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Inconsistencies between Recorded Opportunistic Infections and WHO HIV Staging in Western Kenya

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Abstract:

Opportunistic infections (OIs) are the main cause of morbidity and mortality among patients with HIV in developing countries. It is therefore critical that accurate diagnoses are made and that they are correctly recorded and managed. We reviewed 200 randomly selected records of clinical encounters with HIV infected pregnant women attending the ante-natal care (ANC) clinic in July 2012 at the Jaramogi Oginga Odinga Teaching and Referral Hospital in Kenya. None of the clients in WHO stage 4 and 2.8% of those in WHO stage 3 had a new OI diagnosis recorded during the clinical encounter. This data suggests current under-recording of OIs and the inconsistency between WHO staging and OI diagnosis. Structured methods such as SNOMED CT have the potential to improve complete and accurate recording of OIs which, in turn, enable automated and accurate WHO staging.

Keywords:

AIDS-related opportunistic infections; HIV; SNOMED CT; WHO stage.

Introduction

Opportunistic infections (OIs), which have been defined as infections that occur more frequently or severely in HIV-infected persons, remain the main cause of morbidity and mortality among HIV patients in developing countries [1].

OIs are often under-reported, incorrectly recorded and in some cases not consistent with the World Health Organization (WHO) staging recorded [2]. Clinical staging of HIV disease , according to the WHO guidelines, assists clinicians decide on when to initiate Anti-retroviral Therapy (ART) i.e. in the absence of immunological tests, a patient is initiated if in WHO stage 3 or 4. Inadequate OI recording can therefore lead to premature or late treatment leading to drug toxicity or death. The goal of this study is to investigate consistency between recorded OIs and WHO staging.

Methods

We reviewed 200 randomly selected records of clinical encounters of HIV-positive pregnant women attending the ante-natal care clinic at the Jaramogi Oginga Odinga Teaching and Referral Hospital in Kenya in July 2012. For each, we extracted the following information from the electronic medical records: presence (yes/no) of one of 10 OIs adapted from WHO guidelines, free-text diagnosis (not included in predefined WHO list), WHO stage in July 2012, and ART use.

Results

Table 1 shows the distribution of the patients based on WHO staging in July 2012. None of the 16 patients in WHO stage 4 had a recorded OI diagnosis. Among the 106 patients in WHO stage 3, 2.8% (n=3) had a recorded OI diagnosis. The three OI diagnoses (which were all classified as WHO stage 3) were Pneumonia (n=1), Genital Ulcer Disease (n=1) and Pulmonary TB (n=1). Of the clients in WHO stage 3, 4.7% (n=5) were not receiving ART.

Table 1: Patients' recorded diagnoses, OIs and ART use

Current WHO stage	No. of patients	Newly recorded diagnosis (all) / OIs	ART Use
1	53	2/0	41
2	25	0/0	10
3	106	5/3	101
4	16	0/0	16
Total	200	7/3	168

Discussion

Among patients in WHO stage 3 and 4 only 3 out of 122 (2.5%) had a newly recorded (current) OI diagnosis. This could be indicative of under-recording of OIs or that the patients previously in stages 3 and 4 and taking ART were currently not experiencing any OIs. In one case, the patient had transitioned from stage 1 to 3 but no diagnosis was recorded. This data confirms inconsistencies between recorded OI and WHO staging similar to findings by Kiragga *et al* [2] and hence justifies the need for better and structured methods such as SNOMED CT coded OIs from which WHO staging can be automatically derived. Accurate ART use can then be based on correct WHO staging.

References

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