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World kidney day 2018; chronic kidney disease in women

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ABSTRACT

Context: Chronic kidney disease (CKD) is a worldwide public health problem and its occurrence and prevalence are on the rise. One of the populations with an increase in the occurrence of CKD is women. .In this study we reviewed previous studies in order to investigate main concern in women with CKD.

Evidence Acquisition: PubMed, EBSCO, Embase Web of Science, directory of open access journals (DOAJ), Scopus, and Google Scholar have been searched.

Results: Main concerns in women with CKD are including menstruation irregularity and dysfunction, decreased sexual desire, high-risk pregnancy, prenatal and fetal complications, early menopause and vitamin D deficiency.

Conclusions: Women need to special attention due to some physical and physiological differences such as hormonal difference, menstruation period, pregnancy and menopause. Patient's education and awareness of health care personnel are very effective in achieving the goals.

Short-Review

Implication for health policy/practice/research/medical education:
The risk of chronic kidney disease is higher in women. In women, early diagnosis can prevent or delay certain problems, such as irregular menstruation, sexual dysfunction, bone disease, and pregnancy. Regular visits and follow-up are very important in high-risk individuals, especially those with diabetes and high blood pressure.

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1. Context

Chronic kidney disease (CKD) is a worldwide public health problem and its occurrence and prevalence are on the rise (1).One of the populations with an increase in the incidence and occurrences of CKD is women (2). Main factor attributed to more women experiencing CKD is type-2 diabetes. Second most common risk factor for CKD is hypertension. Obesity is another leading cause of CKD in women. Hypertension is an alert for the risks of CKD in women and the preventive measures will reverse this upward trend. Women should be encouraged to talk to their doctor about CKD, whether they are at risk or not (3).

2. Evidence Acquisition

PubMed, EBSCO, directory of Open Access Journals (DOAJ), Google Scholar, and Web of Science were searched with key words as chronic kidney disease, vitamin D, menopause, menstruation, world kidney day 2018, pregnancy, vitamin D supplements, vitamin D deficiency, women, type-2 diabetes and sexual activity.

3. CKD in women, special concerns

There is a little differentiation between treatments for men and women about kidney disease and dialysis treatments. There are, however, some concerns for a woman such as menstrual periods, sexuality, pregnancy and menopause (4).

3.1. Menstruation and CKD

One of the issues that should be considered in women with CKD is menstruation that may be irregular or even discontinued. Excessive accumulation of waste in the body prevents ovulation and affects menstruation. Administration of erythropoietin is effective in regulating the menstruation in women undergoing dialysis by correcting hormonal levels and also treating anemia. Erythropoietin administration may be increased fertility,

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so birth control measures should be taken in women who do not intend to have a pregnancy (5).

3.2. Sexual activity and CKD

In most people with CKD, sexual activity is reduced. Emotional, physical and psychological factors can contribute to the reduction of sexual activity. These factors are due to lifestyle changes and chronic disease. Hormonal changes lead to women experiencing vaginal dryness or painful intercourse. Patients with CKD take many medications and receive several treatments. Side effects of some medications and complications due to uremia can lead to fatigue, menstrual dysfunction and decreased sexual desire. On the other hand, some medications resulted in hormonal changes prevent a woman to experience an orgasm. Sexual dysfunction and sexual activity can be partly treated by hormone therapy and changes in blood pressure medications. Treating of anemia is also a way to relieve fatigue. Some women are anxious due to changes in appearance, such as weight loss, or weight gain in patients undergoing peritoneal dialysis. Other changes in appearance like catheter in the abdomen or fistula are unattractive for a woman. It should be noted that, despite the irregularity in the menstrual periods, ovulation may still be carried out and therefore there is a probability of pregnancy, so if necessary, the measures for contraception should be considered (6).

3.3. Pregnancy and CKD

Pregnancy imposes a lot of stress on the kidney and increases the risk of complications for the mother and fetus. Pregnancy is high risk in women with CKD, and the kidney may not be able to adapt to changes in pregnancy and lead to prenatal problems. In the case of pregnancy, dialysis patients should be instructed to be closely monitored (7).

Pregnancy is associated with complications in dialysis patients, including gestational hypertension, preeclampsia, eclampsia, and even maternal mortality, which is a multiplier increase compared to the normal population (8).

Pregnancy in women with CKD also leads to complications in the fetus. Among these complications are prematurity, low birth weight, and fetal death. Of course, it should be taken into account that the infants of mothers with CKD are more likely to be hospitalized in neonatal intensive care unit (NICU), which increases the cost of health care (9).

One of the important matters in predicting the outcomes of pregnancy in patients with CKD is the level of renal insufficiency. Patients with CKD in stages 1 and 2 of renal failure with controlled blood pressure usually experience uncomplicated pregnancy. Uncontrolled blood pressure and proteinuria are two determining factors in the outcome of pregnancy. Risk of complications during pregnancy may be higher by increasing the severity of renal failure. However, proper management can reduce the incidence of maternal and fetal complications, but premature birth is one of the challenging issues which should be considered (10).

3.4. Menopause and CKD

Another concern in women with renal insufficiency is menopause. Menopause can occur earlier in women with CKD, which is associated with several factors. Vasomotor symptoms (VMSs) are more common in patients with CKD, and it can play a role in early menopause. In presence of kidney failure, although dialysis helps to remove wastes from the body, it does not replace all of the normal functioning of the kidney. One of the important functions is the production of various hormones. In the normal population, menopause is accompanied by a reduction in hormonal and an increased risk of osteoporosis and cardiovascular disease. In women with CKD, the risk of osteoporosis is increased, because renal failure has reduced the production of hormones and resulted in impairment of calcium absorption, and therefore, calcium supplementation is prescribed in CKD patients so the use of calcium supplementation is especially important in menopause (11).

3.5. Vitamin D Deficiency

Vitamin D deficiency is a worldwide health problem in all age groups and in both sexes. This is a problem even in countries where there is enough sun exposure and its prevalence is higher in women particularly in the Middle-East (12).

The importance of vitamin D and the consequences of its deficiency have increased over the past decade. The presence of vitamin D is essential for the absorption of calcium, magnesium and phosphorus from the intestine and its deficiency causes osteomalacia and osteoporosis. In patients with CKD, vitamin D deficiency is associated with some cardiovascular complications. Evidence suggests that CKD progression and many cardiovascular complications are associated with vitamin D deficiency. Women are one of the groups with a high prevalence of vitamin D deficiency, and it is more severe in women with CKD, and it is necessary to consider vitamin D supplements in this group of patients (13,14.)

4. Recommendations for women with CKD

In most diseases, including CKD, gender differences are important. The underlying pathophysiology of CKD and its complications, symptoms and signs may differ

in men and women. Women may need special attention due to some physical and physiological differences such as hormonal difference, menstruation period, pregnancy and menopause. Although many nephrologists consider this matter, education of patients and health care personnel is very effective in achieving the goals.

5. Conclusions

Women need to special attention due to some physical and physiological differences such as hormonal difference, menstruation period, pregnancy and menopause. Patient's education and awareness of health care personnel are very effective in achieving the goals.

Authors' contribution

MZ and MRT contributed equally in preparation of the manuscript.

Conflicts of interest

The authors declare no conflict of interest.

Ethical considerations

Ethical issues (including plagiarism, data fabrication, double publication) have been completely observed by the authors.

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