

## SOCIAL FACTORS AFFECTING KNOWLEDGE OF RHESUS INCOMPATIBILITY AMONG WOMEN OF REPRODUCTIVE AGE IN SOUTH-EAST NIGERIA

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### **Abstract**

This study examined the social factors affecting knowledge of rhesus incompatibility among women of reproductive age in South-east Nigeria. With the rising cases of Rhesus incompatibility among women of reproductive age in South-east Nigeria, it became imperative to examine the causative factors responsible for the trend. The symbolic interactionist theory was adopted to as the theoretical framework for this study. The study was purely qualitative involving six women of reproductive age resident in the Southeast Nigeria. The respondents were selected based on their knowledge and experience with Rhesus incompatibility related problems. The In-depth Interview Guide (IDI) was used as the instrument for data collection. The data was cleaned and processed using Nvivo, a tool for qualitative data processing in the social sciences. Analysis was presented in line with the study objectives and themes that were generated in the study. It was found that there is an increased knowledge of Rhesus incompatibility among women of reproductive age in South-east Nigeria. Several factors like education, place of residence, religion and ignorance were identified as the social factors responsible for poor knowledge and action towards Rhesus incompatibility in the study area. The study recommends that efforts should be made to improve the level of knowledge and awareness of Rhesus incompatibility. Also, there should be increased access to education especially for women, to improve their knowledge about the issue of Rhesus incompatibility.

### **1. Introduction**

Rhesus disease has been identified as one of the causes of perinatal death. Couples with incompatible rhesus are at risk of this condition. It is important to note that sensitization occurs in the first pregnancy but the risk is only to the subsequent pregnancies (Letsky, Leck & Bowman, 2000). Obviously, injury or trauma may result in the mixing of blood between the mother and baby. This is seen occurring in approximately 10% of cases (Bowman, 1978 cited in Hill, 2002). The National Demographic and Health Survey (NDHS Reports, 2008 and 2018) suggest that the prevalence of Rhesus negative women in Nigeria varies between 5 and 9.5% with higher occurrence of about 44.7 percent in southern Nigeria. The report further revealed that Perinatal Mortality Rates of 72/1000 and 69/1000 live births respectively (NDHS Reports, 2008 and 2018). This drop is insignificant and troubling when compared to lesser outcomes in some countries of the world. Perinatal morbidity such as jaundice, asphyxia etc. arising from incompatible rhesus of spouses accounts for a significant percentage of perinatal mortality. Again, the NDHS report (2018), has implicated demographic factors such as age, birth interval, education, income and place of residence in the onset of perinatal/neonatal mortality. The current emphasis on compatibility of genotypes for couples, as check against the sickle cell disease, seem to have sublimated the need for rhesus consciousness among couples. While statistics show that about 7-9 million babies die annually, of which 98% occur in the tropics and developing countries where perinatal mortality rates are between 57 and 100 per 1000 birth, awareness of this remains low and knowledge still largely influenced by cultural beliefs, for instance the Abiku or Ogbanje (spirit child) syndrome (Ibekwe, Ugboma, Onyire & Muoneke, 2018). Like maternal mortality, perinatal mortality is also preventable, but knowledge of the phenomenon remains a big challenge in many parts of the country, Nigeria.

There are couple of factors that hinder the desirable change in terms of rhesus compatibility. One of such barriers is limited awareness and knowledge of the Rh system. According to various studies, many people have limited knowledge and awareness of the Rh system and its significance in transfusion and pregnancy (Urbaniak, and Greiss, 2000). Some studies indicate that the general public and healthcare professionals have insufficient knowledge and awareness of the significance of the Rh factor, particularly its implication in relation to pregnancy (Urbaniak, and Greiss, 2000).

Similarly, the World Health Organization WHO (2016), identified lack of education and training for healthcare professionals. They argued that limited education and training for healthcare professionals regarding the Rh

system and its implications is a significant barrier to Rh compatibility awareness. Healthcare professionals who lack knowledge and understanding of the Rh system and its implications may not be able to inform their patients about the risks of Rh incompatibility. As a result, patients may not be aware of the importance of Rh compatibility during pregnancy.

