

*Evaluation of Social and Biological Causes of ... Tukur, M., Et. al. (2026)*

## Evaluation of Social and Biological Determinants of Miscarriages among Pregnant Women in Shinkafi Local Government Area of Zamfara State, Nigeria

**TUKUR, Muhammad<sup>1&2</sup>**

[tukurmohammad.tm@kiu.ac.ug](mailto:tukurmohammad.tm@kiu.ac.ug),

0707771320

**AJA, Lucy<sup>2</sup>**

[lucyaja@kiu.ac.ug](mailto:lucyaja@kiu.ac.ug),

0761665667

**MOHAMMED, Lubega<sup>2</sup>**

[lubegamohammad@kiu.ac.ug](mailto:lubegamohammad@kiu.ac.ug)

+256702794090

**UMAR, Sodangi<sup>3</sup>**

[sodangiumar@fugusau.edu.ng](mailto:sodangiumar@fugusau.edu.ng)

+2348036076752

**SHAFIU, Abdullahi<sup>4</sup>**

[Shafiugnan@gmail.com](mailto:Shafiugnan@gmail.com)

**AQUILLA, Modupe Otitoju<sup>5</sup>**

[aquilla.otitoju@kiu.ac.ug](mailto:aquilla.otitoju@kiu.ac.ug)

0762680513

<sup>1</sup>Department of Biology, School of Secondary Education, Zamfara State College of Education, Maru, Zamfara State

<sup>2</sup>Department of Science Education, Faculty of Education, Kampala International University, Uganda

<sup>3</sup>Department of Science Education, Faculty of Education, Federal University Gusau, Zamfara State

<sup>4</sup>Department of Integrated Science School of Secondary Education, Zamfara State College of Education, Maru, Nigeria

<sup>5</sup>Department of Humanities, Faculty of Education, Kampala International University, Uganda

### Abstract

*This project work is aimed at finding the biological and social implications of miscarriage among women in Shinkafi local government area, Zamfara state. From the data obtained, there are several factors responsible for the cause of the problem. These factors include genetic factors, infection of some diseases, excessive consumption of alcohol and cigarettes, and so on. It is also found that miscarriage can lead to bladder injuries, pelvic inflammatory disease Amaenia, and infertility, and to many other effects. Some preventive and curative measures are also found, such as eating a good balanced diet, visiting the hospital regularly, and avoiding alcohol and smoking. Recommendations on the way forward are finally stated. From the findings of the study, it has been recommended that there is a need to strengthen maternal health services in Shinkafi, which requires improved access to quality antenatal care, early screening for risk factors, and community-based education on reproductive health. Policies should prioritize addressing socio-economic determinants such as poverty, nutrition, and healthcare infrastructure to reduce preventable miscarriages. Collaborative efforts between government, healthcare providers, and local communities are essential to ensure culturally sensitive interventions that enhance maternal outcomes and safeguard women's reproductive health.*

**Key Words:** Miscarriage, Determinants, Maternal Health, Women, Shinkafi, Zamfara State

### Introduction

In this study, an attempt was made to find out the biological and social implications of miscarriage among women in Shinkafi local government. A miscarriage cannot occur without conception (pregnancy), which in humans takes nine months period during which a single cell is transformed into a human being. Pregnancy can also mean the fertilization of a male sperm cell and a female egg (Ovum) to form a zygote (Encarta encyclopedia 2004). The complication in pregnancy is what brought about miscarriage; about 15% of all pregnancy ends in miscarriage, most of which occur between the 4<sup>th</sup> and 12 weeks of pregnancy (McNestry, Killeen, Crowley, & McAuliffe, 2023; Quenby et al., 2021). Termination of



