



## Cultural Beliefs, Misconceptions, And Maternal Health-Seeking Behaviour: A Study Of Rhesus Factor Incompatibility In The Makoko Community, Lagos, Nigeria

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### ABSTRACT

Rhesus (Rh) factor incompatibility is a preventable cause of adverse outcomes for mothers and newborns. In marginalized urban communities, socio-cultural factors shape awareness and health behaviours. This study examined cultural beliefs and knowledge about Rh incompatibility and their impact on maternal health in Makoko, Lagos, Nigeria. This descriptive cross-sectional study involved 200 women of reproductive age (18–49 years). Data collected via questionnaires were analyzed using descriptive and inferential statistics in SPSS version 25. Results showed limited awareness of Rh incompatibility, as only 40% of the women knew about the Rh factor. Cultural and religious beliefs strongly influenced perceptions of pregnancy complications, often attributing them to spiritual or traditional causes (Mean = 2.88). Maternal health practices were suboptimal: 33.5% regularly attended antenatal care, 66% had never checked their Rh status, and 37% used traditional birth attendants. There was a moderate positive correlation between awareness and health-seeking behavior ( $r=0.46$ ,  $p<0.05$ ), and cultural beliefs significantly predicted maternal health practices ( $\beta=0.52$ ,  $p<0.05$ ). A significant knowledge gap exists regarding Rh incompatibility in Makoko, further reinforced by cultural beliefs that hinder acceptance of biomedical care. To improve awareness, antenatal attendance, and Rh screening, community-based, culturally sensitive health education is essential.

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Rhesus factor incompatibility, cultural awareness, maternal health behaviour, antenatal care, Makoko, Nigeria.

### INTRODUCTION

Rhesus (Rh) factor incompatibility continues to be a major yet preventable cause of health problems for mothers and newborns; adequate knowledge and positive attitudes among pregnant women toward blood grouping can help prevent complications (Sulaiman and Abdullahi, 2025). It happens when an Rh-negative mother carries an Rh-positive fetus, potentially leading to hemolytic disease of the fetus and newborn (HDFN). This disorder presents with severe anemia, jaundice, *Hydrops fetalis*, and can even result in intrauterine death (Hendrickson et al., 2016; Adejoh et al., 2018). The administration of anti-D immunoglobulin (RhIg) has significantly lowered the occurrence of Rh disease in high-income nations, representing a notable achievement in modern obstetrics (Bowman, 1988).

In low- and middle-income countries (LMICs) such as Nigeria, Rh incompatibility continues to pose a major public health challenge (Myle and Al-Khattabi, 2021). This issue is not only due to a lack of medical resources but also influenced by socio-cultural factors. In numerous African communities, adverse pregnancy outcomes are often interpreted through cultural, spiritual, or traditional lenses, with causes linked to curses, ancestral punishment, or infidelity rather than biomedical explanations (Adebayo et al., 2019; Awoleye et al., 2022). These deeply rooted beliefs can stigmatize women, prompt them to consult traditional healers or birth attendants, and deter them from seeking formal antenatal care and blood screening, thereby increasing risks for both mother and child (Shewamene et al., 2017; Iacoella and Tirivayi, 2019). This division between biomedical knowledge and community

perceptions is particularly evident in Nigeria's informal urban zones. Makoko, a densely populated waterfront slum in Lagos State, exemplifies where poverty, low educational access, and traditional health practices converge (Roberts, 2018). While studies indicate that Nigerian women often lack awareness of Rh incompatibility, there is scant research on how cultural beliefs and misconceptions impact health-seeking behaviours in communities such as Makoko (Abimbola and Olasubomi, 2021).

