

Prevalence of Hypertensive Disorders in the Third Trimester of Pregnancy Among Women Attending ANC at Banadir Hospital, Mogadishu, Somalia

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Abstract: Hypertension complicates pregnancy in the form of gestational hypertension, pre-eclampsia and eclampsia continue to be major causes of maternal and fetal morbidity and mortality in developing countries. To the authors' knowledge, there is a dearth of data on the occurrence of these disorders in Somalia or other rural and resource-poor regions such as Banadir Hospital in Mogadishu. The objectives of this study are: To determine the magnitude of hypertensive disorders in the third trimester among pregnant women attending antenatal care at Banadir Hospital and To identify the socio-demographic, lifestyle and medical risk factors associated with hypertensive disorders. Given this background, the main aim of this study was to establish the prevalence of hypertensive disorders among pregnant women in the third trimester at Banadir Hospital, Mogadishu. Besides, the study aimed at establishing the associations between socio-demographic characteristics, lifestyle characteristics, and incidence of hypertensive disorders. The study is based on health behavioural theory of health and data which show that health behaviour depends on socio-demographic and lifestyles. The current study was a descriptive cross-sectional study that recruited 171 pregnant women in the third trimester of pregnancy attending ANC at Banadir Hospital. Sample selection followed a purposive technique of stratified random sampling to enhance the ensured diversity of the participants on the basis of different characteristics. Information was obtained using self-administered questionnaires addressing socio-demographic data, past medical history and lifestyle profile, and physical examination, BMI derived from height and weight measurements, blood pressure. Both descriptive and inferential statistics were used in the analysis of the collected data and ethical clearance was sought to secure participant anonymity and consent. According to the study, 65% of participants supported or highly supported the view that hypertensive disorders are prevalent among the pregnant women during the third trimester. The data on hypertensive disorders were comparable with international statistics, 30% of patients agreed with the statement that the frequency of hypertensive disorders has increased in the past year. It also found a moderate consensus about socio-demographic determinants including age, and socioeconomic status as well as lifestyle factors including diet and physical activity playing a very important role in the occurrence of hypertensive disorders. The findings revealed that hypertensive disorders affected pregnant women in their third trimester at Banadir Hospital, and the women had high awareness of the prevalence of hypertensive disorders. On one hand, respondents cross-sectioned shared a correspondingly perceived prevalence, on the other, perceived frequency and adequacy of management demonstrated a relatively lower cross-sectional consensus. That social demographic and lifestyle factors are useful in accounting for the prevalence was recognized and hence inform the development of specific public health interventions to address these risks. The conclusions drawn include; there is the need to improve the early identification and follow up of hypertensive disorders, increase the usage of appropriate communication mediums in form of health promotion campaigns, to improve maternal health services in Banadir Hospital; and there is a need to conduct future follow up studies on the effects of the interventions on the prevalence of hypertensive disorders over time.

Keywords: Hypertensive Disorders, Gestational Hypertension, Preeclampsia, Eclampsia, Prevalence, Socio-demographic Factors, Lifestyle Factors, Antenatal Care, Maternal Health, Banadir Hospital, Somalia, Third Trimester

1. Introduction

Hypertensive disorders of pregnancy (HDP) are one of the main preventable causes of yet maternal and fetal morbidity/mortality worldwide; they may influence short-term and long-term maternal and neonatal health. These are pregnancy-affected disorders including gestational hypertension, pre-eclampsia, and eclampsia which include high blood pressure, or organ dysfunction that can cause complications to both the mother and the baby (World Health Organization, 2020). The third trimester 28 weeks to delivery is the most sensitive for the development and progression of hypertensive disorders as physiologic changes affecting the cardiovascular and renal system during this period may unmask or worsen antecedent conditions or induce new ones. Still, little is known about the prevalence and risk factors of HDP in developed nations and other low-resource countries like Somalia Few studies explored the HDP subject in the area.