*Evaluation of Social and Biological Causes of ... Tukur, M., Et. al. (2026)*

pregnancy can happen to women of all ages and parties. These pregnancies are usually terminated at any stage before 28 weeks of gestation. Although the vast majority are terminated before four weeks of gestation, miscarriages are viewed as a form of abortion through natural Determinants which are unintentional (Abdallah, 2025; Yong, Yeo, & Shorey, 2023). Each year in the world, hundreds of women are affected by miscarriage. According to Bupa (2003), research has found that as many as one quarter of pregnancies miscarry, the riskiest time being between 6<sup>th</sup> and 8<sup>th</sup> weeks, dating from the last menstrual period in the vast majority of cases. Having a miscarriage does not mean that someone will not be able to get pregnant again, and most women go on to have a successful pregnancy (Abdallah, 2025) (Ruth and Brown 2001). There are so many types of miscarriage: threatened miscarriage, inevitable miscarriage, incomplete miscarriage, complete miscarriage, and missed miscarriage. The common Determinants of miscarriage include fetal or embryonic structural abnormalities of the genital tract, diseases such as excessive consumption of alcohol, and cigarette smoking (Al-Akaidi et al., 2024).

### **Statement of the Problem**

Miscarriage research is not well funded and there has been little progress over many decades. Early pregnancy loss is still blamed on either chromosomal abnormality in the implanting embryo or on some 'maternal' factor, such as an exaggerated immune response to placental cells (Asghari, Novinbahador, Mehdizadeh, Zolfaghari, & Yousefi, 2024; Dwivedi, Khan, Ahmad, Mehdi, & Ali, 2024). Consequently, couples suffering RPL are routinely tested for various anatomical, endocrine, immunological, clotting and genetic risk factors (Cao et al., 2023; Turesheva et al., 2023). The above observations made the researchers to investigate the biological and social implication of miscarriage among women in Shinkafi local government area Zamfara state. Find out the possible Determinants and associated diseases of this problem, which are some of the problems to be addressed by this study.

### **Purpose of the Study**

The purpose of this research work is to find out the biological and social implication of miscarriage, and also to come up with some suggestions on the way to minimize the occurrence of the problems among the women in Shinkafi local government area Zamfara state.

### **Significance of the Study**

The findings of the study would be of great significance to the people of the study area, Zamfara state, and Nigeria at large by providing them with the information's of the occurrence, Determinants, implication and other related information's of the problems. Government (local, state and federal) will also be punished with this information's which can be used to set up a programme so as to see the end of the problem.

### **Scope of the Study**

This research is only restricted to Shinkafi local government area Zamfara state which consist of the following because of some constraints.

### **Research Questions**

The following are research questions were answered in this study:

1. Is cervical incompetence among the Determinants of miscarriage?
2. Do infections such as Chlamydia and rubella cause miscarriage?
3. Does pelvic inflammatory disease cause miscarriage?
4. Is a nutritional deficiency cause miscarriage?
5. Does excessive consumption of alcohol among the Determinants of Miscarriage?
6. Is a genetic factor a cause miscarriage?

### **Literature Review**

Previous literature related to the present study was reviewed as follows:

#### **Concept of Miscarriage**

Miscarriage in human means loss of an embryo or fetus before the 20<sup>th</sup> weeks of the pregnancy. The medical term for miscarriage is spontaneous abortion; carriage is very common approximately 20% of pregnancies (one in five) end in miscarriage. The most common cause is a genetic abnormality of the fetus; not all women release they are miscarrying and others may not seek medical care when it occurs (Leibovitz, Lerman-Sagie, & Haddad, 2022; Phoswa & Khaliq, 2021) Moulder, 1995).



*Evaluation of Social and Biological Causes of ... Tukur, M., Et. al. (2026)*

Miscarriage is often a traumatic event for both partners and cause feelings similar to the loss of a child or other member of the family. Fortunately, 90% of women who have had one miscarriage subsequently have a normal pregnancy and healthy baby, 60% able to have a healthy baby after two miscarriages even a woman who has had three miscarriages in a row still has more than a 50% chance of having a success pregnancy, the incidence of miscarriage reported varies depending on the degree of reporting of miscarriage in the area studied (Coomarasamy et al., 2021; Quenby et al., 2021; Wang et al., 2025). Many of the very early miscarriage (4 to 6 weeks amenorrhea) may not be actual miscarriages; rather these may be short periods of amenorrhea followed by heavy period being reported as pregnancies, especially by the very anxious relatively infertile middle-aged women. The physical effect of a miscarriage tends to clear up quickly. Any bleeding settles down within seven to ten days (7 to 10) and the next period will return in around six weeks. Sometimes infection can make the bleeding last longer or cause an offensive discharge (Wang et al., 2025; Wisniak et al., 2025) (Bupa, 2003)