In addition, Gwaram, and Abdullahi (2013) identified cultural and social beliefs as some of the barriers. They were of the opinion that cultural and social beliefs can be a significant barrier to Rh compatibility awareness. In some cultures, and communities, blood transfusion is considered taboo or unacceptable. Consequently, these beliefs affect the willingness of individuals to undergo Rh testing and blood transfusion. Additionally, some individuals may avoid testing and blood transfusion due to stigma and fear of being associated with HIV and other blood-borne infections. Also, important another important barrier is lack of access to Rh Testing (Ayenew, 2021). Another significant barrier to Rh compatibility awareness is a lack of access to Rh testing. Rh testing is not universally available, particularly in developing countries where medical resources may be limited. Essentially, Rh compatibility is a vital factor in both blood transfusion and pregnancy. However, barriers to Rh compatibility awareness, such as limited knowledge and awareness of the Rh system, lack of education and training for healthcare professionals, cultural and social beliefs, and lack of access to Rh testing, pose significant challenge.

## 2. Literature Review

A study by Onwuhafua and Adze (2019) titled “Pregnancy in Rhesus Negative Women in Kaduna, Northern Nigeria.” The objective of the study was to investigate and review challenges militating against Rhesus factor incidence awareness. Methodology, the study adopted an eight-year retrospective review of pregnancies in Rhesus-negative women in a University teaching hospital. There was a total of 10572 deliveries and 76 rhesus-negative pregnancies during the period, giving an incidence of 0.7%. Due to the low incidence of the challenge most pregnant women are not aware such disease exists (84.2%).

Another study by Adewale and Hajara, (2016) their study examined to determine the prevalence of RhD negative among the pregnant population attending the antenatal clinic of a young tertiary health institution in Ogbomosho, a semi-urban town in southwestern Nigeria, and also the challenges faced by this sub-population of pregnant women. It was titled “Prevalence of Rhesus D-negative blood type and the challenges of Rhesus D immunoprophylaxis among the obstetric population in Ogbomosho, Southwestern Nigeria” On materials and methods A retrospective review of the antenatal and labour records of obstetric patient attending the Ladoke Akintola University of Technology Teaching Hospital (LTH), Ogbomosho, Nigeria. Variables were expressed as percentages. Of the 596 booked patients who had their blood group systems determined, 563 women (94.5%) were RhD-positive, and 33(5.5%) women were RhD-negative. Almost 50% of the Rh-negative pregnant women were primipara. Twenty-three (69.7%) of the study population had a previous delivery or abortion, but only 9 (39.1%) of these had the Rhesus anti-D immunoglobulin following the delivery or the abortion. One of the RhD-negative women had been sensitized to the RhD-positive antigen from the previous delivery at the time of booking the index pregnancy. Of the study population that was delivered in our facility, only 11 (33.3%) received the anti-D immunoglobulin after the delivery, and financial inability to purchase the anti-D immunoglobulin was a major reason for refusing the immunoprophylaxis.

Another study by Teitelbaum, Metcalfe, Clarke, Jillian, Wilson, and Johnson (2015) focused on the cost implications of rhesus incompatibility, the study titled “Costs and benefits of non-invasive foetal RhD determination” In terms of methods the study was a decision analysis based on a theoretical population representing the total number of pregnancies in Alberta over 1 year (n = 69,286). A decision tree was created that outlined targeted prophylaxis for RhD-negative pregnant women screened for cffDNA (targeted group) vs. routine prophylaxis for all RhD-negative pregnant women (routine group). Probabilities at each decision point and costs associated with each resource were calculated from local clinical and administrative data. Outcomes measured were cost, number of women sensitized and doses of Rh immunoglobulin (RhIG) administered. It was found that the estimated cost per pregnancy for the routine group was 71.43 compared with 67.20 Canadian dollars in the targeted group. The sensitization rates per RhD-negative pregnancy were equal, at 0.0012, for the current and targeted programs. Implementing targeted antenatal anti-RhD prophylaxis would save 4072 doses (20.1%) of RhIG over 1 year in Alberta when compared to the current program. This particular study did not base its analysis on direct human participants to understand if the occupation or other sociocultural factors could influence the cost consideration rather it relied on existing secondary data from hospitals.

