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Assessing Prevalence and Knowledge of Pregnancy-Induced Hypertension among Pregnant Women at a Regional Hospital in Ghana

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ABSTRACT

This study aimed to evaluate the prevalence and knowledge of Pregnancy-Induced Hypertension (PIH) among pregnant women attending Kumasi South Hospital in Asokwa Municipality, Ghana. An institutional-based descriptive cross-sectional study was conducted from November 1, 2022, to April 1, 2023. A structured questionnaire was administered to 190 pregnant women, and data were analyzed using SPSS version 22.0. Descriptive and inferential statistics were applied to examine associations between knowledge scores and various demographic and clinical factors, with a significance threshold set at a p-value of 0.05. The prevalence of PIH among participants was 16.3%. Adequate knowledge about PIH was observed in 65.3% of the women. Significant associations with higher knowledge scores were found for age ($\chi^2 = 1.241$, $p = 0.002$) and place of residence ($\chi^2 = 0.212$, $p = 0.001$). Women with a family history of hypertension had higher knowledge scores ($\chi^2 = 7.851$, $p = 0.020$). Prior contraceptive use was linked to better knowledge scores ($\chi^2 = 7.429$, $p = 0.022$). Additionally, combined oral contraceptives' users demonstrated higher knowledge than those using injectable contraceptives or implants ($\chi^2 = 6.821$, $p = 0.033$). The study found significant PIH prevalence at Kumasi South Hospital, with better knowledge linked to a family history of hypertension, prior contraceptive use, and injectable contraceptives or implants. Enhancing educational efforts on PIH is crucial, and further research should explore attitudes towards PIH management.

INTRODUCTION

Pregnancy-induced hypertension (PIH), which includes gestational hypertension and preeclampsia, is a critical concern in obstetrics due to its significant impact on maternal and foetal health. PIH is characterized by blood pressure readings of 140/90 mmHg or higher, measured within four hours, and can lead to severe complications such as preterm birth, intrauterine growth restriction, and maternal mortality (Mathew *et al.*, 2023). According to the World Health Organization (WHO), PIH, along with haemorrhage and infection, constitutes a lethal trifecta responsible for at least one maternal death every seven minutes globally (Gudeta & Regassa, 2019). The global prevalence of PIH ranges from 5-10%, with an increase in cases from 16.30 million in 1990 to 18.08 million in 2019 (Wang *et al.*, 2021). This condition is classified into several categories, including chronic hypertension, gestational hypertension, preeclampsia, superimposed preeclampsia, and eclampsia, as outlined by American College of Obstetricians and Gynecologists, (2022). Accurate diagnosis is essential and requires consistent blood pressure measurements exceeding 140/90 mmHg within a specific timeframe (Moshi & Tungaraza, 2021). Globally, PIH is a leading cause of maternal mortality, accounting for approximately 14% and 16% of maternal mortality worldwide and in Sub-Saharan Africa (Boachie-Ansah *et al.*, 2023). Between 2017 and 2019, the prevalence of hypertensive disorders of pregnancy (HDP) rose from 13.3% to 15.9%. The highest prevalence was observed in women aged 35–44 (18.0%) and those aged 45–55 (31.0%). The highest rates were found in women aged 35–44 (18.0%) and 45–55 years (31.0%) (Centers for Disease Control and Prevention (CDC), 2022). In 2010, approximately 287,000 maternal deaths were reported, with significant regional differences in lifetime risk. In developed countries, the risk was about 1 in 3,800, whereas in sub-Saharan Africa, it was as high as 1 in 39 (Abalos *et al.*, 2014). Recent studies indicate a growing incidence of PIH, highlighting an escalating public health concern (Garanet *et al.*, 2022).