### **Symptoms and signs of Miscarriage**

Bupa (2003), states some symptoms of miscarriage; the commonest symptoms is vaginal bleeding, which can range from light spotting to heavier than a period. There may be blood clots or other tissue that is clearly identifiable. Sometimes a sac-like structure is seen some bleeding is very common during pregnancy and vaginal bleeding does not always signal a miscarriage has taken place especially if the bleeding light and only last a short time. Bleeding that is prolonged and heavy, like a period is more likely to lead to miscarriage. Often, there is cramping with period type pain some women find that the usual symptoms of pregnancy such as breast tenderness, feeling sick and having to pass urine more frequently than usual may stop unexpectedly. Sometimes there are no symptoms, and your miscarriage may only be discovered in a routine scan. If you have vaginal bleeding at any time during pregnancy, you should contact your doctor or midwife immediately for advice. An impending miscarriage will often have some distinct symptoms, such as vaginal bleeding and abdominal cramping, but having these symptoms in pregnancy does not always mean a miscarriage. If you have any of these symptoms, please see a doctor as soon as possible for a medical evaluation.

### **Determinants of Miscarriage**

Miscarriage has several known Determinants such as: -

**Genetic Factors:** Structural abnormalities of the genital tract such as retroversion of the uterus, bicornate uterus fibroids are some of the genetic factors responsible for miscarriage. In over 60% miscarriage, there is problem with the way genetic materials from the egg and sperm combines as a result of fertilization. About half of all early miscarriage happens because of the problem in the way of genetic materials (Chromosomes), combine when the egg and sperm has joined during fertilization likely to be due to chance than any underlying problem with either you or your partner (Bupa, 2003)

**Infection:** - Acute infectious diseases such as nephritis (kidneys diseases), diabetes and severe trauma, uterine malformation including tumors are responsible in some instances, some infections such as listeriosis (*Listeria* infections) and Malaria are also thought to cause miscarriage more likely, other infections such as Chlamydia and rubella, renal diseases and typhoid dysfunction, severe vitamin deficiency has been shown to play a role in miscarriage (Bupa, 2003)

**Implantation Problem:** the fetus may fail to implant into the lining of the womb. Doctors don't fully understand why this happens, but sometimes it can be due to hormonal imbalance. Another fetal cause is where a cause is determined, 50% of miscarriages are due to chromosomal abnormalities of the conceptus (Bupa, 2003)

**Environmental Factor:** - Such as excessive consumption of alcohol and cigarette smoking has increased the risk of miscarriage. There is not enough evidence to show whether or not stress is a risk factor for miscarriage, but it's a good idea to take time during the day to relax. And doing moderate exercise having sex while you are pregnant, does not increase your risk of miscarriage (Bupa, 2003) (Xiang, Jiang, Mu, Wu, & Zhang, 2025).

**Hormonal Imbalance:** - Imbalance in pregnancy hormones and hormone deficiency has been shown to play a role in miscarriage as found in women who are subject to recurrent miscarriage. Other Determinants of miscarriage can be extreme anxiety and other psychological disturbances may contribute to the premature expulsion of the fetus, and problems associated with the immune system, these are also immunological Determinants (such as insulin dependent diabetes) and diseases associated with viruses oral condition where your body's own defense mechanism attacks itself, leading to blood clots in the placenta (Bupa, 2003) (Megakaryocyte, Polymorphonuclear, Monoblast, & Eosinophil, 2025).

### **Research Design**

This research design is a cross-sectional design, because the study was designed to collect data from various experienced people and well-trained, qualified people, which helped the research to collect firsthand information.



*Evaluation of Social and Biological Causes of ... Tukur, M., Et. al. (2026)*

### Population of the Study

The population of the study comprised medical and experienced people in the field of the study, in Shinkafi Local Government Area, Zamfara State.