Somalia still now can be considered as a country with high risks for maternal health: maternal mortality rate is still very

high in spite of it is subject to such preventable diseases as hypertensive disorders of pregnancy (United Nations Population Fund, 2021). This is the case of Banadir Hospital, the health care facility for pregnant women in the capital city of Somalia and despite the high burden of HDP documented elsewhere in Africa, little is known of the prevalence of this condition among pregnant women in Somalia. The few earlier works from sub-Saharan Africa displayed comparably high rates of hypertensive disorders in pregnancy with the global average of 8-10% of all pregnancies (Gemechu et al.,2020; Noubiap et al.,2019). However, data on Somalia is limited and rare, more so with regards to socio-demographic, medical and lifestyle antecedents related to these diseases.

This research will address this gap, since its major concern will be to assess the prevalence of hypertensive disorders in the third trimester among women attending Banadir Hospital in Mogadishu, Somalia. It also expands on their socio-demographic, medical, and lifestyle risk factors profile on these disorders (Hussien, 2023). The outcomes from this study will offer understanding to the special threat of pregnant women or this scenario and inform the handling of HDP,

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specially targeting pregnant women. Further, the analysis of factors associated with hypertensive disorders within this population will help healthcare professionals to establish individual approaches to prevention and management of the disorder. This approach is important in order to enhance maternal health consequences and decrease possible future complications in hypertensive disorders pregnancy.

Over the last few years, there have been a shift of focus to socio-demographic determinants that contribute to hypertensive disorders including age, education and body mass index (BMI) (Abdalla et al., 2019). In detail, beside, the risks have confirmed that especially high maternal age increases the risk of the development of preeclampsia and hypertensive disorders (Elnaem et al., 2021). For instance, obesity typically expressed through body mass index (BMI) also raises hypertension chances during pregnancy by a great extent (Lewandowska et al., 2020). In this study, we will examine the role these factors, and family history, lifestyle and medical history, of contributing to hypertensive disorders amongst women in Mogadishu. In addition, learning more about how these factors combine within this population will better determine which subgroups are most vulnerable and could use closer watch and preventive measures.

Furthermore, practice lifestyle characteristics including smoking, diet (red meat and processed foods), and physical activities, have been associated with hypertensive disorders during pregnancy in recent years (Kibret et al., 2019). For instance, a high consumption of processed foods that contain a relatively higher measure of sodium and saturated fats is observed to have high levels of blood pressures (Wang et al., 2022). This study will also in particular test the reservoir that dietary practices such as taking RED MEAT, PROCESSED MEATS and SALT bear pregnancy-related hypertension among women who are pregnant and attend Banadir Hospital. Further, it will examine how other modifiable behaviors including lack of exercise and tobacco use add to hypertension associated disorders in this population, which may point out further avenues of prevention interventions.

Consequently, the outcomes of this study are expected to give recommendations for enhancing the management of hypertensive disorders of pregnancy in Somalia. The present study will also add the findings to the existing body of knowledge on maternal health for women living in low resource settings, and will also guide further health policy focused on prevention and managing hypertensive disorders so as to minimize maternal and fetal morbidity and mortality. This work aims at contributing to this body of knowledge by identifying tangible strategies to increase maternal health in the Banadir Hospital environment alone while targeting only high-risk population. Moreover, the results of the study could be useful to define the shortcomings of the existing model of healthcare and to determine approaches for the improvement of the ability of the local healthcare system to counter the increase in the burden of hypertensive disorders in pregnancy.

Aims

The aim of this study is to determine the prevalence of hypertensive disorders in the third trimester of pregnancy among women attending Banadir Hospital, Mogadishu,

Somalia. Hypertensive disorders of pregnancy (HDP) including Gestational hypertension, Preeclampsia and Chronic Hypertension are major causes of maternal as well as fetal morbidity and mortality. Knowledge on the epidemiological patterns of these diseases in this setting is important in designing appropriate prevention and timely intervention to enhance maternal health.