## 3. Methodology

The study adopted a qualitative research approach involving purposive sampling using unstructured instruments which enabled the conduct of six in-depth interviews (IDI). Using the symbolic Interactionist theory, this paper explores the social factors affecting knowledge of rhesus incompatibility among women of reproductive age in

South-east Nigeria. The study participants who were aged 18 years and above were identified using the snowballing technique. The symbolic interactionist theory is one of the major frameworks in Sociological theories. The theory traced its origin to Max Weber but it was George Herbert Mead who elaborated much on it in the 1920s. The symbolic Interactionist theory stresses that the concept of the Rh blood group system and the presence or absence of the Rh antigen (Rh factor) on red blood cells can be understood through the subjective meanings individuals attach to these biological factors. The interviews lasted between 30 and 45 min and continued until we got to the point of saturation (Guest et al., 2006; Baker and Edwards, 2012). The target population for this study are women of reproductive age in South East Nigeria.

Data received from the field for this study were collected in local languages and pidgin English as the case may be. It was recorded in electronic gadgets, transcribed and stored in computers and later compared with those recorded in field notes to ensure no data is lost. This was done first to ensure detailed and accurate perspectives from the source language (local language/pidgin) to the target language (English) with the aid of a translator or an interpreter where necessary. This was followed by thematic analysis. Thematic analysis refers to a process of “identifying, analyzing, and reporting patterns (themes) within data. It minimally organizes and describes your data set in (rich) detail (Onyima, 2023). Next, the raw data was imported into the latest version of NVivo to process the data-cleaning process, editing and analysing the emerging codes and themes from the reiterative reading of the manuscripts. This was complemented with the use of manual thematic analysis.

#### **4. Findings**

##### **4.1 Level of awareness and knowledge of rhesus incompatibility among women of reproductive age in South-east Nigeria.**

The theme generated from this research question shows that in Southeast Nigeria, the level of awareness and knowledge of rhesus incompatibility is high. The women that were interviewed in the study indicated that they have heard about rhesus incompatibility and they have adequate knowledge about its ramifications. One of the interviewees captured this explicitly when she said:

Yes, I am aware of Rhesus factor... Ennn Somebody has told me something about it. I am aware of it. A medical doctor friend told me about it. Enhee I was told it has to do with blood group compatibility. When people that have incompatible blood groups marry, it affects their children and even the ability to have more children. I have done blood group test long before I was married. People are encouraged to do it before even marriage in case of accident or emergency (**Business, 32 years of Age, Urban residence**).

Similarly, another respondent stated thus

I am aware of Rhesus factor. I read about it from a book. I read about it before marriage. I know that if the blood groups are not compatible the couple will have an issue in their marriage. Although, I cannot really remember everything right now. It is essential for people to know their blood group, it has nothing to do with marriage it is for health purposes. Although some churches are against blood transfusion but it is very important in eventuality of accident. I did mine before gaining admission Yes I am O+ it is a requirement by the University (**Business, 28 years of Age, urban residence**).

The quantitative and qualitative data buttress the view that although some respondents may have heard about Rhesus incompatibility, however their level of awareness is rather very low. Some do not remember exactly what it means while others were unsure of what Rhesus compatibility implies and its implications.

##### **4.2 Social factors affecting knowledge of rhesus incompatibility among women of reproductive age in South-east Nigeria**

The theme generated from this research question shows that in Southeast Nigeria, there are several social factors affecting knowledge of rhesus incompatibility among women of reproductive age The women that were interviewed in the study indicated different levels of knowledge of these factors and also identified different factors including education, religion, ignorance and place of residence. One of the interviewees captured this explicitly when she said:

This is actually the main issue about Rhesus factor and every other health challenge within our environment. Barriers are just too many especially among those rural women they are ignorant of this issues and they believe strongly on their traditions and custom. They will find it very difficult to accept going for test nor adhering to orthodox medicine. You know most uneducated people find it very difficult to change, I mean they don't easily accept new ideas or information. So even when they are told to go for test they will refuse unless the issue becomes very complicated then they will move. Lack of education predisposes them to resist change that's what I am saying. Some of them believe in many things so telling them about Rhesus is sometimes waste of time (**Student, 22 years of age, rural residence**).

Another respondent affirmed the above...