### Sample and Sampling Techniques

Because of the wide area and population, the entire population cannot be covered. Therefore, a simple random sampling method was used for selecting the data from respondents, and in order to do this, a total of 100 respondents were selected, 25 from the entire population, which includes 10 medical professionals and 15 experienced people in the field of study in Shinkafi General Hospital.

### Instrumentation

This simply refers to the construction of a research instrument for the collection of data; the set of questionnaires is expected to cover the areas.

### Statistical Method

The set of questions in the questionnaire used in the study comprised open and closed-ended questions. To determine the total scores of each question from the questionnaires were computed in a Table with figures.

These were finally calculated in a simple percentage through the use of the formula as shown below: -

$$\text{Frequency} = \frac{\text{Number of the responses}}{\text{Total number of the responses}} \times \frac{100}{1}$$

### Presentation of Results

The main purpose of this chapter is to present and interpret the data collected during fieldwork for the research. To enable us to answer the research questions in the first chapter of this research work, a total of seven (7) questionnaires were produced and administered; all were completed and returned. Therefore, the analysis was based on seven (7) using simple percentages, as shown below:

Q1. Is cervical incompetence among the determinants of miscarriage?

Table 1

S/N	Response/options	Respondents	Percentage (%)
1.	Yes	20	80
2.	No	5	20
Total		25	100

From the above table (Table 1) we can detect that the majority of the respondent's i.e. 80% said cervical incompetence is among the cause of miscarriage, while 20% said cervical incompetence cannot cause miscarriage.

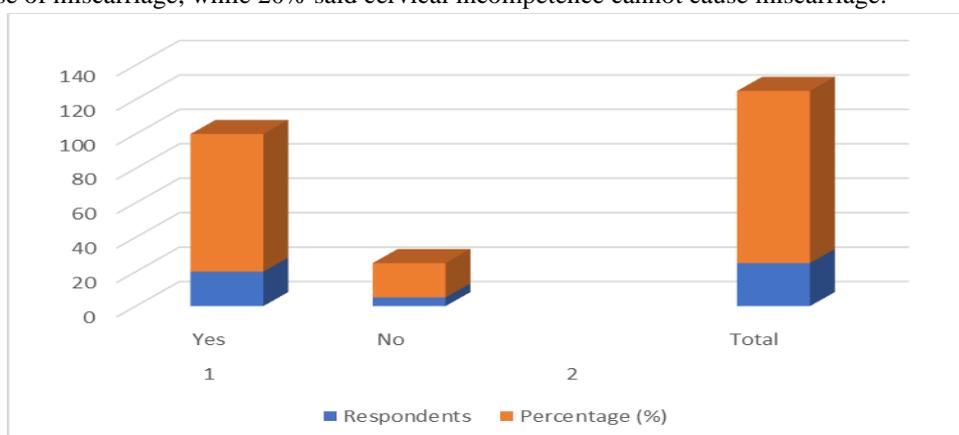


Figure 1.

*Evaluation of Social and Biological Causes of ... Tukur, M., Et. al. (2026)*

Q2. Does the infection such as Chlamydia and rubella cause miscarriage?

Table 2

S/N	Response/ options	Respondents	Percentage (%)
1.	Yes	25	100
2.	No	0	0
Total		25	100

The above table (Table 2) shows that all the respondents said that Chlamydia and rubella can cause miscarriage.

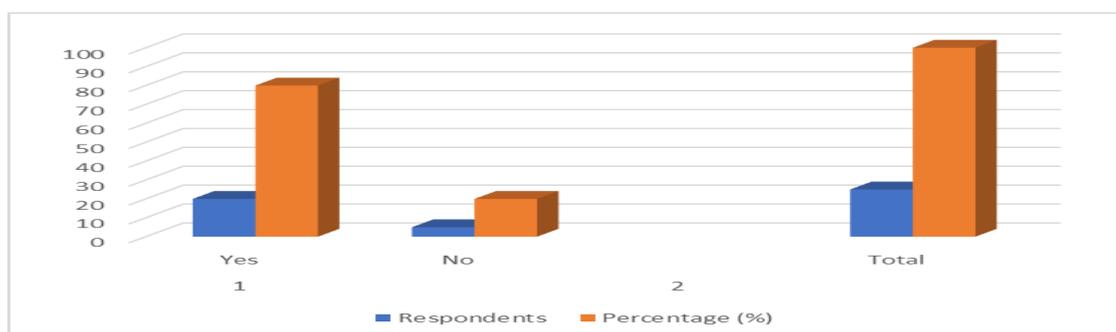


Figure 2.

