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Research Article

Socioeconomic Determinants of Pregnancy Outcomes in Women with Chronic Kidney Disease (CKD): An Islamic Perspective

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ABSTRACT

Women with chronic kidney disease (CKD) pregnancy is a complicated clinical and socioeconomic dilemma, with a high risk of maternal and fetal complications evident. Though much has been said regarding medical complexities of CKD in pregnancy, socioeconomic factors that influence health conditions in the mother have not been studied properly. The current study examines the role of income levels, access to health-care, education level, employment, and social support systems in determining outcomes of pregnancy among women with CKD. The research also includes an Islamic ethical model, with major focus on maqasid al-shariah, zakat, and waqf as the possible tools that can be used to enhance equity in maternal healthcare. The research uses case studies of Malaysia, Turkey, and Saudi Arabia to illustrate how faith-based financial interventions can reduce disparities in the availability of health-care, especially in Muslim dominant contexts. The results have shown that a multidisciplinary strategy, such as the combination of nephrology, maternal-fetal medicine, socioeconomic policy, and Islamic bioethics, is crucial to change the outcomes of pregnancies in this high-risk group of women. The research highlights the importance of faith-based health-care models that entail Islamic finance mechanisms to improve inequities and maternal health outcomes.

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1. Introduction

Chronic kidney disease (CKD) is a severe worldwide health issue with the prevalence being about ten per cent of the global population and the growth rate of the disease being higher in women of childbearing age (Hladunewich et al., 2018; Webster et al., 2017). The CKD is also defined by progressive renal dysfunction, and such complication is linked with severe obstetric dysfunction. Women with CKD who are pregnant are exposed to increased risk of maternal and fetal morbidity, such as preeclampsia, preterm birth, intrauterine growth restriction, and increased risks of caesarean birth (Piccoli et al., 2020; Hladunewich et al., 2018). The risks are also increased by the presence of hypertension, proteinuria, and diminished renal functioning, which causes unfavorable pregnancy outcomes and long-term health consequences in both mother and child.

Although nephrology and maternal-fetal medicine have improved, there is a significant gap in the evidence of the influence of socioeconomic determinants on pregnancy outcomes in CKD patients. Socioeconomic aspects, including level of income, education, access to health-care, employment, and social support have a tremendous impact on maternal health outcomes. Low socioeconomic women often face financial obstacles to high-quality health-care, access to medical treatment, and compliance with treatment plans (Marmot, 2020; Ahmed et al., 2021). A lack of financial resources may lead to non-optimal prenatal care, increased psychological stress, and lower quality of pregnancy outcomes compared to populations with higher incomes.

According to Islamic ethical position, access to health-care and maternal health are significant elements of social justice. The Islamic doctrine places the preservation of life (hifz al nafs) as a significant element of Maqasid al shariah and thus encourages equal access to health-care services among all people regardless of their social and economic status. Islamic financial instruments, such as zakat (obligatory almsgiving) and waqf (charitable endowment) have been historically used to fund

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health-care projects to make sure that poor groups of people get quality medical treatment (Al-Qaradawi, 1999; Sadeq, 2002). Faith-based financial solutions would be an effective response to the health-care disparities, particularly in the Muslim-majority nations where religious and ethical principles can have a significant impact on health-care policies and systems of community assistance (Khaliq, 2023).

Community-based health programs are essential in reducing maternal risks in the Islamic societies. Mostly, countries populated by the majority of Muslims have religious leaders and institutions, which often play a vital role in health-awareness programmes as well as mobilising financial resources towards health-care infrastructure. Inequality in access to maternal care amongst CKD patients can be dealt with by implementing specialised maternal health programmes funded by Islamic philanthropic funds. Government health and Islamic financial institutions can work together to improve health-care sustainability by providing formal mechanisms to support vulnerable groups.

This paper examines how socioeconomic status relates to pregnancy outcomes among women with CKD besides testing the validity of Islamic bioethics in enhancing equitable health-care access. A literature review and case studies of Muslim-majority nations inform on how to use Islamic financial interventions and ethics to enhance maternal health services of women with CKD.