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The reported incidence of pregnancy-induced hypertension (PIH) is 6.1% in southern Ghana and 3.2% in northern Ghana (Agbeno *et al.*, 2022). The prevalence of PIH in Ghana mirrors the regional trends, yet data specific to secondary healthcare facilities is limited. This knowledge gap is particularly pertinent for Asokwa Municipality in Kumasi, where diverse socio-economic conditions and varying levels of healthcare access may influence PIH prevalence and management. Rural and urban disparities in health services and education necessitate targeted research and interventions.

This study aimed to address these gaps by evaluating the prevalence and knowledge of PIH among pregnant women at Kumasi South Hospital, a regional healthcare facility in Asokwa Municipality. By identifying the prevalence of PIH and assessing the associated knowledge among pregnant women, this research seeks to inform local healthcare strategies and improve maternal health outcomes in the region.

MATERIALS AND METHODS

Study Setting

The Kumasi South Hospital, located in Agogo within the Asokwa Municipal Assembly, Greater Kumasi, was established as a clinic in 1976 and later upgraded to a regional hospital. It serves the region alongside the Komfo Anokye Teaching Hospital, offering emergency care, obstetrics, paediatrics, and more services. Agogo, with a 2021 population of 11,062, is a trading hub with notable landmarks including the Shoe Factory and Agogo Market. The hospital, employs around 230 staff, focusing on advanced clinical services supporting primary and secondary health care.

Study Design

This was an institutional-based descriptive cross-sectional design with quantitative methods to evaluate the prevalence and knowledge of Pregnancy-Induced Hypertension (PIH) among pregnant women at Kumasi South Hospital.

Study Population, Inclusion and Exclusion Criterion and Sampling Size Determination

The study population included all pregnant women attending the antenatal clinic at Kumasi South Hospital during the study period. Participants were between 15 and 45 years old, representing the standard reproductive age range.

Inclusion criteria for the study were pregnant women attending the antenatal clinic at Kumasi South Hospital during the study period who provided informed consent to participate. Exclusion criteria included pregnant women who declined to participate, those with severe mental illness or other serious health conditions, and individuals in active labour.

The sample size for the study was determined using Yamane's (1967) formula:

$n=N/1+N.e^2$.

where n represents the sample size, N is the target population (201), and e is the precision level. For this study, with a precision level of 10% and a 95% confidence level (e = 0.05), the sample size calculation was:

$n=201/1=201.(0.05)^2 \approx 172$

To accommodate practical constraints such as budget and time, a final sample size of 190 was selected. This size provides a 95% confidence interval with a 5% margin of error, ensuring sufficient statistical power for the study.

Data Collection Instruments, Sampling Techniques, and Data Collection Procedure

Data were collected using a structured questionnaire with both open and closed-ended questions. The data collection period spanned from November 1, 2022, to April 1, 2023. A structured questionnaire with both open and closed-ended questions was used to collect data from study participants between November 1, 2022, and April 1, 2023. A structured questionnaire with both open and closed-ended questions was employed to collect data from study participants 1st of November 2022 to the 1st of April 2020. The questionnaire was organized into three sections: Section 1 gathered demographic information, including age, parity, gravidity, marital status, religion, and educational level; Section 2 assessed the prevalence and knowledge of Pregnancy Induced Hypertension (PIH); and Section 3 explored factors and complications related to PIH. This instrument was selected for its capacity to elicit clear and specific responses, though it might not capture information beyond the structured questions. To ensure validity and reliability, the questionnaire was pretested at St. Michael's Hospital in Pramso and refined based on feedback. Reliability was verified through a test-retest method, showing consistent results. Simple random sampling was implemented using a balloting method, where 190 papers marked "Yes" and 190 papers marked "No" were prepared. These papers were mixed in a bowl, and participants drew one to determine their inclusion in the study. Those drawing a "Yes" were included, while those drawing a "No" were excluded. Data collection involved administering the questionnaires to selected participants, measuring blood pressure with an Omron M2 Basic digital monitor after a 10-minute rest, and conducting two readings with a minimum 30-minute interval between them. Verbal consent was obtained from each participant, who was informed about the study's purpose. Each questionnaire took approximately 10-15 minutes to complete, and the data collection process lasted three days.

