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Effect of a Nurse-Led Intervention on Self-Care Skills for Pregnancy-Induced Hypertension Among Pregnant Women in Secondary Health Facilities in Abeokuta, Nigeria

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Abstract: *Self-care skills recognising oedema, testing urine for protein, and maintaining adequate hydration enable pregnant women to detect and respond to pregnancy-induced hypertension (PIH) early. In many low-resource antenatal settings these skills are poorly developed, contributing to preventable maternal morbidity and mortality, and the value of low-cost reinforcement tools such as take-home leaflets is seldom quantified. This study assessed the effect of a nurse-led intervention on self-care skills for PIH among pregnant women attending selected secondary health facilities in Abeokuta, Ogun State, Nigeria, and examined whether take-home leaflets added benefit. A three-group quasi-experimental design enrolled 271 pregnant women by proportional allocation into two experimental groups (Site A, n = 78; Site B, n = 131) and a control group (n = 62). Both experimental sites received the nurse-led package with hands-on skill demonstrations; Site B additionally received take-home leaflets. Self-care skills were assessed with a validated 20-item observational rating scale (α = 0.84) at pre-intervention (P0) and at 4 (P1) and 8 (P2) weeks post-intervention. Analysis used descriptive statistics and independent t-tests at p < .05. Baseline self-care skills did not differ between groups (experimental M = 8.09 ± 1.66; control M = 8.01 ± 1.73; t = 0.88, p = .461). Skills rose sharply in the experimental group at P1 (M = 18.16 ± 0.87) and P2 (M = 18.19 ± 0.87), far exceeding the control group at both points (t = 6.56 and 6.59, both p < .001). Between experimental sites, skills were comparable at P0 and P1 but significantly higher at Site B (leaflets) at P2 (t = 3.65, p < .001), with above-average performance across recognition of oedema, urine testing, and fluid intake. The nurse-led intervention produced large, sustained gains in PIH self-care skills, and take-home leaflets further improved performance. Skill-based nurse-led education with printed reinforcement should be embedded in routine antenatal care.*

Keywords: pregnancy-induced hypertension; self-care skills; nurse-led intervention; antenatal care; maternal health

INTRODUCTION

Pregnancy-induced hypertension (PIH), which is an increase in blood pressure ≥140/90 mmHg during pregnancy after 20 weeks of gestation, in women who had previously normal blood pressure is a major cause of maternal and perinatal morbidity and mortality in the world with an estimated prevalence of 5-10% (Garovic et al., 2020; Tesfaye et al., 2019). High blood pressure is serious if systolic pressure is over 160 mmHg or diastolic pressure is over 110 mmHg and can damage the liver and kidneys (Turbeville & Sasser, 2020). PIH is the second most common cause of maternal mortality in sub-Saharan Africa and responsible for approximately half of all deaths related to hypertension among women (Agbeno et al., 2022; Daniel et al., 2024). Eclampsia can happen quickly, so identifying signs and symptoms early is crucial to preventing complications like stroke, HELLP syndrome, acute kidney injury and problems with the baby (Ford et al., 2022; Razak et al., 2018).

PIH is a significant burden around the world. The condition leads to over 70,000 maternal deaths and more than 500,000 fetal deaths each year, and WHO estimates that one woman dies every seven minutes due to complications of the condition (Apurval et al., 2020). In 2019, Ru et al. estimated approximately 3.46 million pregnant women with PIH worldwide, resulting in 27,834 deaths and over 1.8 million disability-adjusted life years (DALYs) lost. Maternal complications include haemorrhagic and ischaemic stroke, HELLP syndrome, renal dysfunction, pre-term delivery and placental abruption, and fetuses can have intrauterine growth restriction, low birth weight and stillbirth (Ford et al., 2022; Razak et al., 2018). Many of these outcomes can be prevented, which is where self-care skills can have an impact, if women are aware of the signs early and seek prompt care.

According to the World Health Organization (2023), self-care is 'the ability of individuals, families and communities to maintain and improve their health, wellbeing, and function independently or with the support of a health worker, through knowledge, skills and means, by addressing threats, vulnerabilities, and risks in the social, physical and economic environment'. Self-care skills enable pregnant women to actively engage in early detection and management in the context of PIH. Key skills are identifying oedema, utilising urine dipsticks to test for proteinuria and ensuring sufficient fluid intake and output (Bello et al., 2023). These skills enable women to recognise danger signs in between visits and to act quickly, thereby supplementing the clinical monitoring and hopefully minimizing the gap between the onset of symptoms and treatment.