2. Literature Review

2.1 CKD and Pregnancy Outcomes and Medical Risks.

Women who have CKD have a significantly greater proportion of adverse pregnancy outcomes than the general population does. Further stress on the already existing renal impairment is caused by physiological changes that happen during pregnancy, including increasing blood volume and glomerular filtration rate, which increase the risk of developing hypertension, proteinuria, and cardiovascular overload (Hladunewich et al., 2018; Kazancioglu, 2013). Experience shows that women having moderate to severe CKD are at risk of developing preeclampsia by 3050 per cent higher than usual, which is one of the major contributors to maternal and perinatal morbidity and mortality (Piccoli et al., 2020). Pregnancy termination before 37 weeks is significantly increased; some researchers state that only 60 per cent of CKD-women carry to term (Hladunewich et al., 2018).

Although there have been improvements in medical science, there are still disparities in pregnancy outcomes, especially when it comes to women with CKD who have no access to specialised nephrology and maternal-fetal care. Studies show that low-income women with CKD have an increased maternal morbidity which can be explained by a lack of prenatal care and medical intervention (Munkhaugen et al., 2019; Peters et al., 2020). The results highlight the need to have socioeconomic barriers that hinder health-care accessibility among CKD pregnant women addressed.

2.2 Socioeconomic Determinants and Maternal Health Disparities.

The impact of socioeconomic factors on the health outcomes of maternal problems among women with CKD is immense. The level of income has a direct influence on the access to health-care services because low-income women face financial barriers that limit their access to specialised medical services (Crews et al., 2019). In developing nations, the lack of universal coverage on health-related services enhances disparities and makes many women incapable of managing the high prices on CKD treatment and pregnancy-related issues (WHO, 2019).

Health literacy and education are critical factors of pregnancy outcome. Women with elevated education levels show more inclination to early prenatal care, compliance with medical guidelines and informed health decisions (Goldfarb-Rumyantzev and Kishore, 2010). On the other hand, the less educated women might not be aware of the dangers of having chronic kidney disease throughout pregnancy and hence medical procedures may be drawn late or inadequately. Employment status also plays a major part in maternal health, especially those that work in informal sectors continuously without the benefits of maternity leaves, job security, and non-employer-provided healthcare plans (ILO, 2021; Ahmed et al., 2021). Lack of social safety nets to economically disadvantaged women contribute to the maternal health disparities particularly in low-income communities.

2.3 Islamic Maternity Healthcare Ethical System.

The teachings of Islam regarding maternal and child health have supported the need to provide equal access to healthcare and implement social support systems. According to the Quran, one should not kill the soul, which has been forbidden by Allah, except under right (Surah Al -Isra, 17:33), and the sanctity of life is emphasized as well as ethical imperative to give medical attention to pregnant women. Zakat and waqf are Islamic financial instruments that have been used in the past to provide healthcare services to the marginalized communities. The compulsory system of wealth redistribution called Zakat can be utilized to finance maternal health programs, subsidize medical expenses, as well as create free healthcare clinics and medical access to low-income women (Chapra, 2018; Sadeq, 2002).

Religious programs such as health awareness programs conducted through the Hajj of mosques and maternal clinics funded by zakat have been effective in the countries with the majority of Muslims. Such programs reveal the ability of the Islamic financial processes to reduce maternal health inequality and provide all women with high-quality prenatal care and nephrology services regardless of their financial situation. This study builds on the literature that has already been available by examining the connection between socioeconomic factors, maternal health outcomes in chronic kidney disease and Islamic bioethics. It incorporates both medical and social and ethical approaches to suggest policy measures that can use Islamic financial instruments to increase the accessibility of maternal healthcare to women with chronic kidney disease (CKD).

