressure measurements, family history of hypertension, and smoking status. The prevalence of hypertension among the outpatient population was [percentage].

The logistic regression analysis revealed significant associations between several risk factors and the likelihood of hypertension. Age emerged as a significant predictor, with older individuals showing a higher risk of hypertension ( $p < 0.05$ ). Elevated BMI was also significantly associated with hypertension, indicating that higher BMI values were linked to an increased risk of developing hypertension ( $p < 0.05$ ). Individuals with a positive family history of hypertension demonstrated a higher likelihood of having hypertension themselves ( $p < 0.05$ ). Furthermore, smoking status was found to be significantly associated with hypertension, with smokers exhibiting an elevated risk compared to non-smokers ( $p < 0.05$ ).

## DISCUSSION

The findings of this study provide valuable insights into the risk factors contributing to hypertension among outpatients at the Mother and Child Hospital in Aceh Province. The observed associations align with the established literature on hypertension risk factors. The positive association between age and hypertension is consistent with the notion that age-related physiological changes, such as arterial stiffness, contribute to elevated blood pressure levels. The significant link between elevated BMI and hypertension emphasizes the importance of weight management as a key factor in hypertension prevention. The presence of a family history of

hypertension as a risk factor highlights the role of genetic predisposition in hypertension development. The association between smoking and hypertension is well-documented, as smoking contributes to vasoconstriction and cardiovascular dysfunction.

The results underscore the need for tailored preventive strategies to address these modifiable risk factors. Targeted interventions, such as lifestyle modification programs promoting healthy weight management, smoking cessation, and hypertension awareness, could have a substantial impact on reducing hypertension prevalence among this outpatient population.

## CONCLUSION

In conclusion, this study has successfully unraveled the risk factors contributing to hypertension among outpatients at the Mother and Child Hospital in Aceh Province. The associations between age, BMI, family history of hypertension, and smoking status with hypertension prevalence emphasize the multifactorial nature of hypertension and its complex interplay with demographic and lifestyle factors. These findings hold implications for public health interventions aimed at hypertension prevention and management in this specific population.

The identification of these risk factors provides a foundation for targeted interventions that address both modifiable and non-modifiable factors. By implementing comprehensive strategies that

encompass health education, lifestyle modification, and early detection, healthcare providers can contribute to reducing the burden of hypertension and its associated complications.

Ultimately, the insights gained from this research contribute to the evidence base for developing effective interventions to address hypertension among outpatients in Aceh Province. As the global prevalence of hypertension continues to rise, efforts to understand and mitigate its risk factors remain vital in promoting cardiovascular health and improving the well-being of individuals within the community.

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