Closing this knowledge gap is essential for creating effective interventions. Simply spreading scientific facts isn't enough; health education needs to be culturally appropriate, incorporating local beliefs and trusted community figures to bridge tradition and modern medicine. This study thus examines cultural awareness of, and misconceptions about, Rh factor incompatibility, and how these influence maternal health behaviours in the Makoko community, Lagos State, Nigeria. The specific objectives of this study are to evaluate the level of community awareness and understanding of Rhesus factor incompatibility, explore the cultural beliefs and perceptions associated with Rhesus incompatibility and pregnancy complications, and assess maternal health behaviours related to antenatal care attendance and blood group or Rhesus factor testing. Furthermore, the study aims to analyze how awareness and cultural beliefs influence maternal health-seeking behaviours, which will be evaluated under the hypothesis that a significant relationship exists between awareness and maternal health-seeking behaviour.

## MATERIALS AND METHODS

### Study Design and Setting

A cross-sectional descriptive study was conducted to examine cultural beliefs, awareness, and maternal health practices related to Rhesus (Rh) factor incompatibility. The study took place in Makoko, a densely populated informal settlement along Lagos Lagoon in Lagos State, Nigeria. Known for its floating structures, Makoko includes six main zones and has an estimated population exceeding 100,000, primarily from the Egun, Yoruba, and Ilaje communities. The area faces several challenges such as poverty, overcrowding, low educational attainment, and limited access to formal healthcare, leading to a heavy reliance on traditional birth attendants (TBAs), herbalists, and religious healers for maternal and child health concerns.

### Study Population and Sampling

The study included women of reproductive age (18-49 years) living in Makoko. To gain a thorough understanding of the socio-cultural context, key community influencers such as Traditional Birth Attendants (TBAs), religious leaders, and community health workers were purposively selected for inclusion. A purposive sampling approach was employed to select participants that could provide detailed insights into the research topic. The final sample consisted of 200 respondents.

### Data Collection Instrument and Procedure

Primary data were gathered through a structured questionnaire administered by a researcher. The survey consisted of two parts:

Section A: Socio-demographic data collected, including age, marital status, educational level, occupation, religious affiliation, and pregnancy history.

Section B: Assessed awareness, cultural beliefs, and maternal health practices concerning Rh incompatibility. It includes closed-ended questions rated on a four-point Likert scale (Strongly Agree = 4, Agree = 3, Disagree = 2, Strongly Disagree = 1).

Trained research assistants personally delivered the questionnaire to participants. Informed consent was obtained, and the confidentiality of all responses was guaranteed. The

questionnaire's internal consistency was evaluated with Cronbach's alpha, which showed a reliability coefficient of at least 0.72, reflecting good reliability.

### Data Analysis

The collected data were coded, entered, and analyzed using SPSS version 25, with the analysis proceeding in two distinct phases. First, descriptive statistics, including frequencies, percentages, means, and standard deviations, were employed to summarize the socio-demographic characteristics of the respondents and to describe their awareness levels, cultural beliefs, and maternal health behaviours. Second, inferential statistics were used to evaluate the study hypotheses, applying a linear regression analysis to assess the impact of cultural beliefs on maternal health behaviours and utilizing the p-values derived from both the regression and Pearson's correlation coefficient to determine statistical significance, with any result under 0.05 deemed significant.

### Ethical Considerations

Throughout the research process, strict adherence was maintained to voluntary participation, informed consent, and ensuring the anonymity and confidentiality of all participants.

## RESULTS AND DISCUSSION

### Socio-Demographic Characteristics of Respondents

The study surveyed 200 individuals from the Makoko community. As detailed in Table 1, most participants were women of reproductive age (84.5%), with smaller groups of Traditional Birth Attendants (TBAs) at 8.0%, religious leaders at 6.0%, and community health workers (CHWs) at 1.5%. A majority were married (61.5%) and fell within the age groups of 18-25 years (32.5%) and 26-33 years (30.0%). Educational attainment was generally low, with 60.5% having only primary education or none at all. Although 84.5% had experienced pregnancy, only 33.5% attended antenatal care (ANC). Awareness of the Rhesus factor was limited, as 60% had no prior knowledge and 66% had never been tested for Rh status. Most recent births took place with a TBA (37.0%), followed by hospitals (23.5%).