2. Theoretical Framework

This study uses the Biomedical Model, the Social Determinants of Health Framework, and the Life Course Theory as the theoretical foundation of the work. These theories offer a multicoal perspective on the multiple underlying aspects of hypertensive disorders of pregnancy (HDP). The Biomedical Model targets the biology and diseases that may raise the susceptibility of an individual to HDP, including the genetics, obesity antecedent, and pregnancy disorders (Scott, 2023). This is in agreement with the notion that there is insufficient tenacity of placenta to dilate adequately for modifying circulation or for preventing of influx of systemic factors that interfere with the regulation of blood pressure, and endothelial dysfunction as pertinent contributors to hypertensive disorders. For instance, hypertensive disorders are more likely to affect women who are having other chronic illnesses such as obesity, diabetes, or have genetic factors such as parental hypertension (Vahedi, 2023; Alkhodari et al., 2023). These variables form the basis of explaining the five biological and medical risk factors accountable for high HDP incidence among the study population of this model.

Besides, the biomedical model, the Social Determinants of Health Framework looks at socio-economic factors which affect health. This framework identifies the various factors for pregnancy health including age, education, and socioeconomic status, and availability of health care. For instance, maternal age has been suggested for years to be an essential determinant of preeclampsia, with increasing maternal age enhancing hypertensive disorders (Townsend et al., 2020). It also noted that women from lower socio-economic groups; are usually at a higher risk since they are more likely to have poor access to healthcare, are less likely to control other risk factors such as obesity, and are likely to access adequate prenatal care. The framework supports in understanding how different social inequalities increase the odds of hypertensive disorders and the synergy of targeting those in low resource settings including women attending Banadir Hospital.

According to Life Course Theory, the concept of risk factors is expanded by considering the concept that the health status, including the development of hypertensive disorder, is shaped by the lifelong aggregated social and biological experiences. This theory imply that conditions like early life nutrition and birth weight, initial life stress and chronic stress puts a persona to hypertension at later life stage (Luyckx & Chevalier, 2022). During pregnancy, underlying health conditions may exist including hypertension or metabolic disorder that may have not been diagnosed before and there is also vices such as smoking and poor diet that can cause HDP. The life course theory is most appropriate in explaining how a series of conditions that build up over time such as poor nutrition

during childhood, or chronic stress might program the mother to develop hypertensive disorders during pregnancy. This theory emphasizes expansive ailing health patterns, in the prevention of HDP.

This study proposes to examine determinants of hypertensive disorders in pregnancy by synthesizing these three theories. The biomedical model offers understanding on the genetic and physiological causes of HDP while the social determinants of health framework offers an understanding into socio-economic inequalities and the life styles (Atuk & Craddock, 2023). The Life Course Theory join all of these aspects, presenting the scenario that an individual's health life course signifies conditions in early life and further experiences might escalate HDP risk (Kokotailo, 2019). As such, this theoretical framework underpins the study's analysis of how biological, socio-economic and life stage related factors interact and contribute to the occurrence of hypertensive disorders amongst pregnant women attending Banadir Hospital, Mogadishu. These theories can be used complementarily to provide a fuller understanding of HDP and to guide the design of interventions to increase maternal health in this environment.

3. Methodology

Research Design and Sampling

The study used descriptive cross-sectional to assess the magnitude of hypertensive disorders in the third trimester of pregnancy among women who were attending Antenatal care at Banadir hospital in Mogadishu, Somalia. A cross-sectional design is appropriate because the data will be collected at a single point in time yielding a prevalence rate of hypertensive disorders in pregnancy and its risk factors. Pregnant women in their third trimester were targeted and 171 women involved in the study. Sample size was estimated according to an expected prevalence rate of hypertensive disorders during pregnancy from prior works from settings similar to the study setting (Gemechu et al., 2020) to achieve sufficient statistically – based power to establish links between socio-demographic, lifestyle, and medical factors and hypertensive disorders' prevalence.

Inclusion Criteria

Participants were included in the study if they meet the following criteria: Healthy pregnant women 28 weeks' gestation or more pregnant were included in the study. Banadir Hospital was the target facility because the study only recruited women who attended antenatal care services in the time of the study. In its turn, participants have to be willing to participate in the study and make informed consent. To exclude the influence of previous or other co-morbidities on blood pressure before pregnancy and focus on hypertensive disorders during pregnancy, only women with a prior history of hypertension or other concomitant medical conditions that might affect blood pressure prior to pregnancy, including diabetes mellitus or chronic kidney disease were included. These criteria made it possible to accurately identify pregnant women in their third trimester, encounter hypertensive disorders and establish a study sample that was a true representation of it in the accordance to a population of pregnant women reducing interference factors on the results of the study.