However, in many of the Nigerian and sub-Saharan contexts these practices are not applied regularly. Research findings indicate moderate to low level of self-care management among pregnant women with PIH related to poor antenatal counselling, low health literacy and cultural barriers (Akinyemi et al., 2021; Al-Saffar & Hussian, 2016; Okon et al., 2022; Pswarayi, 2012). Moreover, women may be reluctant to engage in self-monitoring due to concerns about how to read the results correctly, further reducing the adoption of self-care practices (Olaniyi et al., 2023).

Self-care skills are procedural, and thus are not purely cognitive, and need to be modelled, practised and reinforced.

Such competencies can be best achieved through nurse led interventions that incorporate instruction with demonstration and return practice, as well as through participatory methods, with adult learners remembering skills and procedures better than from passive lectures (Olukoya et al., 2022; Yakubu et al., 2023). In similar African and Asian environments, structured nurse-led programs have been found to impact blood-pressure self-monitoring and self-care behaviour (Elbana et al., 2021; Ganu et al., 2021; Negi et al., 2020). But there is a lack of evidence from secondary facilities, and few studies have been able to quantify if any measurable extra gain in skill performance can be achieved by a simple, low-cost take-home leaflet. This study filled in that gap.

Specifically, the study (a) compared self-care skills across the experimental sites and the control group at pre-intervention (P0) and at 4 (P1) and 8 (P2) weeks post-intervention; and (b) determined whether take-home leaflets produced additional gains between the two experimental sites at P2.

Two hypotheses were tested:
Ho1: There is no significant difference in self-care skills between the experimental and control groups across the time points

Ho2: There is no significant difference in self-care skills between the two experimental sites at P2.

LITERATURE REVIEW

Self-Care Knowledge and Practices in Pregnancy-Induced Hypertension

Studies have consistently reported that, despite the fact that the knowledge and practices of pregnant women regarding self-care for PIH are suboptimal, they can be improved. Moderate level of self-care management in pregnant women with PIH was reported by Al-Saffar and Hussian (2016) in Kirkuk, Iraq and Pswarayi (2012) in Bindura, Zimbabwe. Al-Saffar and Hussian also found that, there was no significant relationship between self-care practices and sociodemographic factors and BMI, indicating that self-care competency is more dependent on education and support. The study by Pswarayi (2012) revealed that there was no statistically significant relationship between Self-care Knowledge and Hypertension Control but suggested that there is still some influence and that Self-care Knowledge should be reinforced continually during Antenatal Care.
It is common for a baseline deficit to be significant. According to Elbana et al. (2021), the self-care knowledge of pregnant women was inadequate (37.3%) before the intervention, with a large proportion of the women possessing incorrect knowledge of self-care practices. The results reflect the general knowledge that the morbidity and mortality of PIH may be minimized through early detection and proper obstetric care, but many women don't present early for detection, management and prevention because they lack the knowledge and skills necessary to do so. One is thus focussed

on strengthening self-care skills of women as a practical pathway to enhanced maternal and fetal outcomes.

Nurse-Led Interventions and Teaching Media

Several studies have demonstrated effectiveness of nurse-led and educational interventions in enhancing the self-care skills related to PIH. A nurse-led intervention was evaluated among a group of antenatal women by Negi et al. (2020) and the post-test self-care score and knowledge score were found to be significantly higher than the pre-test scores, which highlights the effectiveness of the nurse-led intervention in the prevention and management of PIH. Elbana et al. (2021) showed that self-care management programme significantly improved knowledge and practices; Muley (2022) and Mahmoud et al. (2023) showed similar results with a positive correlation between the scores of knowledge and practices. Ahmadinejad et al. (2022) emphasized the role of counselling and education programmes in improving the self-care skills and quality of life among hypertensive pregnant women, while Alnuaimi et al. (2020) pointed to the importance of health-professional-led education programmes as crucial tools for enhancing self-care management and pregnancy outcomes.

The medium of delivery is also important. Rachmawati et al (2024) highlighted the effectiveness of teaching media, such as PowerPoint presentations, learning models, pamphlets, animated videos, and mobile and social media, in enhancing self-care skills and knowledge among pregnant women with hypertension. Practical and participatory approaches seem particularly relevant for skills: for instance, self-care competency is higher when people learn to measure blood pressure themselves rather than just being told how, and more sessions of behaviour change maintenance have a greater impact than a single session (Yakubu et al., 2023; Osagie et al., 2022). In contrast, mobile-only education is found to give knowledge but not necessarily applications of the skills as the participants do not have hands-on experiences (Adebayo et al., 2021). This suggests that a nurse-led package with a skills focus and plenty of demonstration is warranted and that the usefulness of printed reinforcement should be tested.