3. Research Methodology

The current research will employ a qualitative approach, which involves a systematic literature review, as well as an exploratory analysis in the form of a case study. The qualitative approach is appropriate in addressing the issue because it can be used to conduct a holistic analysis of socioeconomic factors that affect pregnancy outcomes in CKD patients and the effects of Islamic financial solutions in healthcare inequity. Peer-reviewed journal articles in databases like PubMed, Scopus, and Web of Science were identified as the source of data (specifically books about maternal health, chronic kidney disease (CKD), and socioeconomic factors and their impact on pregnancy results). The world health organization (WHO), international labour organization (ILO) and the national health ministry's documents and reports helped to give insights into the present healthcare frameworks and policies which influenced the maternal health.

More so, a study of Islamic legal literature and literature on zakat, waqf and Maqasid al-shariah in healthcare settings was done. Malaysia, Turkey, and Saudi Arabia case studies were used to evaluate the faith-based healthcare programmes and Islamic financial interventions in maternal health. A thematic analysis was able to identify important themes that were generated by the data collected. Socioeconomic determinants and barriers to maternal healthcare and Islamic bioethical perspectives were thematically coded. The effectiveness of the Islamic financial

instruments in enhancing pregnancy outcomes in women with CKD was comparatively examined in a review of case studies.

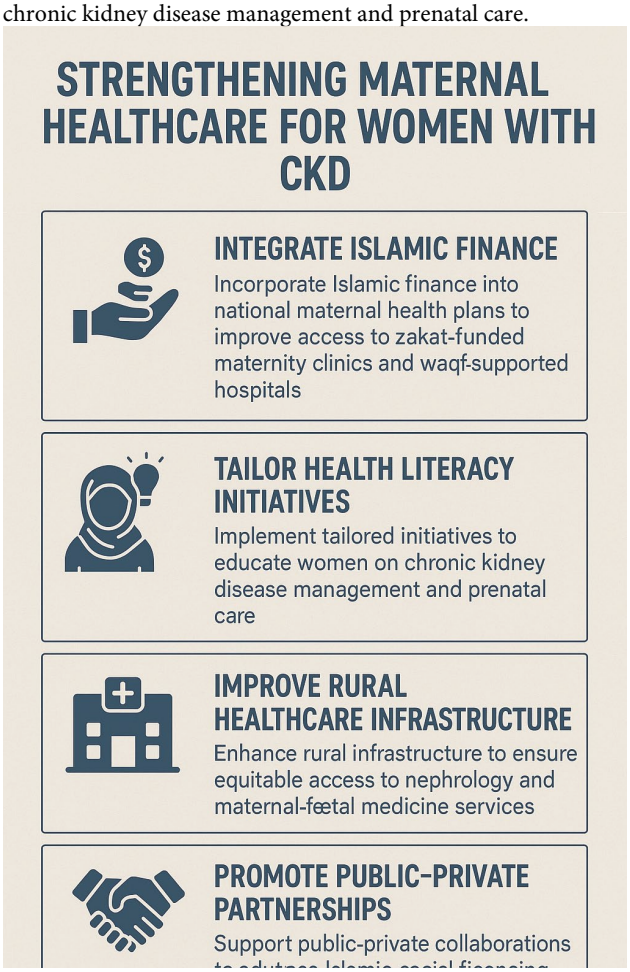
4. Results and Discussion

The results show that socioeconomic status is a significant factor in access and quality of maternity healthcare by women with CKD. Women in poor families face barriers to receiving special nephrology and maternal-fetal health care because of financial limitations. In the regions where health insurance is poor, the medical bills incurred out of pocket result in delayed prenatal care hence, increasing the risk of poor pregnancy conditions including preterm birth, low birth weight and maternal complications. The education levels influence the capacity of a woman to understand and comply with medical interventions on chronic renal disease during pregnancy. Poor health-literacy translates to failure to adhere to both dietary and medication regimens, and prenatal care recommendations, and thus increase risks to both fetus and mother. The job status has significant effects on healthcare accessibility. Due to working in informal labour sectors, women do not have paid maternity leaves and employee health care insurance, which leads to economic insecurity during pregnancy.