**Table 1: Socio-Demographic and Maternal Health Profile of Respondents (n=200)**

Characteristic	Category	Frequency	Percentage (%)
<b>Respondent Group</b>	Woman (Reproductive Age)	169	84.5
	Traditional Birth Attendant (TBA)	16	8.0
	Religious Leader	12	6.0
	Community Health Worker (CHW)	3	1.5
<b>Age Group (Years)</b>	18-25	65	32.5
	26-33	60	30.0
	34-41	34	17.0
	42-49	41	20.5
<b>Marital Status</b>	Married	123	61.5
	Single	44	22.0
	Widowed	22	11.0
	Divorced	11	5.5
<b>Educational Level</b>	No Formal Education	48	24.0
	Primary	73	36.5
	Secondary	62	31.0
	Tertiary	17	8.5
<b>Awareness of Rh Factor</b>	No	120	60.0
	Yes	80	40.0
<b>Ever Tested for Rh Status</b>	No	132	66.0
	Yes	68	34.0

Characteristic	Category	Frequency	Percentage (%)
Place of Last Childbirth	Traditional Birth Attendant	74	37.0
	Hospital	47	23.5
	Church	30	15.0
	Home	11	5.5
	Mosque	7	3.5

**Awareness, Cultural Beliefs, and Maternal Health Behaviours**

Awareness and understanding of Rh incompatibility were generally limited, with an average score of 2.37 on a 4-point scale, falling below the 2.50 threshold. Participants somewhat agreed that the Rh factor can affect pregnancy (Mean=2.51), but they disagreed that community awareness of blood groups was widespread (Mean=2.31) or that health information on this topic was readily accessible (Mean=2.22) (see Table 2).

Cultural and spiritual beliefs play a key role in how the community perceives health. Respondents strongly agreed that pregnancy complications are often linked to cultural or spiritual reasons (Mean=2.95), and that these beliefs

affect their willingness to accept blood group testing (Mean=2.88).

Maternal health behaviours fell short of optimal standards. Respondents indicated infrequent antenatal visits, with a mean score of 2.33, and routine blood group and Rh testing were seldom performed, averaging 2.26. There was a significant reliance on non-medical care providers, such as TBAs and religious settings, prior to seeking hospital care, with a mean of 2.88 (Table 2).

Respondents recognized that awareness motivates early ANC attendance (Mean=2.75) and that culturally tailored health education encourages positive behaviours (Mean=2.91). They strongly concurred that a lack of awareness leads to delays in seeking care (Mean=2.94) (Table 2).

**Table 2: Summary of Findings for Research Questions (Scale: 1=Strongly Disagree to 4=Strongly Agree)**

Research Question & Item	Mean	SD
<b>RQ1: Awareness &amp; Understanding (Grand Mean = 2.37)</b>		
1. Rh factor can affect pregnancy outcomes.	2.51	1.09
2. Community awareness of blood group/Rh status is high.	2.31	1.03
3. Rh incompatibility can be prevented/managed medically.	2.44	1.06
4. Health information on Rh factor is accessible here.	2.22	1.01
<b>RQ2: Cultural Beliefs &amp; Perceptions (Grand Mean = 2.88)</b>		
5. Pregnancy complications explained by cultural/spiritual beliefs.	2.95	0.96
6. Cultural beliefs influence understanding of health information.	2.92	0.94
7. Preference for traditional/religious over medical explanations.	2.75	1.02
8. Cultural beliefs affect acceptance of blood/Rh testing.	2.88	0.99
<b>RQ3: Maternal Health Behaviours (Grand Mean = 2.49)</b>		
9. Pregnant women attend ANC regularly.	2.33	1.07
10. Blood group/Rh testing is routine during pregnancy.	2.26	1.03
11. Health facilities are the first point of care.	2.48	1.06
12. Non-medical care is sought before hospital visit.	2.88	0.99
<b>RQ4: Influence on Health-Seeking (Grand Mean = 2.83)</b>		
13. Awareness of risks encourages early ANC.	2.75	1.01
14. Understanding Rh improves compliance with medical advice.	2.72	1.00
15. Culturally sensitive education promotes positive behaviour.	2.91	0.97
16. Lack of awareness contributes to care delays.	2.94	0.95

**Hypothesis Testing**

**Table 3: A Significant Relationship Exists between Awareness and Maternal Health-seeking Behaviour**

Variables	N	r	p-value	Decision
Awareness of Rh factor × Health-seeking behaviour	200	<b>0.46</b>	<b>0.000</b>	Significant

Pearson’s correlation analysis revealed a moderate, positive, and statistically significant relationship between awareness of the Rh factor and maternal health-seeking behavior (r = 0.46, p < 0.001).