Practical Skills, Confidence, and Barriers to Self-Care

One theme that emerges in the literature is that procedural self-care skills are learned with practice and confidence and not solely through information. Yakubu et al. (2023) reported that women with pregnancy, who engaged in nurse-led hands-on workshops for blood pressure measurement and urine dipstick analysis, exhibited a much higher level of self-care competency than those who only received verbal teaching. Ahmadinejad et al. (2022) concluded that counselling and education programmes are essential to improve self-care skills and quality of life; and Alnuaimi et al. (2020) focused on health-professional-led programmes as an essential key to developing self-care management. Concurrently, challenges remain, including women's reluctance to use BPs due to fear of inaccurate readings or misunderstanding the results (Olaniyi et al., 2023), and structural factors such as limited counselling time and inadequate health literacy which hinder practice (Akinyemi et al., 2021; Okon et al., 2022; Ejioye & Gbenga-Epebinu 2021; Rotimi-Oyedepo

2026). Interventions that include both demonstration and reinforcement will then address both the skill deficit and the confidence deficit at the same time.

METHODS

Design and Setting

A quantitative, three-group quasi-experimental design compared the intervention with a non-equivalent control group, contrasting outcomes in the experimental groups (which received the intervention) with a control group that did not. The study was conducted in the three accredited public secondary health facilities of Abeokuta South Local Government Area, Ogun State, southwest Nigeria: Oba Ademola Maternity Hospital (Ijemo), State Hospital (Sokenu/Ijaye), and Olikoye Ransome-Kuti Memorial Hospital (Asero). These facilities serve a largely Yoruba population of traders, artisans, and civil servants and refer complex cases to the nearby Federal Medical Centre. Two higher-volume facilities served as experimental sites and one as the control.

Population, Sample, and Sampling

The population comprised 2,478 women attending antenatal care across the three facilities. Using Lemeshow's formula ($Z = 1.96$, $p = 0.20$, $e = 0.05$) with a 10% attrition allowance, a sample of 271 was derived and allocated proportionally by antenatal attendance over the preceding six months, yielding two experimental groups (Site A, $n = 78$; Site B, $n = 131$) and a control group ($n = 62$). Facilities were selected purposively, being the only accredited secondary facilities in the local government, and participants were recruited by convenience sampling based on willingness. Women at least 16 weeks pregnant, attending antenatal care, and willing to participate were included; those below 16 weeks, with pre-existing morbidity, or unwilling to participate were excluded.

Instrument and Intervention

Self-care skills were assessed with a self-developed 20-item observational rating scale covering three domains: recognition of oedema, urine testing for protein using dipsticks (colour-code interpretation), and adequate fluid intake and urinary output. Validity was confirmed by the supervisor and experts in test and measurement and nursing, who appraised the items for relevance, clarity, and linguistic appropriateness. Reliability was established through a pilot with 27 women at the Federal Medical Centre, a neutral tertiary facility (Cronbach's $\alpha = 0.84$). The nurse-led package, translated into Yoruba and delivered by six trained registered-nurse research assistants, included practical demonstration and return demonstration of skills: on-site blood-pressure measurement, urine dipstick testing with colour-code interpretation, recognition of oedema, and guidance on adequate daily fluid intake (not less than three litres per day) and urinary output. The skills module was preceded by a knowledge module on the nature, causes, and danger signs of PIH, so that skill training was grounded in understanding; each session lasted about one hour and used prints, flip charts, and a projector as teaching aids. Research assistants, all registered nurses, were trained by the researcher on the intervention protocol, questionnaire interpretation, on-site blood-pressure measurement, and dipstick colour-code identification before data collection began.

Skills were assessed by structured observation using the checklist. Both experimental sites received the package; Site B additionally received take-home information leaflets after the 4-week assessment (P1), while Site A did not, isolating the incremental effect of the leaflet.