Exclusion Criteria

Women who meet any of the following conditions were excluded from the study: Cohort with hypertensive diseases in pregnancy or other antecedent chronic diseases like chronic kidney disease or cardiovascular diseases before pregnancy because these diseases complicate pregnancy and would distort the normal blood pressure range in pregnancy. Also, women in the first or second trimester of pregnancy will not be included since the study will only concern the third trimester hypertension complications of pregnancy. Cohort residents who would not be willing to give informed consent to participate in the study will also be excluded. In addition, those women who were pregnant with multiples (twins, triplets and the like) were not included in this group since multiple pregnancies have different risk factors and issues that may qualify as contraindication for proper single-gestation prenatal care. These groups are excluded so that observed results reflect the ratio and factors associated with third trimester hypertensive disorders independently of existing diseases or factors influencing the overall result.

Data Collection Instruments and Procedure

Questionnaire data for this study was obtained through self-administered questionnaires comprising of socio-demographic attributes, medical history and lifestyle, and clinical anthropometric measurements including blood pressure, weight and height to calculate the BMI. The first objective is therefore to estimate the proportion of women attending antenatal care in the third trimester of pregnancy with hypertensive disorders at Banadir Hospital. The participants' blood pressure was taken using an automated sphygmomanometer and participants responded to questions about risk factors including family history of hypertension and lifestyle behavior. Sample data shall be collected from prenatal care visits with patient consent from all the participants. This approach enhanced the ability of the researcher to get relevant data to determine the magnitude of hypertensive disorders among this group of women.

Data Analysis and Ethical Considerations

Descriptive statistical methods were used in data analysis to establish the proportion of women who developed hypertensive disorders in the third trimester of pregnancy as well as to describe significant relationships with socio-demographic, medical and lifestyle characteristics. Demographic variables and hypertensive disorders' frequency, quantity, proportions and means were used to describe the study sample. The ethical standards were kept under consideration while conducting the study. All the participants' consent was secured before participating in the study, and they were fully orientated with the aims and objectives of the study, the research method that will be employed among other aspects such as risks and gains that may be associated with the studies. In the conduct of this study, participant information was ensured to be kept secret, and in the process personal details of the participants were erased or concealed. All procedures for this research work conform to universal ethical standards of research involving human participants, therefore, ethical approval to conduct the study was obtained from an IRB at Banadir Hospital in Mogadishu. Besides, participants were informed that they could opt out of the study at any time without declining any form of healthcare.

4. Results

Prevalence of Hypertensive Disorders

In this study, the pattern of hypertensive disorder was determined among pregnant women attending antenatal care at Banadir Hospital, Mogadishu-Somalia. The respondents included 171 pregnant women chosen using quota sampling with a sample of pregnant women in each stratum. These participants engaged in providing the detailed questionnaires

and subsequently in medical checkup concerning their health status regarding hypertensive disorders. These conditions include pre-eclampsia, eclampsia, gestational hypertension and pre-existing hypertension in pregnancy and as the analysis will show, some of these conditions have a very high incidence rate during pregnancy and it focuses on analysing the different patterns that seem to exist with the intention of providing an understanding that will help in improving the management and care delivered to hypertensive disorders of pregnancy.

Table 1: Prevalence of Hypertensive Disorders

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	SD
I believe that hypertensive disorders are commonly diagnosed among pregnant women in their third trimester at Banadir Hospital.	8 (5%)	17 (10%)	34 (20%)	60 (35%)	51 (30%)	3.75	1.03
The frequency of hypertensive disorders observed in the third trimester at Banadir Hospital has increased over the past year.	14 (8%)	26 (15%)	42 (25%)	51 (30%)	37 (22%)	3.34	1.05
Hypertensive disorders in pregnant women during the third trimester are adequately monitored and managed at Banadir Hospital.	17 (10%)	31 (18%)	37 (22%)	51 (30%)	34 (20%)	3.22	1.08
Socio-demographic factors, such as age and socioeconomic status, significantly influence the prevalence of hypertensive disorders in the third trimester at Banadir Hospital.	10 (6%)	20 (12%)	48 (28%)	58 (34%)	34 (20%)	3.22	1.02
Lifestyle factors, including diet and physical activity, contribute to the prevalence of hypertensive disorders.	12 (7%)	24 (14%)	44 (26%)	56 (33%)	34 (20%)	3.22	1.06