Data Analysis

Data analysis was conducted using SPSS version 22.0. Descriptive statistics, including absolute numbers, proportions, and simple percentages, were applied as appropriate. Results were presented in tables and charts to enhance clarity. Demographic characteristics were summarized using frequencies and percentages. To evaluate knowledge of Pregnancy Induced Hypertension

(PIH), responses to 11 questions in Section B of the questionnaire were scored as 1 for correct answers and 0 for incorrect answers. Total scores were classified into "Good Knowledge" (6-11) and "Poor Knowledge" (0-5), with proportions reported for each category. Pearson's Chi-square test was used to assess the significance of associations between categorical variables, with a p-value less than 0.05 considered statistically significant. Logistic regression analysis was also performed to determine the impact of independent variables on PIH knowledge, with results presented at a 95% confidence interval and a significance threshold of $p < 0.05$.

RESULTS AND DISCUSSIONS

Demographic Distribution of Pregnant Women

The sample of 190 respondents is predominantly urban (57.8%) and between 31-35 years old (32.6%). Most are married (56.8%) and self-employed (39.4%). Educational attainment varies, with 32.6% having no formal education and 23.2% holding a Senior High School diploma. The majority practice Christianity (64.7%), while ethnic diversity is notable with Akan (47.9%) being the largest group. Marital status and occupation reflect a diverse socioeconomic profile, with significant representation in both the informal and self-employed sectors.

Table 1: Demographic Distribution of Pregnant Women at a Regional Hospital in Ghana

Variables/Category	Frequency (n=190)	Percentage (%)
Age		
<20	16	8.4
20-25	34	17.9
26-30	39	20.5
31-35	62	32.6
36-40	25	13.1
40+	14	7.4
Marital status		
Single	17	6.3
Married	108	56.8
Divorced/Separated	9	4.7
Widowed	5	3.7
Cohabiting	54	28.4
Educational Level		
No Formal Education	62	32.6
Primary	34	17.9
JHS	23	12.1
SHS	44	23.2
Tertiary	27	14.2
Religion		
Christian	123	64.7
Muslim	65	34.3
Tradionalist	2	1
Ethnic Group		
Ga	24	12.6
Ewe	32	16.8
Akan	91	47.9
Northern	29	15.3
Others	14	7.4
Total	190	100
Occupation		
Unemployed/Housewife	34	17.9
Informally employed	41	21.6
Formally employed	29	15.3
Self Employed	75	39.4

Student	11	5.8
Respondents Residence		
Rural	80	42.2
Urban	110	57.8

Obstetric and Medical History-Related Characteristics of the Study Participants

Most pregnancies (86%) were intended, with over half of the participants being multigravida. The majority had a parity of 2-3 children. About 19.3% had a history of abortion, with 51.4% having experienced only one abortion. Antenatal care (ANC) visits were variable, with one-third attending twice. A notable 34.7% had a family history of hypertension, while 17.4% had a history of diabetes and 29.5% had kidney disease. Contraceptive use before pregnancy was common (80%), primarily Combined Oral Contraceptive Pill (COCP) (53.1%), with over half using contraception for less than 5 years.

Table 2: Distribution of Pregnancy-Related Variables Among Pregnant Women at a Regional Hospital in Ghana

Variables/Category	Frequency	Percentage
Status of current pregnancy		
Intended	165	86
Un intended	25	14
Gravidity		
Primigravida	44	23.1
Multigravida	100	52.6
Grand multipara (≥5)	46	24.2
Parity		
<2	45	23.6
2-3	85	44.7
≥4	60	31.6
History of abortion		
Yes	68	19.3
No	122	87.7
Number of abortion (n=37)		
Once	35	51.4
Two or more	33	48.6
Number of ANC visits		
Once	36	18.9
Twice	64	33.7
Three times	55	28.9
Four times	35	18.4
Family history of hypertension		
Yes	66	34.7
No	124	65.3
History of diabetes mellitus		
Yes	33	17.4
No	167	87.8
History of kidney diseases		
Yes	56	29.5
No	134	70.5
Contraceptive used before current pregnancy		
Yes	152	80
No	38	20
Types of contraceptive used		

