

The Relationship between the Socio-economic Status and the Pregnancy Outcomes in the Philippines: A Systematic Review

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ABSTRACT

Aim/Background: Pregnancy is a remarkable preparation; however, it acquires challenges to the socio-economic status of pregnant women. This paper aims to determine if socio-economic status impacts pregnancy outcomes. **Materials and Methods:** The authors utilized PubMed and Google Scholar to conduct a systematic search with a language and date constraint of publications published between 2017 and 2022 and written in English. Three independent reviewers looked over the titles, abstracts, and the full content for eligibility criteria and PRISMA compliance. **Results and Conclusion:** Of the 1,049 articles that were searched, 7 of which were chosen and reviewed. The findings showed the association between the socio-economic status of pregnant women and the outcome of delivery. Low-income class pregnant individuals are concerned with low educational attainment, unemployment, and poverty, while the high-income class benefits more in prenatal care than the low-income class. Pregnant women, especially those in low socio-economic class, struggle the most in their everyday lives. Therefore, the causal correlation between the status of the mother and child is recommended to further elaborate on the origin of infant problems such as malnourishment and being underweight.

Keywords: Pregnancy outcomes, Socio-economic status, Pregnant women, Pregnancy in the Philippines.

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INTRODUCTION

Pregnancy is a nine-month-long journey. It marks the beginning of new life; however, some challenges may arise especially for the women. Pregnancy puts a woman's body and mind under a lot of strain. The environment in which a pregnant woman lives and works can have long-term health consequences for herself and her unborn child. Women's and neonates' health is affected by social inequality throughout their lives.^[1] Minority women of reproductive age are disproportionately affected by contributing factors such as low educational attainment,

unemployment, poverty, and a lack of health insurance. Current data showed maternal mental conditions affect about 10% of pregnant women worldwide.^[2]

Women are disproportionately affected by socio-economic disparities, which influence their health and the life opportunities of their children. Particularly lone mothers, they have the most significant distinction between income and adequate living standards and are the most likely to live in undernourished households, another measure of poverty.^[3] A low socio-economic class can raise the chance of poor pregnancy outcomes. Poverty may put a person's health at risk since they are more likely to face issues including inadequate nutrition, pollution, increased stress, and a lack of access to healthcare services, among other things.^[4] Individuals' lives are influenced by education regardless of their socio-economic standing. Furthermore, persons living in low- and lower-middle-income countries obtain a

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lower level of education than those living in higher-income regions.^[5]

There are three primary socio-economic classes in the Philippines: low-income, middle-income, and high-income. A large part of Filipinos (58.4%) belongs to low-income, whereas the middle class makes for around 40% of the population, and only 1.4 percent are in the high-income category.^[6] Socio-economic status (SES), especially in the Philippines, can be a struggle for pregnant women in the lower class. It has a notably negative impact on their education, income, and occupation. Despite the fact that such scenarios are common in the Philippines, there are few publications that look at the impact of socio-economic status on pregnancy. In light of this, this review has the potential to redound society's understanding of the importance of maternal health and its implications for pregnancy outcomes.

MATERIALS AND METHODS

Literature Search

PubMed and Google Scholar were utilized to search for related literature. The combination of one or more of the terms used was as follows: "Pregnant Women", "Pregnancy outcomes", "Socio-economic status", and "Philippines". The title, abstract, and introduction were searched and reviewed and are limited only from 2017-present, which are the latest research references suitable to guarantee a comprehensive review.

Eligibility Criteria

This paper includes the socio-economic status which includes the important factors: Income, Education, and Occupation. As well as the pregnancy outcomes of women who gave birth from all classes. The primary socio-economic classification by the Philippine Statistics Authority was used as follows: low-income, middle-income, and high-income. The researchers retrieved the data from the two credible sites, PubMed and Google Scholar.

The following are the inclusion for this paper: (1) Articles published in English between 2017-present time, (2) Published articles in which the Philippines is included, (3) Studies about the Socio-economic status of Pregnant women, (3) Socio-economic status and Pregnancy outcomes in the Philippines, and (4) From credible sites.

On the other hand, the exclusion criteria of this mini-review are (1) Articles not written in English, (2) Published from 2016 below, (3) The full text of the paper was not available, and (4) From predatory sites.