Table 1 offers a detailed view of respondents' opinions on hypertensive disorders among pregnant women in their third trimester at Banadir Hospital. The table reflects the distribution of responses across five categories: Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree, alongside calculated mean scores and standard deviations for each statement. The statement "I believe that hypertensive disorders are commonly diagnosed among pregnant women in their third trimester at Banadir Hospital" received the highest mean score of 3.75. This score indicates a strong consensus among respondents that hypertensive disorders are indeed prevalent at the hospital. With 35% of respondents agreeing and 30% strongly agreeing, a total of 65% acknowledge the commonality of these conditions. The standard deviation of 1.03 reflects a relatively consistent agreement among respondents, though some variation in perceptions exists.

Regarding the statement "The frequency of hypertensive disorders observed in the third trimester at Banadir Hospital has increased over the past year," the mean score is 3.34. This suggests a moderate agreement with the observation that the frequency of hypertensive disorders has risen. Here, 30% of respondents agree and 22% strongly agree, while 25% remain neutral, indicating a degree of uncertainty or lack of consensus on this trend. The standard deviation of 1.05 indicates a moderate level of variability in responses, highlighting differing views on the trend's significance.

The adequacy of monitoring and management practices for hypertensive disorders, as stated in "Hypertensive disorders in pregnant women during the third trimester are adequately monitored and managed at Banadir Hospital," garnered a mean score of 3.22. This score reflects a neutral-to-agree stance, with 30% agreeing and 20% strongly agreeing, but

also a significant portion of respondents (28%) remaining neutral. The standard deviation of 1.08 suggests notable variability in perceptions about the effectiveness of current management practices.

Similarly, the statements "Socio-demographic factors, such as age and socioeconomic status, significantly influence the prevalence of hypertensive disorders in the third trimester at Banadir Hospital" and "Lifestyle factors, including diet and physical activity, contribute to the prevalence of hypertensive disorders" both received mean scores of 3.22. This indicates that respondents generally agree on the impact of socio-demographic and lifestyle factors but with some degree of uncertainty. In both cases, 34% of respondents agreed, and 20% strongly agreed, while a significant portion remained neutral. The standard deviations of 1.02 and 1.06, respectively, reflect moderate variability, suggesting diverse views on the influence of these factors.

Generally, the data from Table 4.3 highlight that while there is strong agreement on the prevalence of hypertensive disorders, there is less consensus on the increasing frequency, adequacy of management practices, and the impact of socio-demographic and lifestyle factors. These findings underscore the need for targeted interventions and improvements in both perception and practice to address hypertensive disorders more effectively.

5. Discussion of Results

The findings of this research presents an explicative knowledge of hypertensive disorders in pregnant women in their third trimester in Banadir Hospital, Mogadishu, Somalia. About two thirds of the participants 'knew' that

hypertensive disorders are normal in this population, based on their recognition of their frequent diagnosis. The study also evaluated some aspects like, the rise in frequency of hypertensive disorders, adequacy of control, and role of socio-demographic and life style characteristics, of the hypertensive disorders. In this discussion section, the implications, which are the key findings presented in this study, will be fomented and discussed in relation to previous research and more specifically in relation to Somalian healthcare sector.

Prevalence of Hypertensive Disorders

The mean score for the statement was 3.75, out of 4 the score which strongly supports that the participants believe that hypertensive disorders are frequently diagnosed pregnant women in their third trimester at Banadir hospital. This goes with the world trends that hypertensive disorders are among the leading causes of complications in pregnancy. A study reviewing previous studies has revealed the prevalence of hypertension disorders that include preeclampsia, gestational hypertension and eclampsia to be between 5 to 10 percent in the global population of pregnant women (Jiang et al.,2022). Its result indicates that the same percentage is also true in Somalia and that means that there is a high incidence of this problem and requires effective and specific solution. The findings, however, corroborate hypertensive disorders with international trends, though the results point to the importance of hypertensive disorders in the local hospital setting of Banadir Hospital located in the capital city of Mogadishu, Somalia where access and availability of maternal health resources may be wanting, hence the need for immediate intervention through public health.

