Common bacterial isolates and their antibiotic susceptibility profile from different clinical specimens at Felege Hiwot compressive specialized Hospital, North west Ethiopia; A three year retrospective cross-sectional study.
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**Background:** Recently the pandemic of antibiotic resistance has become a serious threat to the therapeutic efficacy of the available antibiotics and their prescribed regimens. Treatment of resistant infections is associated with higher costs for second line drugs, additional investigations, longer hospitalization and increased morbidity and mortality. The high prevalence of poor hospital hygiene, lack of resources for infection prevention, presence of many patients in ward and lack of trained health workers contributes for the high prevalence of antimicrobial resistance in developing countries like Ethiopia.

**Objective:** To assess the prevalence and antibiotic susceptibility pattern of bacterial isolates from the clinical specimens from September 2015 to September 2018 G.C at Felege Hiwot compressive specialized Hospital, North West Ethiopia

**Methods:** Cross sectional retrospective data recorded were analyzed for culture and drug susceptibility testing in Felege Hiwot compressive specialized Hospital during September 2015 to September 2018. All positive bacterial cultures were identified by cultural and biochemical profile. Then the specific bacterial strain and drug susceptibility test were performed using Vitek 2 Compact machine. The data was entered and analyzed by using SPSS version 20.

**Result:** From the total of 4556 clinical samples collected and subjected for culture growth, 1817 (39.9%) bacterial isolates were detected and their drug susceptibility tests studied. The majority of the bacteria isolated were from blood 1512(83.21%), urine 162(8.92) and pus 87(4.79). The most encountered isolated bacteria were *Klebsiella spp* 604 (33.24), *CoNS* 516 (28.4), *S.aures* 257 (14.14) and *E.coli* 109 (6.00). The majority of the bacterial isolates were identified in children less than five years of age 1168 (64.28%) followed by 5-14 years of age 198 (10.9%). The overall high level of antimicrobial resistance was identified in penicillin-G (92.4%), cephazolin (93.6%) and ampicillin (95.7%) while low level of drug resistance is confirmed in drugs including, amikacin (12.5) levofloxacin (7.3%), linezolid (20%) and nitrofurantoin (23%).

**Conclusion and Recommendation:** Different bacteria with high level of drug resistance are common pathogens in the present study area. Therefore prescribers should order drugs based on antibiotic susceptibility report. Policymakers in the health sector should also develop measures that help the rational use of drugs.

**Key word:** bacterial profile, antimicrobial susceptibility pattern, clinical source, Bahir Dar