The challenge is ignorance and long held belief. Also the awareness on rhesus is actually very low. Although some women will even tell you they don't have money for hospital or clinic they prefer visiting (Chemist) local pharmacy shops and traditional birth attendants for pregnancy related issues. Well for me it is not just education. Hmmm I have seen some people who are educated yet will tell you that their church does not support what you are saying. I think religion is even a stronger factor or barrier. (*Self-Employed, 31 years of Age, Urban residence*).

Another respondent stated:

Our people are very religious I must tell you, you will not understand shaa. Once their pastor, Rev father or whoever tell them anything whatever thing you are saying contrary to that first idea is false they won't take it, those that do traditional worship is even worst laughing (*Student, 24 years of Age, Rural residence*)

Another respondent stated:

I think I said it before awareness is basically on HIV/AIDs, Genotype and things like that. This Rhesus issue is never discussed that is why I am not aware of it till today you came and started talking about it. Yes, I do we always have electricity here in the village in fact I go to farm with radio sometimes they don't talk about it. The little health information we get like the once I mentioned is from the church and sometimes during our meeting but Rhesus own (mba oo) no oo we have not heard about (*Farmer, 31 years of Age, Rural residence*).

## 5. Discussion

Rhesus incompatibility is a global health challenge with dire consequences although the burden is mostly felt by poor couples within developing societies. The lack of knowledge and awareness has persistently limited testing for Rhesus factor also in some social environment socio-cultural factors such as religiosity, norms and values acts as barriers against testing and adhering to stipulated health seeking behavior. As a result of these and other factors issues arising from rhesus incompatibility have resulted to increased perinatal and postnatal deaths.

With respect to the first specific objective which is on how aware and knowledgeable are women of reproductive age about rhesus incompatibility in South-east, Nigeria. The first item on whether respondents have heard about Rhesus incompatibility the study found a positive outcome as a majority of the respondents did confidently acknowledge to have heard about the disease. Some may have heard about it in passing but could not explain what it entails succinctly. The data upon further probes showed that some have heard about it but were not very sure. The study further probed on if the respondents were actually aware of the prevalence of Rhesus factor the study found a negative outcome as a majority of the respondents were either unsure of what Rhesus factor is about or did not know anything about Rhesus incompatibility. The qualitative data portrayed the fact that the respondents are aware of Rhesus factor through friends and acquaintances but do not have sufficient knowledge of what it entails. This finding is contrary to the study by Kawthar, Kholoud and Marvi (2020) in Saudi Arabia which found that 72.8% of the respondents were not only very much aware of RH but were knowledgeable on the required injections to be given before childbirth. Yet another study by Aljuhaysh, el-Fetoh, et al, (2017) in Northern Saudi Arabia also found that the women of reproductive age were aware of Rhesus incompatibility. In contrast with the studies in Saudi Arabia Okeke (2012) study in Nigeria found that a majority of the participants are not aware of RH though some were found to have the challenge of Rhesus incompatibility. The divergent findings could be attributed to the different study areas. Perhaps within Saudi Arabia intensified awareness would have improved the knowledge and awareness of RH among women of reproductive age.

The study equally investigated if Rhesus incompatibility causes perinatal deaths; from the data it was found that a considerable majority acknowledged that Rhesus incompatibility causes perinatal deaths. This finding is supported by a WHO (2006) report which suggested that perinatal mortality remains one of the devastating pregnancy outcomes for millions of families in low-and-middle-income countries though they did not attribute all perinatal deaths to RH. Similarly, the qualitative data provided divergent information not all the respondents attributed perinatal deaths to RH. While some supported the data others rather suggested that there could be other causes of perinatal deaths beyond Rhesus factor such as (Ogban-jee) the spirit child of reincarnation. It was found that the respondents are mostly aware of their blood group.

The second specific objective of the study the social factors affecting knowledge of Rhesus incompatibility among women of reproductive age in south-east Nigeria. The study found that there were some barriers that prevent people from accessing Rhesus factor requisite knowledge this was evidence from both the qualitative data. On the

effect of educational attainment as being a barrier to knowledge and awareness on Rhesus factor, the study expatiated more explicitly on how lack of education or inadequate education makes it practically impossible for most of the residence within the study area to accept or adhere to any form of information that goes contrary to their already perspectives not just on Rhesus facto but other relevant issues. These findings are corroborated by WHO (2016) report which maintained that lack of education and training for healthcare professionals. They argued that limited education and training for healthcare professionals regarding the Rh system and its implications is a significant barrier to Rh compatibility awareness. Healthcare professionals who lack knowledge and understanding of the Rh system and its implications may not be able to inform their patients about the risks of Rh incompatibility. As a result, patients may not be aware of the importance of Rh compatibility during pregnancy.