COCP	101	53.1
Injectable/implants	89	46.9
Duration of contraceptive use		
<5years	89	55.8
≥5years	101	44.2

Prevalence and Overall Knowledge of PIH among Pregnant Women

The data shows that 16% of pregnant mothers experienced Pregnancy Induced Hypertension (PIH), with the majority, 84%, not having the condition. Concerning knowledge about PIH, 65.3% of the pregnant mothers had adequate understanding, while 34.7% lacked sufficient knowledge (Figure 1).

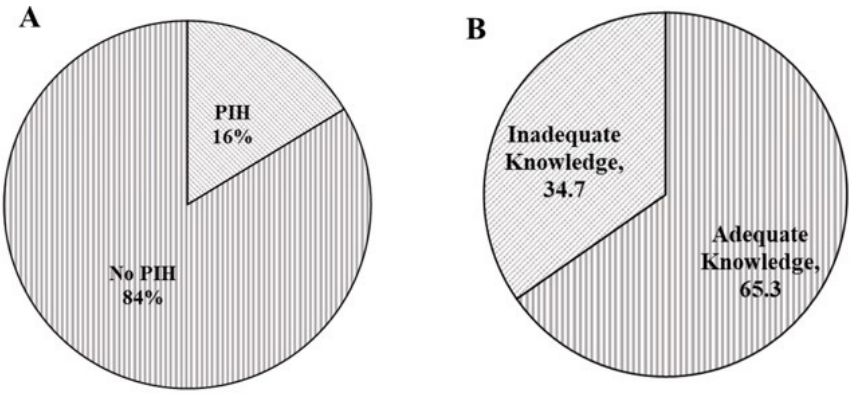

Figure 1: (A) Prevalence of PIH among pregnant women; (B) Knowledge of PIH among pregnant women

Demographic Characteristics Associated with Knowledge Scores among Pregnant

The Pearson Chi-square analysis revealed significant associations between knowledge scores and age and place of residence. Participants under 20 years had significantly lower knowledge scores compared to those aged 31-35 years ($\chi^2 = 1.241$, $p = 0.002$). Additionally, rural residents had higher knowledge scores than urban residents ($\chi^2 = 0.212$, $p = 0.001$). No significant association were found between PIH and marital status marital status ($\chi^2 = 0.212$, $p = 0.645$), ethnic group ($\chi^2 = 0.953$, $p = 0.813$), religion ($\chi^2 = 0.089$, $p = 0.766$), educational level ($\chi^2 = 1.423$, $p = 0.237$), or occupation ($\chi^2 = 0.876$, $p = 0.538$).

Table 3: Demographic Characteristics Associated with Knowledge Scores Among Pregnant Women at a Regional Hospital in Ghana

Variables/Category	Knowledge score		Chi-Square	P-Value
	Inadequate	Adequate		
Age				
<20	10 (27.03)	18 (25.35)	1.241	0.002
21-25	8 (21.62)	11(15.50)		
26-30	8(21.3)	14(19.7)		
31-35	7(18.9)	16(22.5)		
36-40	4(10.8)	12(16.9)		
40+	8(21.3)	14(19.7)		
Marital Status				
Married	25 (67.6)	51(71.8)	0.212	0.645
Unmarried	12(32.4)	20(28.2)		
Ethnic Group				
Akan	21(56.8)	42(59.2)	0.953	0.813
Ewe	2(5.4)	7(9.9)		
Ga	4(10.8)	6(8.5)		
Other	10(27.0)	16(22.5)		
Religion				