Q3. Does pelvic inflammatory disease cause miscarriage?

Table 3

S/N	Responses/ options	Respondents	Percentage (%)
1.	Yes	21	84
2.	No	4	16
Total		25	100

From the above Table 3, almost all respondents, i.e. 84% agree that pelvic inflammatory disease can cause miscarriage, and a few, i.e. 16% said that pelvic inflammatory disease is not associated with miscarriage.

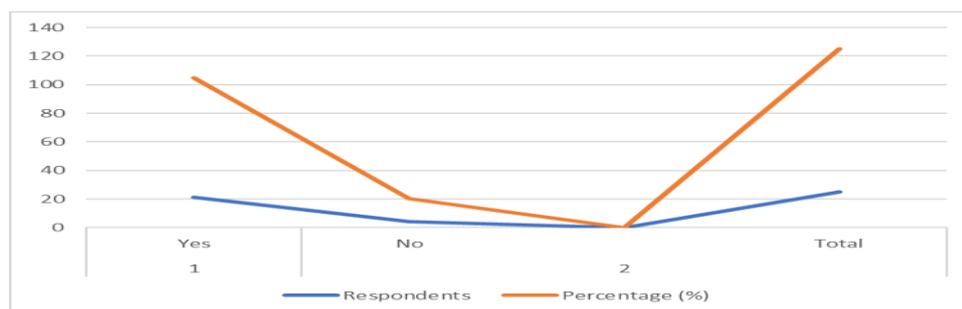


Figure 3.

Q4. Is nutritional deficiency can cause miscarriage?

Table 4

S/N	Response/ options	Respondents	Percentage (%)
1.	Yes	15	60
2.	No	10	40
Total		25	100



*Evaluation of Social and Biological Causes of... Tukur, M., Et. al. (2026)*

From Table 4 above, we can deduce that 60% of the respondents opined that miscarriage is caused by nutritional deficiencies. While others, that is 40% said no.

Q5. Does excessive consumption of alcohol contribute to miscarriage?

Table 5

S/N	Responses/ options	Respondents	Percentage (%)
1.	Yes	8	32
2.	No	17	68
Total		25	100

From Table 5, it can be observed that 32% of the respondents said miscarriage can be caused by excessive consumption of alcohol, while 68% said that excessive consumption of alcohol cannot cause miscarriage.

Q6. Are genetic factors determinants of miscarriage?

Table 6

S/N	Responses/options	Respondents	Percentage (%)
1.	Yes	25	100
2	No	0	0
Total		25	100

All the respondents said that the genetic factor is one of the Determinants of miscarriage.

Q7. Does miscarriage cause loss of blood?

Table 7

S/ N	Responses / options	Respondents	Percentage (%)
1.	Yes	25	100
2.	No	0	0
Total		25	100

All the respondents said yes to this question.

The findings of this study include: from table one the result founds that the majority of the respondents said that the cervical incompetence is among the cause of miscarriage, while the minority of the respondents said that the cervical incompetence cannot cause miscarriage; from table two (2) all the respondents said that Chlamydia and rubella can cause miscarriage; from table three most of the respondents agree that pelvic inflammatory disease can cause miscarriage, while a few said that pelvic inflammatory disease is not associated with miscarriage; from table four the majority of the respondents stated that miscarriage is caused by nutritional deficiencies, while the minorities disagree; from tale five it can be observed that the minority of the respondents said that miscarriage can be caused by excessive consumption of alcohol, while the majority disagrees.

