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Quantitative Assessment of Different Formulations of Antimalarials in Sentinel Sites of India

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Abstract : Substandard and counterfeit antimalarials is a major problem in malaria endemic areas. The availability of counterfeit/ substandard medicines is not only decreasing the efficacy in patients, but it is also one of the contributing factors for developing antimalarial drug resistance. Owing to this, a pilot study was conducted to survey quality of drugs collected from different malaria endemic areas of India. Artesunate+Sulphadoxine-Pyrimethamine (AS+SP), Artemether-Lumefantrine (AL), Chloroquine (CQ) tablets were randomly picked from public health facilities in selected states of India. The quality of antimalarial drugs from these areas was assessed by using Global Pharma Health Fund Minilab test kit. This includes physical/visual inspection and disintegration test. Thin-layer chromatography (TLC) was carried out for semi-quantitative assessment of active pharmaceutical ingredients. A total of 45 brands, out of which 21 were for CQ, 14 for AL and 10 for AS+SP were tested from Uttar Pradesh (U.P.), Mizoram, Meghalaya and Gujrat states. One out of 45 samples showed variable disintegration and retension factor. The variable disintegration and retention factor which would have been due to substandard quality or other factors including storage. However, HPLC analysis confirms standard active pharmaceutical ingredient, but may be due to humid temperature and moisture in storage may account for the observed result.

Keywords : antimalarial medicines, counterfeit, substandard, TLC
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