Christian	44(66.7)	79(63.7)	0.089	0.766
Muslim	22(33.3)	43(34.7)		
Tradionalist	0(0.0)	2(1.6)		
Educational Level				
No Formal Education	21(36.8)	41(30.8)	1.423	0.237
Primary	9(15.8)	25(18.8)		
JHS	5(8.8)	18(13.5)		
SHS	14(24.6)	30(22.6)		
Tertiary	8(14.0)	19(14.3)		
Religion				
Christian	25(58.1)	98(66.7)	0.678	0.412
Muslim	18(41.9)	47(32.0)		
Tradionalist	0(0.0)	2(1.4)		
Ethnic Group				
Ga	8(11.4)	16(13.3)	2.345	0.089
Ewe	10(14.3)	22(18.3)		
Akan	35(50.0)	56(46.7)		
Northern	11(15.7)	18(15.0)		
Others	6(8.6)	8(6.7)		
Occupation				
Unemployed/Housewife	11(20.4)	23(16.9)	0.876	0.538
Informally employed	12(22.2)	29(21.3)		
Formally employed	9(16.7)	20(14.7)		
Self Employed	19(35.2)	56(41.2)		
Student	3(5.6)	8(5.9)		
Place of Residence				
Rural	21(56.8)	48(67.4)	0.212	0.001
Urban	16(43.2)	23(32.4)		

Association of Pregnancy-Related Variables with Knowledge Scores among Pregnant

The Pearson Chi-square analysis found significant associations between knowledge scores and family history of hypertension, contraceptive use before pregnancy, and type of contraceptive used. A family history of hypertension was associated with higher knowledge scores ($\chi^2 = 7.851$, $p = 0.020$). Contraceptive use before the current pregnancy was linked to higher knowledge scores ($\chi^2 = 7.429$, $p = 0.022$). Additionally, users of injectable/implants had better knowledge compared to those using COCP ($\chi^2 = 6.821$, $p = 0.033$). No significant associations were observed for a status of current pregnancy, gravidity, parity, history of abortion, number of ANC visits, history of diabetes mellitus, history of kidney diseases, or duration of contraceptive use.

Table 4: Association of Pregnancy-Related Variables with Knowledge Scores Among Pregnant Women at a Regional Hospital in Ghana

Variables/Category	Inadequate Knowledge	Adequate Knowledge	Chi-Square	P-Value
Status of Current Pregnancy				
Intended	25 (35.7)	45 (64.3)	1.523	0.217
Unintended	45 (45.0)	55 (55.0)		
Gravidity				
Primigravida	12 (27.3)	32 (72.7)	1.758	0.185
Multigravida	35 (35.0)	65 (65.0)		
Grand multipara (≥5)	23 (50.0)	23 (50.0)		
Parity				

<2	15 (33.3)	30 (66.7)	1.469	0.226
2-3	40 (47.1)	45 (52.9)		
≥4	15 (25.0)	45 (75.0)		
History of Abortion				
Yes	35 (51.5)	33 (48.5)	0.131	0.718
No	35 (28.7)	87 (71.3)		
Number of Abortion				
Once	20 (57.1)	15 (42.9)	0.543	0.461
Two or More	18 (54.5)	15 (45.5)		
Number of ANC Visits				
Once	12 (33.3)	24 (66.7)	1.469	0.226
Twice	28 (43.8)	36 (56.3)		
Three times	25 (45.5)	30 (54.5)		
Four times	15 (42.9)	20 (57.1)		
Family History of Hypertension				
Yes	35 (53.0)	89 (71.8)	7.851	0.020
No	35 (28.2)	31 (47.0)		
History of Diabetes Mellitus				
Yes	6 (18.2)	27 (81.8)	1.234	0.267
No	65 (38.9)	102 (61.1)		
History of Kidney Diseases				
Yes	15 (26.8)	41 (73.2)	0.609	0.435
No	60 (44.8)	74 (55.2)		
Contraceptive Used Before Current Pregnancy				
Yes	40 (26.3)	112 (73.7)	7.429	0.022
No	30 (78.9)	8 (21.1)		
Types of Contraceptive Used				
COCP	55 (54.5)	74 (83.1)	6.821	0.033
Injectable/Implants	15 (16.9)	46 (45.5)		
Duration of Contraceptive Use				
<5 Years	50 (56.0)	39 (44.0)	0.957	0.328
≥5 Years	20 (19.8)	81 (80.2)		