Data Collection and Analysis

Data collection proceeded in three phases: pre-intervention, intervention, and evaluation. Following familiarisation visits, informed consent, and baseline (P0) observation, the intervention modules were delivered, and self-care skills were reassessed by observation at 4 (P1) and 8 (P2) weeks post-intervention in all groups. Checklists were serially numbered and checked for completeness and accuracy. Data were analysed in SPSS version 28 using means and standard deviations for the research questions and independent t-tests for the hypotheses, with statistical significance set at $p < .05$.

Ethical Considerations

Ethical approval was obtained from the Babcock University Health Research Ethics Committee (NHREC/25/12/2023) and the Ogun State Research and Ethics Committee (OGHREC/456/2024/496/APP). Written informed consent was obtained after participants received full information about the study's purpose, risks, and benefits. Participation was voluntary, and participants were free to withdraw at any stage. Identifying information was replaced with numerical codes, and access to data was restricted to preserve confidentiality and anonymity.

RESULTS

Of the 271 women recruited, 258 (95.2%) completed the study; 13 (5.8%) withdrew at various stages. Analyses reflect available cases at each time point.

Sociodemographic Characteristics

Participants across groups were comparable. Most were aged 26–30 years (experimental 46.9%; control 45.2%), married (76.1%; 64.5%), self-employed (49.8%; 51.6%), urban-dwelling (62.2%; 64.5%), and of normal body mass index (50.7%; 51.6%), with primigravidae forming the largest parity group (Table 1). This baseline comparability supports the internal validity of the between-group comparisons that follow.

Table 1
Sociodemographic Characteristics of Participants (N = 271)

Characteristic	Category	Experimental n (%)	Control n (%)
Age (years)	26–30	98 (46.9)	28 (45.2)
	31–35	29 (13.9)	10 (16.1)
	≥41	11 (5.3)	5 (8.0)
Religion	Christianity	103 (49.3)	28 (45.2)
	Islam	81 (38.8)	26 (41.9)
	Traditional	25 (12.0)	8 (12.9)
Marital status	Married	159 (76.1)	40 (64.5)
	Separated	44 (21.1)	18 (29.0)
Occupation	Self-employed	104 (49.8)	32 (51.6)
	Private worker	51 (24.4)	16 (25.8)
Residence	Urban	130 (62.2)	40 (64.5)
	Rural	79 (37.8)	22 (35.5)
Body mass index	Normal	106 (50.7)	32 (51.6)
	Overweight	71 (34.0)	20 (32.3)
	Obese	32 (15.3)	10 (16.1)
Parity	Primigravida	88 (42.1)	24 (38.7)
	Multigravida	71 (34.0)	22 (35.5)

Self-Care Skills Across Groups and Time

At pre-intervention, self-care skill scores were low and similar across the two experimental sites and the control group, with domain percentages around 41–45%. By 4 weeks (P1) and 8 weeks (P2), both experimental sites more than doubled their scores across all three domains such as recognition of oedema, urine testing, and fluid intake reaching roughly 87–91% of the maximum, while the control group remained near baseline (Table 2). For example, recognition-of-oedema scores at Site A rose from 4.25 at P0 to 8.93 at P1 and 8.94 at P2, whereas the control group barely moved from 4.19 to 4.18. Aggregated across domains, the experimental sites rose from about 8 at P0 to roughly 18 at P2, while the control group stayed near 8, demonstrating that gains were attributable to the intervention rather than to repeated observation.

The pattern of improvement was consistent across the three procedural domains but not uniform in magnitude. Recognition of oedema and fluid-intake skills reached the highest post-intervention percentages (around 89–91%), reflecting the relatively observable and repeatable nature of these behaviours, whereas urine testing for protein which requires correct interpretation of a colour-coded dipstick settled at a slightly lower ceiling (around 87–88%). This gradient is instructive: skills with a greater interpretive component appear to leave more room for residual error even after structured demonstration, suggesting that they may benefit most from repeated practice and printed

reference material. Importantly, the near-static control-group scores across all three domains confirm that neither maturation nor the observational assessment itself accounted for the experimental groups' gains.

Table 2
Mean Self-Care Skill Scores by Domain, Group, and Time Point (M ± SD)

Self-care domain	P0 A	P0 B	P0 Ctrl	P2 A	P2 B	P2 Ctrl
Recognition of oedema	4.25±1.31	4.22±1.00	4.19±1.26	8.94±1.01	9.14±0.67	4.18±1.23
Urine testing (protein)	2.60±0.71	2.88±0.81	2.49±1.61	5.25±1.33	5.30±1.19	2.50±1.60
Fluid intake	4.06±1.58	4.01±1.09	3.72±1.63	8.03±0.83	8.11±0.83	3.73±1.63
Overall	8.13±1.69	8.17±1.70	7.85±1.21	18.22±2.93	18.33±2.87	7.88±1.10

Note. A = Site A; B = Site B; Ctrl = control group. P0 = pre-intervention; P2 = 8 weeks post-intervention. P1 (4-week) values followed the same pattern as P2 (e.g., recognition of oedema at P1: Site A 8.93, Site B 8.99, control 4.22).

