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Perceptions of HIV infected patients on the use of cell phone as a tool to support their antiretroviral adherence; a cross-sectional study in a large referral hospital in Kenya

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Background: Many clinical trials have been carried out assessing the feasibility of cell phone text messaging to improve adherence to their medication and positive results have been reported; 12% improved adherence reported by the Lester et al., study. However there was need to assess the perceptions of the HIV infected patients towards the use of these cell phones to support their adherence to medication which necessitated this study.

Methods: A cross sectional survey was conducted among HIV infected patients receiving Highly Active Anti-retroviral Therapy at the Comprehensive Care Clinic in Kenyatta National Referral Hospital between May and July, 2011. Pre-tested questionnaires were used to collect the socio-demographic and perceptions data. The recruitment of the participants was done using the random probability sampling method and data analyzed using SPSS version 16.0.

Results: A total of 500 HIV infected patients (Male-107, Female-307) aged 19-72 years were interviewed among which (99%) had access to cell phone and with support to the idea of using cell phone to support adherence. A greater proportion (46%) needed the cell phone to seek medical advice on factors hindering their adherence but only 3% needed it to receive reminders. Majority (72%) preferred calling the healthcare provider with their own phones and only 0.4% preferred to be called or texted by the doctor. Most (94%) of the participants had no problem with confidentiality infringement but (6%) of them had problem with it; majorly the young population.

Conclusion: Doctor-patient communication via mobile phone is acceptable strategy to improve adherence as it offers the patient opportunity to seek medical advice by calling the doctor with their phones. Confidentiality infringement is only an issue among the young population calling for more studies to determine the associated factors to this behavior.

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New targets for drug development against HIV-1

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Recently, WHO have reported that 35.3 million people were living with HIV/AIDS (PLWH) globally at the end of 2012 which included about 0.8% of adults aged 15-49 years. National AIDS Control Organization (NACO) of India has shown the prevalence of AIDS in India in 2013 to be 0.27 million. In the low and middle income countries with resource limited settings, more than 8 million PLWH were receiving antiretroviral therapy (ART) at the end of 2011. Application of highly active antiretroviral therapy (HAART) worldwide has been able to significantly reduce the mortality and morbidity of human immunodeficiency virus type 1 (HIV-1) infected individuals. However, the appearance of clinical drug resistance in AIDS patients due to various factors including non-adherence to medication (intake of antiretroviral) has been found to be associated to chemotherapeutic and virologic failure. In addition, high rate of viral replication, appearance of heterogenous circulating viral quasiespecies, infidelity in proviral cDNA synthesis as well as immunological and pharmacological factors are also associated to drug resistance. The present research paper describes our understanding on the mechanistic aspect of drug resistance in HIV-1 against the application of the second generation anti-retrovirals and possible strategies to encounter the issue. The recent approaches to explore new targets for actions for specific actions of the anti-retrovirals and to develop target-structure based new small molecules with least toxicity to the host would be discussed.

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