Sources of Information

The sources of information, such as PubMed and Google Scholar, were utilized for the articles. Only the years 2017 to 2022 were chosen to conduct research on the effect of socio-economic status on pregnancy outcomes in the Philippines.

Selection Strategy

Studies on selection strategies were identified by three reviewers (JB, MFA, and MS) independently. They evaluated and collated several studies that met the established eligibility criteria by reading the titles and abstracts, then analyzing the entire text of each potentially qualifying search article. They confirmed it with other reviewers (MAG and JD) and sought their input on any disputes in order to form a compromise. In addition, the reviewers used reference management software to identify relevant material and eliminate any duplicates. They used Zotero to keep the material they acquired structured and comprehensive.

Data Extraction

The authors extracted the study characteristics of the eligible articles such as: (1) The authors' name, (2) The year of publication, (3) The region of origin, (4) Focused on socio-economic status and pregnancy outcomes, and (5) The key findings of each article (Table 1).

RESULTS

The systematic search yielded a total of 1,049 search results, of which 710 discrete records remained for screening after removing duplicates. The removal of duplicates was done using Zotero, an open-source reference management software. During the title and abstract screening, the reviewers selected 13 articles for a detailed review. In the following process, 6 articles were excluded for the following reasons: 3 articles are not available in full text, and 3 articles were not written in English language. Finally, a total number of 7 studies were included in the systematic review. The selection process is summarized in the schematic diagram (Figure 1).

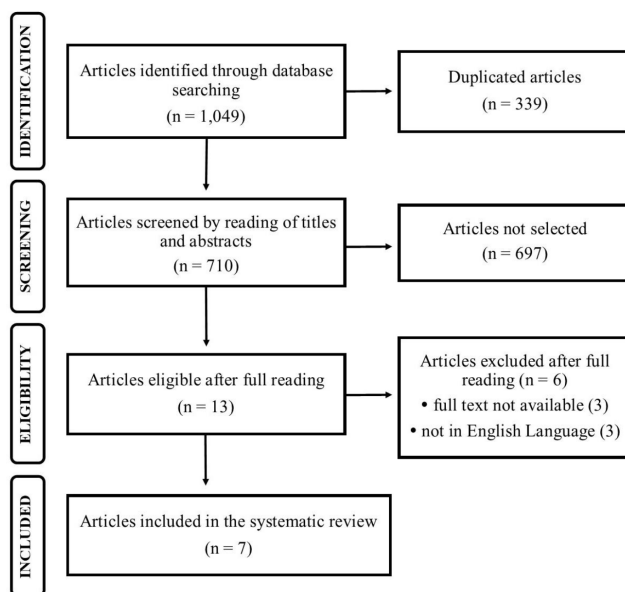
Socio-economic Status of Pregnant Women

Socio-economic status is one of the most significant factors, especially in bearing a child. Pregnant women from the low and lower-middle classes are the ones who struggle the most in this period. Those with low SES are at risk of having a difficult pregnancy outcome. It has also revealed that lower socio-economic status is linked to pregnancy complications such as abortion, premature birth, gestational diabetes, and eclampsia.

Table 1: Summary of data extraction showing the reference, region of origin, socio-economic status, pregnancy outcomes, and significant results of the chosen articles.

Reference	Region of Origin	Socio-economic Status	Pregnancy outcomes	Significant Results/ Conclusion
Sania <i>et al.</i> (2019)	Asia, sub-Saharan Africa, Latin America, and Europe	Low and middle SES*	Mothers with high educational attainment had higher cognitive development.	Parental, environmental, and nutritional aspects are worse in low and middle SES*
Bellizi <i>et al.</i> (2018)	Africa, America, Eastern Mediterranean, Europe, South East Asia, and Western Pacific	Low and middle SES*	Multiple pregnancies in low SES* increase the risk of mortality for both women and newborns.	High-income countries have more access to quality caesarean delivery care.
Banke-Thomas <i>et al.</i> (2017)	Asia, America, and Africa	Low and middle SES*	Teenage mothers with low SES* are inclined to have worse pregnancy outcomes.	Adolescent mothers utilize maternal health services more on their first delivery but less likely on the next pregnancy.
Cabrera and Quesea (2020)	Asia	Low SES*	Most teenage girls experienced an unplanned pregnancy and stayed with their parents during pregnancy.	Teenage pregnancy is more prevalent in underprivileged regions across the world.
Kim <i>et al.</i> (2018)	Asia	Low, middle, and high SES*	Due to insufficient prenatal visits, pregnant women with low SES* have negative outcomes.	Low socio-economic status has more negative pregnancy outcomes. In high-income group, they receive prenatal care frequently.
Gamboa-Chua and Soriano-Estrella (2021)	Asia	Middle and high SES*	There are risks in pregnancy during advanced maternal age and extreme advanced maternal age.	Women from ages 45 years old and above are prone with more significant obstetric complications and neonatal morbidity.
Mohr <i>et al.</i> (2019)	Asia, America, Europe, Africa, and Oceania	Low SES*	Teenage females with a higher education prevent pregnancy more than those with little or no education.	Those living in low and lower-middle-income regions have less access to education.