Post-Intervention Skills Between Experimental Sites

At 8 weeks, most participants at both experimental sites reached the high-skill category across all three domains. Site B, which received leaflets, recorded slightly higher mean scores and a marginally larger proportion of high performers, for example, 76.2% versus 71.1% for recognition of oedema, 77.0% versus 75.0% for urine testing, and 75.4% versus 72.4% for fluid intake (Table 3). The consistency of Site B's advantage across all three procedural domains points to a modest but uniform reinforcement effect of the leaflet on skill performance.

Table 3
Post-Intervention (P2) Self-Care Skills by Domain: Site A vs. Site B

Self-care domain	Site A high n(%)	Site A M±SD	Site B high n(%)	Site B M±SD
Recognition of oedema	54 (71.1)	8.94±1.01	93 (76.2)	9.14±0.67
Urine testing (protein)	57 (75.0)	5.25±1.33	94 (77.0)	5.30±1.19
Fluid intake	56 (72.4)	8.03±0.83	92 (75.4)	8.11±0.83

Hypotheses Testing

Hypothesis 1 involved independent t-tests comparing the experimental and control groups showed no significant difference at baseline (mean difference 0.08; $t = 0.88$, $p = .461$), confirming baseline equivalence. Highly significant differences favouring the experimental group emerged at P1 (mean difference 9.93; $t = 6.56$, $p < .001$) and were sustained at P2 (mean difference 10.19; $t = 6.59$, $p < .001$). The null hypothesis was rejected, indicating that the nurse-led intervention significantly improved self-care skills relative to the control group and that the effect persisted over the eight-week follow-up (Table 4).

Table 4
Independent t-test: Self-Care Skills, Experimental vs. Control

Time point	Group	n	M ± SD	Mean diff.	t	p
P0	Experimental	209	8.09±1.66	0.08	0.88	.461
	Control	62	8.01±1.73			
P1 (4 wk)	Experimental	203	18.16±0.87	9.93	6.56	<.001
	Control	60	8.23±1.70			
P2 (8 wk)	Experimental	198	18.19±0.87	10.19	6.59	<.001
	Control	60	8.00±1.73			

Hypothesis 2 compared the two experimental sites, self-care skills did not differ significantly at P0 ($t = 0.45$, $p = .338$) or P1 ($t = 0.56$, $p = .721$), indicating that both sites responded equivalently to the core intervention. At P2, however, Site B (which received leaflets) scored significantly higher than Site A ($t = 3.65$, $p < .001$). The null hypothesis was rejected, indicating an added benefit of take-home leaflets on skill performance that became evident at the later assessment (Table 5).

Table 5
Independent t-test: Self-Care Skills, Site A vs. Site B

Time point	Site	n	M ± SD	Mean diff.	t	p
P0	Site A	78	8.13±1.69	0.04	0.45	.338
	Site B	131	8.17±1.70			
P1 (4 wk)	Site A	76	18.23±0.81	0.07	0.56	.721
	Site B	127	18.16±1.77			
P2 (8 wk)	Site A	76	18.22±2.93	0.11	3.65	<.001
	Site B	122	18.33±2.87			

DISCUSSION

This study demonstrated the nurse led intervention, to be a significant and lasting self-care intervention for pregnant women on PIH. Skills were poorly practiced at baseline; only a minority regularly identified oedema, tested urine for protein and kept up with hydration—and this is consistent with the moderate to low self-care competency that has been reported in low resource settings due to inadequate counselling and limited health literacy (Al-Saffar & Hussian, 2016; Akinyemi et al., 2021; Elbana et al., 2021; Pswarayi, 2012). The fact that the baseline scores for the experimental and control groups were comparable gives greater confidence that the gains that were subsequently found were due to the intervention and not because of the differences among the groups.

