Understanding the Impact of Drug Pressure on Malaria Control

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Introduction

Over the past five years, the fight against malaria has stalled. It is necessary to regularly review the control strategies. In the fight against malaria, antimalarials are still an effective tool. The general public's reduced access to antimalarials and drug-induced pressure on malaria parasites are both significant components of overall malaria control. Drug pressure and limited drug access are two sides of the same coin, and either one or both of them can result in treatment failure. Drug scarcity encourages the growth of resistant Plasmodium, resulting in treatment failures, while limited access to drugs has a negative impact on malaria control by increasing spread and transmission.

Description

Due to the development of resistance, several antimalarials, including chloroquine (CQ), have lost their effectiveness in malaria control. Treatment failure can be caused by drug resistance (often caused by drug pressure), high baseline parasite density, infancy (children under the age of five), incorrect dosing, non-compliance with the duration of the dosing regimen, poor drug quality, and drug interactions that reduce drug exposure. Reduced access may also be caused by the following: the drug's price, a lack of access to health care, a free drug or a functioning health insurance program, and some of a nation's socio-cultural and religious characteristics (such as religious beliefs and practices).

Effective disease treatment necessitates, among other things, accessibility to the appropriate medications. A crucial aspect of universal health coverage is the availability of sufficient quantities of low-cost, high-quality medications [1-3]. Since their inception, a number of health organizations, including the World Health Organization (WHO), have worked to increase medication availability. Sadly, a variety of factors, including economic and businessman malice, have thwarted these efforts. Drug quality is the ability of a drug substance or drug product to be used as intended, as discussed at an international FDA conference on harmonization. There are three factors that determine a drug's quality: identity, power, and purity for the purpose intended. Before a drug reaches its intended users patients its quality must be guaranteed and maintained. Unfortunately, drug quality is compromised by a lot of interplay between manufacturing drugs and getting them to users. Sub therapeutic active ingredients, incompatible excipients, and a lack of good manufacturing practices (GMP) are examples of such interactions.

Antimalarial counterfeiting is greatly exacerbated by factors such as the inaccessibility of high-quality ACTs, their high prices, poor transportation, harsh storage conditions, incorrect dispensing (mistakes by dispensers), and the absence or inadequacy of regulatory agency regulation. Low-quality antimalarials can cause decreased effectiveness and parasite clearance, both of which are indicators of drug resistance and eventual failure [4,5]. In developing nations that are located in areas where malaria is endemic, malaria medications rank among the most frequently falsified drugs on the market. One WHO report states that counterfeit or substandard drugs account for one in ten drugs sold in developing nations. In Africa, some artemisinin derivatives failed quality tests.

Conclusion

Most, if not all, of the new antimalarials were sold at exorbitant prices as premium brands. This restricts access to the drugs and has a negative impact on their affordability for the needy masses. Attempts to purchase doses may be made by some patients. As a result, a variety of malaria patients will receive inadequate or no treatment. When full doses are given later, incomplete drug regimens may result in treatment failure. Patients' lack of resources may occasionally necessitate the use of less potent malaria medications. Subjects who are not treated or are not treated at all become breeding grounds for malaria parasites, which makes it more likely that they will spread the disease to other people and makes it harder to control it. The World Health Organization (WHO) sees health insurance as a useful tool for reducing the impact of rising drug costs. In developed nations, health insurance typically covers the cost of drugs; however, health insurance utilization or awareness are still relatively low in the majority of low- to middle-income countries (LMIC) where malaria is widespread.

Acknowledgement

Conflict of Interest

Authors declare no conflict of interest.

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