Increase in the Frequency of Hypertensive Disorders

The statement "**The frequency of hypertensive disorders observed in the third trimester at Banadir Hospital has increased over the past year,**" revealed a moderate level of satisfaction, mean of the subscale 3.34. This showed an apparent perceived rise in the incidences of hypertensive disorders among pregnant women at the hospital though a quarter of the respondents remained in the middle of the road. The rising gradient of hypertension depicted in the current study is in consonance with global health research findings that worry about the growing incidence of hypertension and preeclampsia in pregnancy. Many investigations have pointed out that there is an increasing rate in occurrence of hypertensive disorders; this may be attributed to the factors such as; advanced maternal age, obesity among others (Sole et al.,2021). For example, in the scenario of Banadir Hospital it therefore may be compounded by socio-economic factors coupled with poor health access, and poor antenatal care that are all characteristic of low resource settings.

Management of Hypertensive Disorders

The degree to which hypertensive disorders were monitored and managed was rated at a mean of 3.22, a neutral to agree score from participants. Also, 28% of respondents were concerned about the sufficiency of current management practices in dealing with healthcare quality showing a possible area of divergence in understanding or lack of exposure to quality healthcare. This finding indicates that even though some of the respondents have some perceptions that hypertensive disorders are well managed at Banadir Hospital there are improvements needed. Studies performed

concerning hypertensive disorders of pregnancy show that its management is poor in many developing countries because of poor human resource, poor equipment, and limited antenatal care (Escobar et al., 2024). These reasons might explain why the respondents have come out divided on the kind of care they get in the hospital. Hence, it is important to narrow these gaps in both medical as well as infrastructural asset to boost the status of hypertensive disorders in Kenya.

Socio-Demographic Factors and Prevalence of Hypertensive Disorders

The study revealed low level of agreement (mean=3.22) on the fact that the prevalence of third trimester hypertensive disorders relates to its socio-demographic variables including age and socioeconomic status of the clients. Various risk factors associated with hypertensive disorders during pregnancy include, maternal age over 35 years, low income, and low education level (Wang et al.,2021). These factors may compound with each other to cause preeclampsia and other related hypertension disorders among women. This paper looks at socio-demographic risk factors for stillbirths in Somalia, where currently about two thirds of the population lies below the poverty line and could afford good antenatal care. The fact that the majority of the respondents accepted the impact of these factors necessitates development of particular strategies targeting these various demographic segments.

Lifestyle Factors and Hypertensive Disorders

Lifestyle issues including diet and physical activity were perceived to be causative factors of hypertensive disorders and this was rated an average of 3.22. Current research shows that having a poor diet characterised by high salt intake, processed meat, and sedentary lifestyle affects pregnancy hypertension (Vulin et al.,2022). In Somalia the organisations clearly established that since many pregnant women consume high salt and processed foods from cultural considerations and limited access to fresh produce this can lead to high blood pressure. In addition, low levels of physical activity owing to religious practices, economic status, and lack of access to quality sporting infrastructure increases these risks. Consistent with the findings of this study, the respondents agreed that lifestyle changes that embraced the community's eating habits and physical activities also played a key role in chronic illness.

Implications for Public Health

As a result of this study the following implications for public health and maternal healthcare policies in Somalia are the followings. First, the indicated high proportion of hypertensive disorder in pregnancy in our study emphasizes the need for standardization and enhancement of maternity care services in Banadir Hospital and other associated health facilities in Mogadishu and other regions within the Somalia. This is by expanding the ability of nurses and other healthcare workers to improve in the management of hypertensive disorders and ensuring pregnant women have accessible routine checking of hypertension. Second, considering and managing socio-demographic and lifestyle risk factors revealed in this analysis are essential for preventing hypertensive disorders. This review suggests that community-based interventions to target education of the mother,

nutrition, physical activity and socioeconomic status reduction can reduce hypertensive disorders in pregnancy.