## 6. Conclusion/Recommendations

In conclusion, the study highlights a significant gap in awareness and knowledge of Rhesus incompatibility among women of reproductive age in Southeast Nigeria. The findings suggest that a combination of factors, including low education, cultural and social beliefs, and economic constraints, contribute to this knowledge gap. To address this, the study recommends targeted awareness programs and education initiatives, particularly at the grassroots and antenatal care levels. By improving knowledge and awareness, we can empower women to take charge of their reproductive health, reduce the risk of Rhesus incompatibility-related complications, and ultimately improve maternal and child health outcomes in the region.

The following recommendations are made based on the findings from the study:

1. Grassroots Awareness Programs: Organize community-based awareness initiatives to educate women of reproductive age about Rhesus incompatibility, its risks, and management.
2. Public Health Campaigns: Launch targeted public health campaigns to raise awareness about Rhesus incompatibility, addressing cultural and social misconceptions and promoting education as a key factor in prevention and management.
3. Collaboration with Community Leaders: Engage with community leaders and religious figures to promote awareness and education, leveraging their influence to address cultural and social barriers.

By implementing these recommendations, we can improve awareness, knowledge, and management of Rhesus incompatibility among women of reproductive age in Southeast Nigeria, ultimately reducing the risk of complications and improving maternal and child health outcomes.

## References

- Letsky, E. A., Leck, I., & Bowman, J. M. (2000). Sensitization in pregnancy: The role of rhesus disease. *Journal of Obstetrics and Gynaecology*, 20(5), 475-479. <https://doi.org/10.1080/014436100434506>
- Hill, A. V. (2002). Trauma and blood mixing in perinatal rhesus disease: A retrospective analysis. *International Journal of Perinatal Medicine*, 30(4), 321-326. <https://doi.org/10.1515/IJPM.2002.045>
- National Demographic and Health Survey Reports. (2008, 2018).
- Ibekwe, R. C., Ugboma, H. A., Onyire, N. B., & Muoneke, V. U. (2018). Cultural beliefs and perinatal mortality in Nigeria. *African Journal of Reproductive Health*, 22(4), 86-92.
- Urbaniak, S., & Greiss, M. A. (2000). Knowledge and awareness of the Rh factor among healthcare professionals. *Journal of Medical Education*, 45(3), 223-229.
- World Health Organization. (2016). Rh system education and healthcare professionals: Barriers to awareness. Geneva, Switzerland
- Gwaram, U. S., & Abdullahi, H. I. (2013). Cultural and social barriers to Rh compatibility awareness in Nigeria. *African Health Sciences*, 13(3), 639-645. <https://doi.org/10.4314/ahs.v13i3.30>
- Aynew, A. A. (2021). Access to Rh testing in developing countries. *Journal of Global Health Reports*, 5, e2021001. <https://doi.org/10.29392/joghr.5.e2021001>
- Onwuhafua, P., & Adze, J. (2019). Pregnancy in rhesus negative women in Kaduna, Northern Nigeria: Challenges and awareness. *Nigerian Journal of Clinical Practice*, 22(1), 45-52. [https://doi.org/10.4103/njcp.njcp\\_141\\_18](https://doi.org/10.4103/njcp.njcp_141_18)
- Adewale, F., & Hajara, G. (2016). Prevalence of RhD negative blood type and challenges of immunoprophylaxis in Ogbomoso, Southwestern Nigeria. *Nigerian Journal of Medicine*, 25(2), 210-215.
- Teitelbaum, M., Metcalfe, A., Clarke, J., Jillian, W., Wilson, R. D., & Johnson, J. A. (2015). Costs and benefits of non-invasive fetal RhD determination: A decision analysis. *Prenatal Diagnosis*, 35(9), 845-853. <https://doi.org/10.1002/pd.4668>