

## **ABSTRACT**

### **Introduction**

Malaria is still a major cause of morbidity and mortality among pregnant women. In addition, malaria in pregnancy causes maternal anaemia and negative birth outcomes. In malaria-endemic areas, such as Zambia, the World Health Organisation (WHO) advocates the use of insecticide-treated nets (ITNs). ITNs have been proven to reduce the incidence of malaria during pregnancy. However, despite the Zambian government's efforts to ensure 80% use of ITNs among pregnant women, ITN use remains critically low. Only 49% of pregnant women reported sleeping in an ITN in 2018, suggesting an urgent need to establish factors associated with the non-use of ITNs among pregnant women.

### **Aim**

This study aimed to determine the prevalence of the non-use of ITNs, and the factors associated with the non-use of ITNs among pregnant women in Zambia in 2018.

### **Objectives**

The first objective was to determine the prevalence of the non-use of ITNs among pregnant women in Zambia. The second objective was to determine the factors associated with the non-use of ITNs among pregnant women in Zambia.

### **Methods**

This study was a secondary data analysis of the data collected during the 2018 Zambian Demographic and Health Survey. The software used to analyse the data was STATA SE version 16. One thousand one hundred thirty-eight (1 138) pregnant women were included in this study. Descriptive statistics were used to compute the prevalence of the non-use of ITNs. Univariable and multivariable logistic regression models were then fitted to determine the factors associated with the non-use of ITNs.

### **Results**

Most of the pregnant women (47.5%) were aged between 15 and 24 years, 36.9% were aged between 25 and 34 years, 15.3% were aged between 35 and 44 years, and only 0.3% were 45 years of age or older. Regarding residency, 63.9% of the pregnant women resided in rural areas, and 36.1% resided in urban areas. About 8.6% of the pregnant women had no education, 48.5% had

attained a primary education, 37.6% had a secondary education, and only 5.3% had a tertiary education.

Overall, the study found that 570 (50.1%) pregnant women reported not using an ITN the night before the survey. Furthermore, concerning residency, the non-use of ITNs was higher among pregnant women from urban areas (54.4%). Regarding educational attainment, pregnant women who had no education had the lowest prevalence of ITN non-use (34.4%). The non-use of ITNs decreased from the low to high malaria prevalence provinces (67.2% to 35.8%, respectively).

The results of the multivariable logistic regression indicated that the number of household members (OR = 1.52, 95% CI: 1.386–1.677), educational attainment (i.e., primary school education, OR = 2.51, 95% CI: 1.371–4.583) and religion (OR = 4.88, 95% CI: 1.625–14.650) were positively associated to the non-use of ITNs among pregnant women. However, the number of ITNs in the household (OR = 0.30, 95% CI: 0.231–0.378), parity (OR = 0.77, 95% CI: 0.616–0.955), moderate malaria prevalence provinces (OR = 0.28, 95% CI: 0.186–0.418), high malaria prevalence provinces (OR = 0.22, 95% CI: 0.141–0.336) and marital status (i.e., currently in a union, OR = 0.51, 95% CI: 0.281–0.926) were negatively associated with the non-use of ITNs among pregnant women.

## **Conclusion**

The study shows a moderately high prevalence of the non-use of ITNs among pregnant women in Zambia. To increase and sustain the use of ITNs among pregnant women, the number of ITNs in the household, the number of household members, parity, educational attainment, religion, province, and marital status should be considered when implementing and designing ITN intervention programmes. Particularly interventions need to target pregnant women who are not in a union and ensure that households own sufficient nets to cover each household member including pregnant women. However, all pregnant women should be targets for malaria health education this will help ensure that knowledge, practices and attitudes about ITN use are improved, the incidence of malaria is reduced and ITN use is increases and sustained.

**Keywords:** Zambia, Zambian Demographic and Health Survey (ZDHS), non-use of ITNs, Prevalence, Factors associated with, Pregnant women