### Discussion of Findings

After the data of this research work has been conducted, genetic factors such as the structural abnormalities of the genetic tract such as retroversion of the uterus, infection like nephritis (kidney disease) diabetes, severe trauma, tumors, infection include listeriosis, Chlamydia and rubella, implantation problem (this is a situation where by the fetus fail to implant into the living of the womb), hormonal imbalances and hormone deficiency, environmental factors such as excessive consumption of alcohol and cigarette smoking are all among the Determinants of miscarriage Armenakas & Scharf 2007. Other Determinants of miscarriage may include extreme anxiety and other psychological disturbances, which may contribute to the premature expulsion of the fetus. Therefore, 50% of miscarriages are due to the genetic and structural abnormalities and chromosomal abnormalities of the conceptus (Moulder, 1995). Also, on the other hand, the implication of miscarriage is bladder injury, bowel injury, loss of blood, likely occurrences of the miscarriage, pelvic inflammatory diseases, anemia, infertility, tubal blockage, incompetent cervix, miscarriage can also cause a range of findings which include anxiety, depression, anger, and even suicide Bupa, 2003). Where there is a case of pelvic inflammatory diseases after miscarriage, since the vagina and uterus, along with the fallopian tube, are affected, their natural protective barriers



*Evaluation of Social and Biological Causes of ... Tukur, M., Et. al. (2026)*

are disturbed with them; give room for bacteria and other infections organism that Determinants infection of the pelvic contain the uterus and fallopian tube. The infection of the tube will come from tubal blockage with other adhesions (Robert, 2007; Turvey & Cooley, 2014). And because the urinary tract is closed, then called urinary tract infections death may also occur after miscarriage. Moreover, ways of preventing miscarriage that were recommended by most of the respondents were regular antenatal check pregnant women should always visit the hospital further check as soon as they notice that they are pregnant, eating balance diet, losing any excessive weight by exercise and by not smoking or drinking too much alcohol earn help to reduce the risk of having miscarriage Petrozza (2006).

### **Conclusion**

In conclusion, this research work has found the possible Determinants of miscarriage, it also found those that are mostly affected, and the possible implications of this problem are also found out, other finding of this work includes the prevention, cure, and complications of this disease; effort made by the Government to minimized occurrence of this disease, and problems are also found.

### **Recommendation**

On the basis of the preceding discussion on miscarriage Biological and social implications of miscarriage among women in Shinkafi Local Government Area, Zamfara State, the following recommendations are vital.

1. There is need to educate the general public about the major implications of miscarriage, so that they will be taken by the pregnant women avoid the several cases of miscarriage.
2. Regular antenatal visit, reporting not noticed symptom for miscarriage to the medical doctor is also advisable to pregnant women, husband, and parents.
3. Necessary measures of preventing miscarriage, as indicated in chapter two, such as avoidance of smoking, eating a balanced diet, and improvement of nutritional standards and improvement of good sanitary conditions, need to be enlightened by the Government.
4. The Government should also take serious action on ways of preventing rampant miscarriage.

