

**PUBLISHED BY ALLIANCE FOR THE PRUDENT USE OF ANTIBIOTICS (APUA)-NEPAL**

## Editorial...

This is the thirteenth newsletter that APUA-Nepal presents you with. We hope that this newsletter will help us all in its small way, to not lose our focus from ever increasing problem of bacterial resistance.

APUA-Nepal intends to bring out its newsletter regularly to update our valued members about its activities, recent scenario and advancement in the field of antimicrobial resistance. We will indeed be grateful if you could contribute in any way possible by your suggestions, advice and comments.

We also like to request any one working in the field of health profession to join us, to become member of APUA-Nepal.

We like to thank everyone who was involved in bringing out this newsletter.

Lastly, we intend to present this newsletter to our readers as a Dashain greetings. So, please accept our Dashain and Tihar greetings.

## COMPARATIVE STUDY OF SENSITIVITY PATTERNS OF COMMON ISOLATES IN TRIBHUVAN UNIVERSITY TEACHING HOSPITAL (TUTH)

APUA- Nepal published antibiotic sensitivity patterns of common isolates in urine, blood and pus samples from different hospitals (regional, zonal and medical college teaching hospital) of Nepal in its Newsletter published from 2004 to 2015. The average sensitivity percentage from TUTH is compared with average sensitivity percentage from the same hospital, published in vol 10, 2013. The average sensitivity percentage in isolates from May to July 2016 from the hospital are calculated and included in this report.

**Source:** Mr. Hari Prasad Kattel and Mrs. Shovita Shrestha, Microbiologist, Mr. Kamal Shrestha and Ms. Sujina Maharjan, Technical Staff, Department of Microbiology, TUTH, Kathmandu

### Urine Isolates

Antibiotic sensitivity	% isolates sensitive May - July 2013 (n= 797)	% isolates sensitive May - July 2016 (n= 543)
<b><i>E. coli</i></b>		
Amikacin	90.0	89.0
Ampicillin	3.0	22.0
Ampicillin + sulbactam	DNU	68.0
Amoxicillin + clavulanic	DNU	42.0
Cefepime	56.0	82.0
Cefixime	38.0	48.0
Cefotaxime	43.0	48.0
Cefoperazone + sulbactam	DNU	87.0
Ceftazidime	44.0	82.0
Ceftriaxone	44.0	48.0
Cephalexin	9.0	DNU
Ciprofloxacin	45.0	55.0
Chloramphenicol	DNU	93.0
Colistin	100.0	100.0
Cotrimoxazole	46.0	46.0
Doxycycline	61.0	90.0
Gentamicin	64.0	72.0
Imipenem	90.0	92.0
Levofloxacin	57.0	64.0
Meropenem	89.0	93.0
Nitrofurantoin	90.0	81.0
Norfloxacin	DNU	57.0
Ofloxacin	49.0	DNU
Piperacillin	33.0	DNU
Piperacillin + tazobactam	72.0	88.0
Tigecycline	100.0	100.0

DNU= Disc not used

## ACTIVITIES BY APUA-NEPAL IN LAST ONE YEAR

- Publication and distribution of Vol. 12 of APUA-Nepal Newsletter to different medical colleges and hospitals.
- In March 2015, the Ministry of Health and Population (MoHP) has constituted two committees, National Alliance and a Steering Committee for prevention and control of antimicrobial resistance. APUA-Nepal is a member of both the committees. The Alliance Committee has drafted National Antimicrobial Resistance Containment Action Plan Nepal 2016.