*SES, Socio-economic Status.

**Figure 1: Schematic Diagram based on PRISMA recommendation.**

Contrary to individuals from the middle- and high-income classes. They often receive prenatal care than low SES who rarely attend their prenatal check-up.^[4] Pregnant individuals of high socio-economic status are also privileged to acquire a quality caesarean delivery compared to low socio-economic class.^[7]

In Polillo, Quezon in the Philippines, it is clear that adolescent pregnancy is more common in barangays or barrios. Furthermore, due to restricted access to healthcare facilities, residing in barrios increases the chance of early pregnancy. Polillo's adolescent moms are generally from barangays or barrios have a 77.61% low family income and faces socio-economic issues; as a result, they are supportive of their parents.^[8] Most teenage mothers live with their parents.

Education

Due to a lack of proper education, most teenagers from low SES have insufficient knowledge regarding sexual

topics even at home, parents are unavailable because most of them are at work.^[8] Furthermore, teenagers who had completed secondary education tend to have a lower rate of pregnancy than those who had attended less than secondary school.^[8] Through the guidance office of the state's public high school in Quezon, Philippines, it was revealed that there are 21 cases of adolescent pregnancy reported among 684 female students for the school year 2012-2018.^[8] Adolescent mothers aged 15–19 years are at a greater risk of maternal morbidity and mortality. Maternal deaths from low- and middle-income countries are elevated compared to high SES. Every year, millions of teenagers undergo unsafe abortions worldwide, adds to the mortality rate.^[9] Those who survive pregnancy in low SES have a higher risk of anemia, postpartum hemorrhage, pre-eclampsia, and other pregnancy complications.^[10] Moreover, mothers with secondary schooling had higher cognitive development than those mothers who had primary education.^[11]

Jobs and Unemployment

Excessive working hours and physical effort are likely to impact obstetric outcomes.^[4] It applies to all three primary socio-economic classes in the Philippines (low-, middle- high- SES). Working long hours or experiencing occupational weariness are risk factors for premature birth and preeclampsia. Because of the tight schedule, there is a delay in prenatal checkups. The same as due to career goals, there is a postponement of pregnancy. There are women over 35 years old or the advanced maternal age (AMA) and extreme advanced maternal age (EAMA) women with age over 45 years.^[12] AMA women are at risk for diabetes mellitus, while EAMA shows more complications in maternal and neonatal outcomes such as polyhydramnios, postpartum hemorrhage, and maternal and neonatal death. On the other hand, unemployment is more common and is a risk factor in teenage pregnancy among girls with low SES, which leads to poor pregnancy outcomes.^[9,13]

Poverty

Teenage pregnancy is more prevalent in poor and disadvantaged areas across the globe, which is often caused by poverty.^[13] It is indeed that this problem and improper education can lead to youth agreeing to early marriage and dropping out of school.^[9] Pregnant women with low SES tend to not receive proper medical care because it costs them hospital and medicine fees that they cannot afford.^[4] Most teenage pregnant women do not receive maternal health services compared to the older pregnant women that can afford to get vaccinated and take iron supplements.^[10] There is also an association between lack of access to safe water

and sanitation to child cognitive development. A large population of lower- and middle-income groups resides in an unhygienic environment where safe water is not accessible affects both the mother and child. The impacts of inadequate sanitation and contaminated water on newborn's cognitive and motor development may be caused by childhood anemia, inflammation, and undernutrition caused by repeated gastrointestinal infections.^[12]