### **References**

- Abdallah, A. (2025). Exploring the complexities of recurrent spontaneous abortion: An overview of contributing factors. Al-Akaidi, M. A. H., Al\_ward, M. A., Jawad, A. A., Hassan, W. A., Hamid, D. M., Shaher, R. F., . . . Jaafar, N. H. S. (2024). Recurrent miscarriage and factors that effects its: A review. *AJMS*, 30, 40-46.
- Asghari, K. M., Novinbahador, T., Mehdizadeh, A., Zolfaghari, M., & Yousefi, M. (2024). Revolutionized attitude toward recurrent pregnancy loss and recurrent implantation failure based on precision regenerative medicine. *Heliyon*, 10(20).
- Armenakas, N. A., & Scharf, S. C. (2007). *Journal of clinical gastroenterology* 4(7), 677 - 681.
- Bupa (2003) *bupa.com.uk/fact sheet by fact sheet/miscarriage.html*
- Bupa, U. (2012). *Miscarriage and pregnancy information*. Bupa UK [www.bupa.com.UK/...../health...../miscarriage](http://www.bupa.com.UK/...../health...../miscarriage)
- Cao, C., Bai, S., Zhang, J., Sun, X., Meng, A., & Chen, H. (2023). Understanding recurrent pregnancy loss: recent advances on its etiology, clinical diagnosis, and management. *Medical Review*, 2(6), 570, 589.
- Coomarasamy, A., Gallos, I. D., Papadopoulou, A., Dhillon-Smith, R. K., Al-Memar, M., Brewin, J., . . . Wijeyaratne, C. N. (2021). Sporadic miscarriage: evidence to provide effective care. *The Lancet*, 397(10285), 1668-1674.
- Dwivedi, J., Khan, A., Ahmad, A., Mehdi, F., & Ali, S. (2024). Loss of Pregnancy, Causes and Counseling. *Journal of Scientific & Technical Research*, 14(2).
- Leibovitz, Z., Lerman-Sagie, T., & Haddad, L. (2022). Fetal brain development: regulating processes and related malformations. *Life*, 12(6), 809.
- McNestry, C., Killeen, S. L., Crowley, R. K., & McAuliffe, F. M. (2023). Pregnancy complications and later life women's health. *Acta Obstetrica et Gynecologica Scandinavica*, 102(5), 523-531.
- Megakaryocyte, C.-m. M., Polymorphonuclear, C., Monoblast, C., & Eosinophil, E. (2025). Placental Transfusion and Distribution of Blood at Birth. *Klaus and Fanaroff's Care of the High-Risk Neonate-E-BOOK*, 311. Merch of Dimes foundation. "Preterm labor and birth: A serious pregnancy complication" pregnancy and new born health education center. march 2006. march Dimhes foundation 20 sep 2007. Moulder, C (1995) *miscarriage: women's experience and need*, Lond-on : Herper Collins Revised edition
- Phoswa, W. N., & Khaliq, O. P. (2021). The role of oxidative stress in hypertensive disorders of pregnancy (preeclampsia, gestational hypertension) and metabolic disorder of pregnancy (gestational diabetes mellitus). *Oxidative medicine and cellular longevity*, 2021(1), 5581570.



*Evaluation of Social and Biological Causes of ...* Tukur, M., Et. al. (2026)

Petrozza, J. C. (2006). "Early pregnancy loss" eMedicine.web.MD.<http://www.emedicine.com/med/topic3241.htm>.Retrived 2013-08-20.

Quenby, S., Gallos, I. D., Dhillon-Smith, R. K., Podeseck, M., Stephenson, M. D., Fisher, J., . . . Lucas, E. S. (2021). Miscarriage matters: the epidemiological, physical, psychological, and economic costs of early pregnancy loss. *The Lancet*, 397(10285), 1658-1667.

Robert, N. M. (2007). *Article: Australian law on miscarriage of justice.*

Ruth, B., & Brown, L. (2001). *myles text book for midwives.*

Turvey, B. E., & Cooley, C. M.(2014). *Miscarriages of justice: Actual innocence, forensic evidence, and the law:* Academic Press.

Turesheva, A., Aimagambetova, G., Ukybassova, T., Marat, A., Kanabekova, P., Kaldygulova, L., Khamidullina, Z. (2023). Recurrent pregnancy loss etiology, risk factors, diagnosis, and management. Fresh look into a full box. *Journal of clinical medicine*, 12(12), 4074.

Wang, Y., Tang, Y., Wang, G., Wei, R., Liu, L., & Lu, C. (2025). Epidemiological trends in abortion and miscarriage between 1990 and 2019. *Reproductive Health*, 22(1), 97.

Wisniak, A., Yakam, V., Bolo, S. E., Moukam, A., Sormani, J., Vassilakos, P., . . . Petignat, P. (2025). Fertility and miscarriage incidence after cervical intraepithelial neoplasia treatment by thermal ablation: a cohort study. *BJOG: An International Journal of Obstetrics & Gynaecology*, 132(2), 167-177.

Xiang, S., Jiang, Y., Mu, F., Wu, H., & Zhang, N. (2025). A Systematic Review of Mendelian Randomization in Spontaneous Miscarriage. *Journal of Multidisciplinary Healthcare*, 2237-2246.

Yong, M. Q. Y., Yeo, Y., & Shorey, S. (2023). Factors affecting unintended pregnancy resolution from the perspectives of pregnant women and people: A systematic review of qualitative evidence. *Midwifery*, 127, 103866.