**Table 4: Cultural Beliefs Significantly Influence Maternal Health Behaviours**

Predictor Variable	β	Std. Error	t-value	p-value	Decision
Cultural beliefs and perceptions	<b>0.52</b>	0.07	7.84	<b>0.000</b>	Significant

Linear regression analysis showed that cultural beliefs and perceptions are significant predictors of maternal health behaviours (β = 0.52, p < 0.001). This indicates that more pronounced cultural beliefs are linked to particular patterns in ANC attendance and testing practices.

**Discussion**

This study examined how cultural beliefs, awareness, and maternal health behaviours impact Rhesus factor incompatibility in the Makoko community. The findings reveal a notable disconnection between biomedical

knowledge and local health practices, which are largely shaped by socio-cultural influences. With only 40% awareness and understanding of Rh incompatibility, these results align with other low-resource regions in Nigeria and elsewhere (Abdelhakim et al., 2024; Ojiakor-Umenze et al., 2024). This underscores a significant deficiency in public health communication. The study also indicates that merely knowing blood groups is insufficient for understanding risks, prevention, or management. Educational research suggests that bridging this gap requires targeted, structured learning programs rather than passive information sharing (Nearagh et al., 2025).

A key finding is how cultural and spiritual beliefs influence the interpretation of pregnancy complications. The community often attributes adverse outcomes to curses, ancestral anger, or spiritual causes instead of biomedical reasons, matching ethnographic research in Nigeria (Awoyele et al., 2022; Opara et al., 2024). These deep-rooted beliefs create substantial barriers, impacting acceptance of Rh testing and causing hesitation to engage with formal antenatal care. This highlights the role of cultural frameworks in health decisions, where traditional reasoning usually takes precedence over biomedical evidence unless culturally sensitive education is provided (Kuo et al., 2023). The issues of poor antenatal care attendance, low blood/Rh testing, and reliance on Traditional Birth Attendants (TBAs) and faith-based facilities for delivery reveal a complex mix of cultural preferences, economic difficulties, and systemic access barriers. This cycle results in late diagnosis and preventable health problems, as other studies show that knowledge often does not lead to change due to local barriers (Gaji et al., 2019; Olu-Abiodun et al., 2025). The focus on non-medical first-line care stresses the importance of integrating community providers into the formal health system rather than excluding them.

A positive and encouraging finding is that the community values awareness and culturally sensitive education as ways to improve health-seeking behaviours. This aligns with evidence that the most effective interventions promote critical reflection, resonate with local belief systems, and utilize participatory approaches (Oikarainen et al., 2019; Hackett, 2023). The connection between awareness and health actions, combined with the strong role of cultural beliefs, underscores the need for interventions that are both educational and culturally transformative (Claeys et al., 2025).

## CONCLUSION

This study shows that a significant knowledge gap and strong cultural beliefs result in less effective maternal health behaviours concerning Rh incompatibility in Makoko. Despite being medically preventable, challenges in management stem from low awareness, distrust of biomedical explanations, and heavy reliance on traditional care practices. The findings emphasize that improving maternal and neonatal health outcomes in these communities requires more than just standard health messages. Success depends on implementing culturally sensitive strategies that respect local beliefs, empower community leaders, and seamlessly integrate essential screening into accessible and trusted healthcare services. To close these gaps, community health education initiatives should be developed and launched, using relatable local analogies, clear language, and visual tools to explain Rh incompatibility.

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## Conflict of Interest

Authors declare no conflict of interest

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