DISCUSSION

Socio-economic status remained the top concern of pregnant women worldwide. The three primary socio-economic classes in the Philippines: low-income, middle-income, and high-income, showed an association with pregnancy outcomes in the seven articles that the authors reviewed. A summary of the pregnancy outcomes in these social classes was presented in a table (Table 2). Women in their gestational period with low socio-economic status were the ones who struggled more with their daily lives. It happens in all ages of pregnant women from the said SES. The articles revealed that their pregnancy was affected by poverty, which hinders them from having a healthy life and their expecting child. They do not receive proper medical care and enough vitamins and minerals. Due to the financial problems, instead of going to their OB-GYN, they choose to spend a small amount of money on their food and other house expenses, making them at a higher risk for obstetric complications.^[4] Unemployment also threatens the women and the child because most of them were unplanned pregnancies, and it adds to the poor pregnancy outcomes. In the Philippines, adolescent mothers from low-income families also suffer because most of them stop schooling and start their own families at a young age from 13 years old.^[8] It also adds to the burden of their parents.

Table 2: Summary of Pregnancy outcomes in regards to their Socio-economic status.

Socio-economic Status	Pregnancy Outcomes
Low-income	Very poor pregnancy outcomes such as abortion, premature/low birth weight, high infant and maternal mortality.
Middle-income	Poor to healthy pregnancy outcomes.
High-income	Healthy pregnancy outcomes such as appropriate weight gain and physical activity, daily consumption of wide variety of meals, and sufficient intake of vitamin supplements.

In the articles reviewed, the middle- to high-income pregnant women receive prenatal care the most compared to the low-income pregnant women. Being in that social class puts them at an advantage in consuming healthy foods and vitamins supplement. High SES pregnant women got lower rates of abortion, Caesarean delivery, preeclampsia, preterm delivery, and obstetrical hemorrhage.^[4]

In the Philippines and other countries involved in the articles, it was evident that there is a relationship between socio-economic status to the outcomes of pregnancy. The low-income group experienced more difficult pregnancy outcomes than pregnant women with high socio-economic status. Education, unemployment, and poverty are significant burdens for the low SES. To alleviate the negative consequences of socio-economic status on pregnancy, the government should expand the scope of sex education and make it more accessible, particularly to people with low socio-economic. Moreover, strengthening the health care system can prevent pregnancy complications and expand the awareness of family planning.

CONCLUSION AND RECOMMENDATION

Women in their pregnancy from the lower classes are less likely to receive prenatal care since their pregnancy is affected by impoverishment. While pregnant women in the middle class have an easier life than in the lower class because they can afford their needs financially. Whereas pregnant women with a high socio-economic status had decreased incidence of complications during pregnancy, being in that social status gives them an advantage when it comes to acquiring healthy lifestyle and having complete good medical services.

This review focuses on the three primary social classes in the Philippines: high, middle, and lower. Therefore, it lacked a more profound topic of socio-economic classes (Class A, B, C, D, and E), described as upper, upper-middle, middle, working, and lower classes. This paper aims to determine the relationship between socio-economic status and pregnancy outcome alone. For that reason, the authors recommend finding the causal correlation between the status of the mother and infant in this way, it will further elaborate on the cause of the newborn being malnourished, underweight, healthy, or unhealthy.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

ABBREVIATIONS

AMA: Advanced maternal age; **EAMA:** Extreme advanced maternal age; **OB-GYN:** Obstetrician-gynecologist; **SES:** Socio-economic status.

SUMMARY

This paper focuses on the association of socio-economic status with pregnancy in the Philippines. The relationship of these three primary classes (low, middle, and high socio-economic classes) to the outcomes of pregnancy was examined. It is recorded that 58.4% of Filipinos are part of the low socio-economic class, 40% are in the middle class, and only 1.4% belong to the high socio-economic class. The review shows that situations such as obstetrical complications, unhealthy infants, lack of medical care and vitamins for pregnant women in low socio-economic classes are rooted in poverty. While middle-to high-income pregnant women are at an advantage due to enough prenatal care and a healthy and nutritious diet, they can avoid pregnancy risks like preterm delivery, preeclampsia, obstetrical hemorrhage, and caesarean delivery. As a result, there is a direct connection between the mother's prenatal status and the child's health status, especially their health complications, including malnutrition and underweight.

Authors' Contributions

All authors contributed to data collection, drafting, and revising of the paper and gave final approval of the article to be published.

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