Discussion

This study provides an in-depth analysis of the obstetric and medical history characteristics of pregnant women at a regional hospital in Ghana, with a focus on Pregnancy-Induced Hypertension (PIH) and associated knowledge.

The prevalence of PIH in this study is 16.3%, which is lower compared to some other regions. For example, studies in India (Mathew *et al.*, 2023) and South Africa reported PIH rates of approximately 22% and 24%, respectively. These higher rates may result from different socio-economic conditions, healthcare access, or diagnostic practices. In contrast, the prevalence found in this study is higher compared to some regions with lower PIH rates, such as Ethiopia, where the prevalence is approximately 7.9% (Gudeta & Regassa, 2019), and the United States, which reported a rate of 15.9% (Centers for Disease Control and Prevention (CDC), 2022). Lower PIH rates were also recorded in Burkina Faso (Garanet *et al.*, 2022) and elsewhere in sub-Sahara Africa which reported rates between 1.5% to 8% (Gemechu *et al.*, 2020).

This discrepancy may be attributed to variations in population health profiles, healthcare infrastructure, or diagnostic methodologies. The prevalence in this study is similar to a study conducted elsewhere in Africa (Noubiap *et al.*, 2019), suggesting comparable healthcare systems and socio-economic conditions.

The study's finding that 65.3% of participants had adequate knowledge about Pregnancy-Induced Hypertension (PIH) aligns with some existing literature but higher than studies conducted in Ethiopia (Berhe *et al.*, 2020) and at Tribhuvan University Teaching Hospital (TUTH) Kathmandu (Basnet *et al.*, 2023). The current study revealed that younger women often have lower health knowledge, including about conditions like PIH. This finding corroborate a similar study in Ghana (Fondjo

et al., 2019). Similarly, a study by Peter & Okafor, (2024) also reported that younger women are less informed about various pregnancy-related complications due to less exposure to health education and fewer health-seeking behaviours.

In contrast to the prevailing assumption that urban populations possess better access to health information, this study found that rural residents demonstrated higher knowledge scores than their urban counterparts. Sani *et al.*, (2024) anticipated higher knowledge levels among urban residents due to their greater access to healthcare facilities and information. However, the findings of this study may be attributed to specific local factors, such as effective grassroots educational programs or more active community health workers in rural areas. This suggests that targeted community health initiatives in rural settings may sometimes surpass urban-based health campaigns in enhancing health knowledge.

The study's observation that higher knowledge scores are associated with a family history of hypertension is consistent with existing research. Getahun, (2023) demonstrate that individuals with a family history of hypertension are generally more aware of related health risks and engage in preventive measures, which likely contributes to the higher knowledge scores observed among these women.

The current study identified a significant association between contraceptive use and increased knowledge, indicating that women who use contraception generally exhibit better health literacy. This enhanced knowledge is likely attributed to the educational counselling provided during contraceptive consultations. In contrast, a study conducted in Sub-Saharan Africa found no significant association between contraceptive use and increased knowledge about pregnancy-induced hypertension (Meazaw *et al.*, 2020).