The consequent economic stress causes the necessity to stay in poor working conditions among many women thus interfering with both maternal and fetus health. These problems are aggravated by geographic differences, especially in rural regions where there is a lack of treatment with nephrology professionals and tertiary facilities. Lack of transport facilities also reduces timely medical consultations hence resulting in high rates of maternal morbidity. Islamic finance can provide sustainable solutions that can reduce maternal healthcare disparities by using faith-based systems of funding. Zakat, a compulsory charity, has been applied on a number of Muslim dominated countries to offer free maternal health programs. Case studies demonstrate that in Malaysia, free nephrology consultation and pregnancy check-up is provided by zakat-funded hospitals to women who are not economically well off.

In Indonesia, dialysis and prenatal care to pregnant patients with CKD is subsidised through health programmes funded with zakat. Waqf, which is the term used to describe a charitable endowment, was significant and used in the provision of healthcare services. Hospitals that are funded by Waqf in Turkey have played an important role in the provision of equitable access to maternity and child health. These schools provide free maternity care services to the poor women showing that waqf-based healthcare finance is indeed possible. Moreover, in Saudi Arabia, and Pakistan, maternity health awareness programs carried out by mosques have been used to sensitize women about the control of chronic renal disease during pregnancy. The sports programmes combine medical and spiritual guidance, which increase adherence to prenatal care guidelines.

Studies indicate that policy proposals can be focused to better maternal medical care in women with CKD. Healthcare organisations and governments should inculcate the Islamic finance systems into the national maternal health plans to enhance the availability of the zakat-financed maternity clinics and waqf-financed hospitals. Installing customized health literacy programs is essential in informing the women about chronic kidney disease management and prenatal care.



There is a need to improve the infrastructure of rural healthcare to ensure equal access to nephrology and maternal fetal medicine. The enhancement of partnerships between the state sector and the business community is critical to enhance Islamic social financing systems in the context of maternity care.

Empirical appraisal of the Islamic financial interventions to maternity health and longitudinal studies are needed to ascertain their long-term impact on the pregnancy outcome in women with chronic kidney disease in the future.

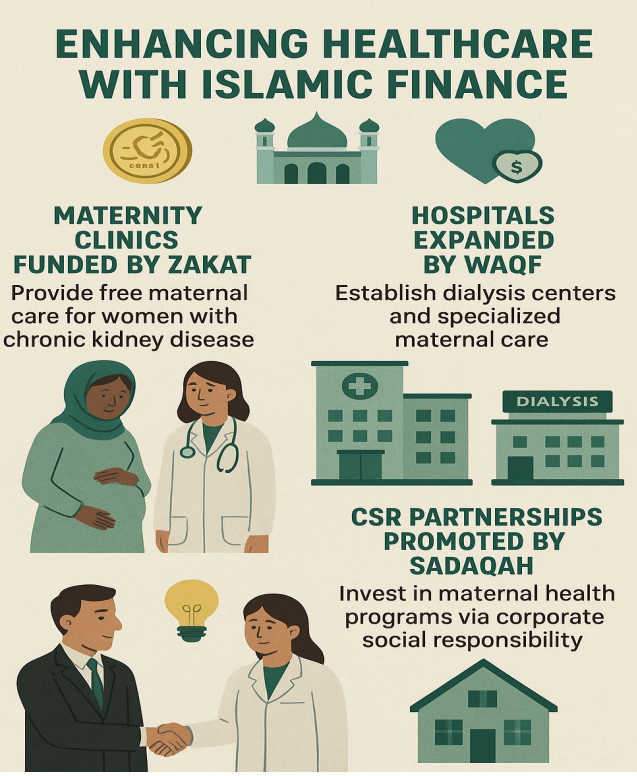
5. Recommendations

It must have a holistic policy agenda that will deal with the socioeconomic determinants affecting the pregnancy outcomes among women with chronic kidney disease. The recommendations preempt the introduction of Islamic financial tools, improved access to healthcare, and maternal health literacy.