6. Conclusion

The results of the current study indicate that hypertensive disorders during pregnancy are a major health concern among pregnant women in their third trimester at Banadir Hospital, Mogadishu, Somalia; most respondents said these conditions are frequent among pregnant women. This study indicates the perceived elevation of hypertensive disorders prevalence and reports potential inadequacies when controlling for hypertensive disorders in the hospital environment. Concerning the socio-demographic characteristics, age and SES were recognized as influential factors affecting the hypertensive disorders' prevalence, as well as lifestyle and dietary factors reemphasizing the necessity for focused interventions. Reported findings of this study also endorse the need to enhance the existing prenatal care services, increase the vigilance in monitoring, and control Modifiable Risk Factors causing maternal and fetal complications in Somalia. Subsequent studies in this population are warranted to elucidate the precise etiologies of hypertensive disorders in this population with a view of designing population specific prevention paradigms and effective management interventions.

7. Recommendations

According to the findings of this study, it is advised that Banadir Hospital augment prenatal care by increasing the conformity rates of standard blood pressure checks among pregnant women especially those who fall under the high-risk category. Healthcare providers should be supposed to have continued training to allow for appropriate early identification and immediate management of hypertension complications. Two strategies for the prevention of hypertension: Early antenatal clinic attendance, lifestyle changes, and dietary modifications should be the topics of the public health campaigns. Moreover, education on relevant socio-demographic determinants including older maternal age and low income should also be a focus of more specific interventions. Sustained scholarly endeavors about hypertensive disorders and other studies to develop statistical data compiling methods can also encourage the designation of novel preventive advices and medical policies.

References

- [1] Abdalla, A. A., Alagib, M. E. A., & Balla, S. A. (2019). Socio-demographic Characteristics, Risk Factors and Awareness of Adults Hypertensive Population in Khartoum Locality, 2014. *Journal of Advances in Medicine and Medical Research*, 30(8), 1-9.
- [2] Alkhodari, M., Xiong, Z., Khandoker, A. H., Hadjileontiadis, L. J., Leeson, P., & Lapidaire, W. (2023). The role of artificial intelligence in hypertensive disorders of pregnancy: towards personalized healthcare. *Expert Review of Cardiovascular Therapy*, 21(7), 531-543.
- [3] Anisa, H. (2021). *Maternal Nutrition Knowledge, Attitudes, and Practices of Pregnant Women Attending* *Sos Hospital Mogadishu, Somalia* (Doctoral dissertation, University of Nairobi).
- [4] Atuk, T., & Craddock, S. L. (2023). Social pathologies and urban pathogenicity: Moving towards better pandemic futures. *Urban Studies*, 60(9), 1668-1689.
- [5] Elnaem, M. H., Kamarudin, N. H., Syed, N. K., Huri, H. Z., Dehele, I. S., & Cheema, E. (2021). Associations between socio-demographic factors and hypertension management during the COVID-19 pandemic: preliminary findings from Malaysia. *International Journal of Environmental Research and Public Health*, 18(17), 9306.
- [6] Escobar, M. F., Benitez-Díaz, N., Blanco-Londoño, I., Cerón-Garcés, C., Peña-Zárate, E. E., Guevara-Calderón, L. A., ... & Galindo, J. S. (2024). Synthesis of evidence for managing hypertensive disorders of pregnancy in low middle-income countries: a scoping review. *BMC Pregnancy and Childbirth*, 24(1), 622.
- [7] Gemechu, K. S., Assefa, N., & Mengistie, B. (2020). Prevalence of hypertensive disorders of pregnancy and pregnancy outcomes in Sub-Saharan Africa: A systematic review and meta-analysis. *Women's Health*, 16, 1745506520973105.
- [8] Hussien, M. Y. (2023). *Prevalence and Risk Factors of Preterm Births at Banadir Hospital in Mogadishu-somalia-a Cross-sectional Study* (Doctoral dissertation, University of Nairobi).
- [9] Jiang, L., Tang, K., Magee, L. A., von Dadelszen, P., Ekeroma, A., Li, X., ... & Bhutta, Z. A. (2022). A global view of hypertensive disorders and diabetes mellitus during pregnancy. *Nature Reviews Endocrinology*, 18(12), 760-775.
- [10] Kibret, K. T., Chojenta, C., Gresham, E., Tegegne, T. K., & Loxton, D. (2019). Maternal dietary patterns and risk of adverse pregnancy (hypertensive disorders of pregnancy and gestational diabetes mellitus) and birth (preterm birth and low birth weight) outcomes: a systematic review and meta-analysis. *Public health nutrition*, 22(3), 506-520.
- [11] Kokotailo, R. A. (2019). The Experience of HELLP Syndrome in Pregnancy and its Influence on Motherhood: An Autoethnographic Inquiry.
- [12] Lewandowska, M., Więckowska, B., & Sajdak, S. (2020). Pre-pregnancy obesity, excessive gestational weight gain, and the risk of pregnancy-induced hypertension and gestational diabetes mellitus. *Journal of clinical medicine*, 9(6), 1980.
- [13] Luyckx, V. A., & Chevalier, R. L. (2022). Impact of early life development on later onset chronic kidney disease and hypertension and the role of evolutionary trade-offs. *Experimental physiology*, 107(5), 410-414.
- [14] Mansueto, G., Niola, M., & Napoli, C. (2020). Can COVID 2019 induce a specific cardiovascular damage or it exacerbates pre-existing cardiovascular diseases? *Pathology-Research and Practice*, 216(9), 153086.
- [15] Noubiap, J. J., Bigna, J. J., Nyaga, U. F., Jingi, A. M., Kaze, A. D., Nansseu, J. R., & Fokom Domgue, J. (2019). The burden of hypertensive disorders of pregnancy in Africa: a systematic review and meta-analysis. *The Journal of Clinical Hypertension*, 21(4), 479-488.