The study found that users of oral contraceptive pills (OCPs) exhibited higher knowledge scores compared to those using injectable contraceptives or implants. This observation aligns with findings by Alameer *et al.*, (2022), who reported that OCP users often receive more detailed counselling about potential side effects, including those related to pregnancy-induced hypertension (PIH). The comprehensive nature of this counselling may account for the increased knowledge scores among OCP users Conversely, users of injectable contraceptives or implants might retain less detailed information about contraceptive use due to the extended intervals between administrations. This reduced frequency of counselling sessions could contribute to their comparatively lower knowledge scores. These findings underscore the need for consistent and thorough education across all contraceptive methods to ensure that all users are well-informed about potential side effects and associated risks.

In Asokwa Municipal, Kumasi, Ghana, addressing the findings related to Pregnancy-Induced Hypertension (PIH) requires a targeted approach. First, enhance educational programs specifically for younger and rural women. Community workshops and school outreach should focus on PIH and prenatal care, tailored to the local cultural context. Second, improve access to antenatal care (ANC). Establish mobile clinics and enhance local transportation to facilitate regular visits. Financial support or subsidies for ANC services can also help reduce economic barriers. Third, strengthen education about contraceptive methods. Implement targeted campaigns and counselling at local health centres to address the benefits and risks of various contraceptive options, including long-acting reversible contraceptives (LARCs) and Combined Oral Contraceptive Pill (COCPs). These strategies are designed to address Asokwa's unique needs and improve maternal health outcomes.

Strengths and Limitations

This study's strengths include its focus on a specific regional hospital, providing valuable insights into PIH prevalence and knowledge in Kumasi South Hospital. The structured questionnaire and rigorous statistical analysis enhance the reliability of the findings. However, the study is limited by its cross-sectional design, which inhibits the ability to establish causality, and potential biases from self-reported data may affect the results. Additionally, the findings may not be generalizable beyond similar regional settings, and the lack of longitudinal data restricts the ability to observe changes in knowledge and outcomes over time. Future research should address these limitations by incorporating longitudinal and qualitative approaches.

CONCLUSION

The study identifies a significant prevalence of pregnancy-induced hypertension (PIH) among pregnant women at Kumasi South Hospital. Increased PIH knowledge was notably associated with a family history of hypertension, prior contraceptive use, and the use of injectable contraceptives or implants. These findings underscore the effectiveness of targeted educational interventions, particularly among women with a family history of hypertension and those using long-acting contraceptives, which generally demonstrate better PIH awareness. To improve maternal health outcomes, it is essential to enhance educational efforts across all contraceptive methods and address specific knowledge gaps within the Asokwa municipality. Future research should investigate pregnant women's attitudes towards PIH management and their impact on pregnancy outcomes.

Recommendations

To address the findings related to Pregnancy-Induced Hypertension (PIH) in Asokwa Municipal, Kumasi, Ghana, the following recommendations are proposed:

Enhance Educational Programs

The Asokwa Municipal Health Directorate, in collaboration with local NGOs and community health workers, should implement tailored educational initiatives for younger and rural women. These programs should

focus on PIH and prenatal care through workshops and school outreach tailored to the local cultural context.

Improve Antenatal Care Access

The Asokwa Municipal Health Directorate should establish mobile clinics and enhance local transportation to facilitate regular antenatal visits. Additionally, financial support or subsidies for antenatal care services should be provided to reduce economic barriers.

Strengthen Contraceptive Education

Local health centres, supported by the Ghana Health Service, should launch targeted educational campaigns to improve knowledge about various contraceptive methods, including long-acting reversible contraceptives (LARCs) and combined oral contraceptive pills (COCPs).

Implement Pre-Conception Counselling

The Asokwa Municipal Health Directorate should set up a pre-conception counselling unit within local clinics to identify and manage risk factors before pregnancy, aiding early detection and management of potential complications.

Conduct Further Research

Research institutions and the Ghana Health Service should initiate studies to explore pregnant women's attitudes towards PIH management and evaluate the effectiveness of educational interventions on pregnancy outcomes.

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