5.1 Enhancing Islamic Financial Solutions to Maternal Healthcare.

Islamic financial tools like zakat, waqf, and sadaqah can reduce healthcare inequalities, especially in most Muslim

countries. Governments and healthcare entities should ensure that they:



- Create maternity clinics funded by zakat to provide free or subsidised maternal services to CKD-affected pregnant women, particularly in low-income neighbourhoods.
- Increase hospitals and dialysis centres on waqf sponsorship. In the past, institutions that have been funded by waqf have played a significant role in the provision of sustainable medical services. The policymakers ought to stimulate the public and the players to establish waqf-based hospitals offering specialised services on maternal fetal medicine.
- Develop a partnership relationship based on corporate social responsibility (CSR) whereby Islamic banking organisations and companies are encouraged to invest in maternal health programme as part of CSR relationship within the context of maqasid al-shariah.

5.2 Broadening Infrastructure and Availability of Healthcare

Women who have CKD need specialised maternity care and access to nephrology and maternal-fetal medicine is low in rural and underserved service communities. Healthcare services in the rural areas should be reinforced by policies.

- Fund more remote hospitals so that patients can access nephrologists, maternal-fetal medicine specialists and modern dialysis centers.
- Introduce tele-medicine programmes to establish remote care services which link CKD patients to the specialists especially in remote areas where medical facilities are limited.
- Help low-income women with medical costs, such as doctor visits in nephrology, dialysis and pregnancy costs, by either subsidizing them via government or through insurance programs.

5.3 Maternal Health Literacy and Social Support

The issue of health literacy affects maternal outcomes significantly. The following measures should be encouraged by the policies:

- The mosques and Islamic community centres can be used as platforms through which faith-based maternal health education programmes can deliver the information and create awareness about the dangers of CKD during pregnancy.
- Health literacy should be incorporated in schools. Health care centers need to integrate maternal health and CKD awareness in the school curriculum so that they can instill early knowledge among the students.
- Peer mentoring programs and community-based support organizations can provide emotional and informational support to pregnant women with CKD to increase compliance with medical advice and have better pregnancy outcomes.

5.4 Islamic Bioethics and Maternal health Development

The necessity to conduct further research is due to the peculiar combination of Islamic ethics, nephrology, and maternal health. Governments and higher learning institutions ought to:

- Fund interdisciplinary research on the topics of Islamic bioethics and maternal health and evaluate the effectiveness of Islamic financial schemes in enhancing pregnancy in CKD patients.
- Develop evidence-based practices. Establish holistic policies concerning maternal health which incorporates the medical best practice with the Islamic ethics.
- Support the interaction between the Islamic scholars and the healthcare professionals by setting up advisory boards to guarantee a smooth integration of Islamic bioethics in the maternal health policymaking.

6. Conclusion

Women with CKD have significant medical and socioeconomic challenges in pregnancy. In spite of the improvements which enhance maternal and neonatal outcomes, there are socioeconomic determinants, which encompass income, access to healthcare, education, and employment, and which still affect the risks and complications of pregnancy.

The Islamic bioethics framework is a sound tool of managing these inequities, based on the postulates of the Maqasid al-shariah, zakat and waqf. Religious-based health care treatments have proven to be rather effective in improving maternal health especially in Muslim dominated communities

where the economic and social support networks based on Islamic teachings can be capitalized on.

This study highlights the need to have a holistic solution that combines medical education, social economic support and Islamic financial resources to achieve equal access to maternal healthcare. Governments and healthcare organizations can put in place long-term solutions to enhance pregnancy outcomes in women with CKD by providing policy measures, such as zakat-funded maternity clinics, waqf-funded hospitals, the development of tele-medicine, and maternal health education.

Future research studies must be based on empirical case analysis that determines the sustainability of the effectiveness of Islamic financial systems in the healthcare. Besides, building a relationship between policymakers, healthcare providers, and Islamic scholars will become central to formulating ethical and inclusive maternal health policies.

In foregrounding maternal health in terms of Islamic social justice and healthcare equity, it will be possible to make sure that every woman, irrespective of socioeconomic status, gets the medical services that could help her to have safe and healthy pregnancies.

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