- [16] Rolfe, S., Garnham, L., Godwin, J., Anderson, I., Seaman, P., & Donaldson, C. (2020). Housing as a social determinant of health and wellbeing: Developing an empirically-informed realist theoretical framework. *BMC Public Health*, 20(1), 1138.
- [17] Scott, K. (2023). *Deciphering the vascular disease mechanisms underlying hypertensive disorders of pregnancy* (Doctoral dissertation, University of Glasgow).
- [18] Sole, K. B., Staff, A. C., & Laine, K. (2021). Maternal diseases and risk of hypertensive disorders of pregnancy across gestational age groups. *Pregnancy hypertension*, 25, 25-33.
- [19] Townsend, B., Schram, A., Baum, F., Labonté, R., & Friel, S. (2020). How does policy framing enable or constrain inclusion of social determinants of health and health equity on trade policy agendas? *Critical Public Health*, 30(1), 115-126.
- [20] United Nations Population Fund (UNFPA). (2021). *State of the world's population 2021: My body is my own*. United Nations Population Fund. Retrieved from <https://www.unfpa.org>
- [21] Vahedi, F. A. (2023). *Risk of Cardiovascular Disease in Women with a History of Complications of Pregnancy: From Awareness to Management* (Doctoral dissertation, University of Technology Sydney (Australia)).
- [22] Vulin, M., Magušić, L., Metzger, A. M., Muller, A., Drenjančević, I., Jukić, I., ... & Stupin, A. (2022). Sodium-to-potassium ratio as an indicator of diet quality in healthy pregnant women. *Nutrients*, 14(23), 5052.
- [23] Wang, M., Du, X., Huang, W., & Xu, Y. (2022). Ultra-processed foods consumption increases the risk of hypertension in adults: a systematic review and meta-analysis. *American journal of hypertension*, 35(10), 892-901.
- [24] Wang, W., Xie, X., Yuan, T., Wang, Y., Zhao, F., Zhou, Z., & Zhang, H. (2021). Epidemiological trends of maternal hypertensive disorders of pregnancy at the global, regional, and national levels: a population-based study. *BMC pregnancy and childbirth*, 21(1), 364.
- [25] World Health Organization (WHO). (2020). *A global brief on hypertension: Silent killer, global public health crisis*. World Health Organization. Retrieved from <https://www.who.int>