After the intervention, the skills of the experimental group more than doubled and stayed high at eight weeks, while the control group showed little change. These gains are similar to those observed in structured nurse-led programmes elsewhere, where there was a significant increase in blood-pressure self-monitoring and self-care behaviour (Elbana et al., 2021; Ganu et al., 2021; Negi et al., 2020). The results found in the context of KAP framework which underpinned this study reflect strengthening of the practice link within knowledge – attitude – practice chain and support Bandura's focus on modelling and mastery experiences as pathways leading to skill acquisition and self-efficacy.

The focus on demonstration, hands-on urine dipstick testing, and return demonstration in the intervention might have contributed to its success, as studies have shown that participatory learning that involves skills acquisition and demonstration is more effective in the retention of procedures than passive learning (Olukoya et al., 2022; Yakubu et al., 2023). It is also how the current approach has been better than alternatives reported in literature: mobile-only education has been associated with better knowledge; however, it has not resulted in better application of skills as participants have not had hands-on experience in the field (Adebayo et al., 2021), and one-time sessions has been associated with positive knowledge but no lasting behavioural change (Osagie et al., 2022). The programme also seems to have decreased the fear and apprehension that are often associated with practicing self-care (Olaniyi et al., 2023), fostering confidence in participants' ability to practice independently.

Of note is that although there was no difference at P0 or P1, the addition of low cost take home leaflets resulted in a further significant difference at 8 weeks (Site B > Site A). This delay in appearance of the difference makes sense: the immediate acquisition of skill was similar, but the leaflet was a long-term procedural resource and reminder, which allowed for the correct skill to be reinforced over time. The uniform advantage of site B in the three domains is in line with evidence of reinforcement with teaching media and follow-up to consolidate skills (Bello et al., 2023; Rachmawati et al., 2024). Leaflets are inexpensive and easy to produce and can be a practical addition to nurse skills training in busy antenatal clinics.

These results can be understood in the light of the sociodemographic profile of the participants. There were a significant number of women who were overweight or obese and most of them were of reproductive age, which are factors linked to a higher risk of PIH (Gyawali et al., 2024). Self-care skills are particularly important to facilitate early detection in this type of population as the women who are most likely to benefit from timely recognition of oedema, proteinuria and insufficient fluid intake are also most at risk of developing complications. The consistency of high levels of skills achieved in both groups regardless of their level of education supports the findings of earlier studies that the competency in self-care is more reliant on structured teaching and support and not background characteristics (Al-Saffar & Hussian, 2016) and hence a well-designed nurse-led programme can be equitable in reaching all women irrespective of their educational status.

The results do have implications for maternal health services. Nurse-led, skill-based education with print materials, integrated into routine ANC, could further build women's ability to self-manage and take action on the onset of PIH, alongside clinical monitoring, and help reduce the lag time between symptoms and seeking care. Results reinforce the role of nurses as frontline skill educators and support their integration into national maternal health strategies and into curricula to integrate demonstration-based skill teaching. The use of low cost, easily available interventions (dipsticks + sphygmomanometer + leaflets) makes the intervention suitable for scaling up in low resource secondary facilities in Nigeria and similar contexts.

Limitations

Several limitations should be noted. The method used in the study was quasi-experimental, single locality design and convenience sampling, which limits the generalisability. Structured observation was used to assess skills, although it is less subjective than self-report, it may be influenced by observer effects and social-desirability bias. Follow-up was limited to eight weeks, and the absence of a random selection of participants could lead to selection effects (baseline equivalence was demonstrated). Finally, the study did not measure whether or not better self-care skills resulted in clinical outcomes like earlier presentation, fewer complications, or better birth outcomes; this is a valuable area for future research. Longer follow-up periods, objective skill-performance assessments and clinical-outcome monitoring are therefore suggested, in multi-site randomized trials, to confirm and expand on these results.

CONCLUSION

In the secondary facilities, a nurse-led intervention significantly affected and maintained the pregnant women's self-care skills of PIH – recognition of oedema, urine protein test and adequate hydration – and the take-home leaflets had additional value at 8-week. These results validate the importance of imparting skills through demonstration, using culturally appropriate methods, and by nurses; and of providing reinforcement using low-cost printed materials. Health systems should provide nurses with the training and resources to provide this type of skill-based education on a scale and at least explore disseminating it as part of routine antenatal care, supported by leaflet reinforcement to increase women's ability to detect and self-manage PIH.

Declarations

Ethical approval: Granted by the Babcock University Health Research Ethics Committee (NHREC/25/12/2023) and the Ogun State Research and Ethics Committee (OGHREC/456/2024/496/APP).

Conflict of interest: The author declares no conflict of interest.

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