### COMPARATIVE STUDY.....

Antibiotic sensitivity	% isolates sensitive May - July 2013 (n= 108)	% isolates sensitive May - July 2016 (n = 78)	Antibiotic sensitivity	% isolates sensitive May - July 2013 (n= 220)	% isolates sensitive May - July 2016 (n=18)
<b><i>K. pneumoniae</i></b>			<b><i>S. aureus</i></b>		
Amikacin	90.0	66.0	Amikacin	67.0	100.0
Ampicillin + sulbactam	DNU	26.0	Ampicillin	8.0	39.0
Cefepime	40.0	50.0	Ampicillin + sulbactam	63.0	DNU
Cefexime	55.0	31.0	Cefexime	29.0	DNU
Cefotaxime	46.0	31.0	Cefotaxime	57.0	DNU
Ceftazidime	54.0	46.0	Ceftriaxone	69.0	DNU
Ceftriaxone	54.0	31.0	Cephalexin	29.0	88.0
Cefoperazone + sulbactam	DNU	62.0	Ciprofloxacin	58.0	77.0
Cephalexin	28.0	DNU	Clindamycin	69.0	100.0
Ciprofloxacin	61.0	39.0	Cloxacillin	DNU	88.0
Chloramphenicol	DNU	84.0	Cotrimoxazole	14.0	75.0
Colistin	100.0	100.0	Doxycycline	80.0	100.0
Cotrimoxazole	56.0	47.0	Gentamicin	37.0	100.0
Doxycycline	DNU	78.0	Imipenem	73.0	88.0
Gentamicin	33.0	41.0	Levofloxacin	58.0	85.0
Imipenem	90.0	88.0	Meropenem	71.0	88.0
Levofloxacin	64.0	40.0	Nitrofurantoin	66.0	100.0
Meropenem	87.0	83.0	Norfloxacin	DNU	81.0
Nitrofurantoin	27.0	27.0	Ofloxacin	61.0	DNU
Norfloxacin	DNU	47.0	Piperacillin + tazobactam	66.0	DNU
Ofloxacin	50.0	DNU	Teicoplanin	100.0	100.0
Piperacillin + tazobactam	67.0	59.0	Tigecycline	100.0	100.0
Piperacillin	12.0	DNU	Vancomycin	100.0	100.0
Tigecycline	100.0	100.0	<b>Pus Isolates</b>		
			<b>Antibiotic sensitivity</b>	<b>% isolates sensitive May - July 2013 (n= 131)</b>	<b>% isolates sensitive May - July 2016 (n=119)</b>
<b><i>E. faecalis</i></b>			<b><i>E. coli</i></b>		
Amikacin	DNU	84.0	Amikacin	79.0	73.0
Ampicillin	33.0	61.0	Ampicillin	9.0	9.0
Ampicillin + sulbactam	63.0	94.0	Ampicillin + sulbactam	DNU	26.0
Amoxicillin + clavulanic	DNU	75.0	Amoxicillin + clavulanic	DNU	22.0
Ciprofloxacin	58.0	39.0	Cefepime	56.0	56.0
Clindamycin	42.0	DNU	Cefexime	21.0	26.0
Doxycycline	61.0	100.0	Cefotaxime	43.0	26.0
Gentamicin	DNU	56.0	Ceftazidime	37.0	44.0
Imipenem	66.0	DNU	Ceftriaxone	36.0	26.0
Levofloxacin	66.0	53.0	Cefoperazone + sulbactam	DNU	66.0
Nitrofurantoin	33.0	91.0	Chloramphenicol	DNU	84.0
Norfloxacin	DNU	51.0	Cephalexin	12.0	DNU
Ofloxacin	58.0	DNU	Ciprofloxacin	48.0	40.0
Piperacillin + tazobactam	42.0	DNU	Colistin	100.0	100.0
Tigecycline	DNU	100.0	Cotrimoxazole	18.0	40.0
Teicoplanin	100.0	99.0	Doxycycline	61.0	63.0
Vancomycin	100.0	99.0	Gentamicin	51.0	64.0
			Imipenem	82.0	86.0
			Levofloxacin	54.0	50.0
			Meropenem	80.0	86.0
			Nitrofurantoin	42.0	DNU
			Ofloxacin	49.0	DNU
			Piperacillin	72.0	DNU
			Piperacillin + tazobactam	80.0	58.0
			Tigecycline	100.0	100.0

Antibiotic sensitivity	% isolates sensitive May - July 2013 (n= 24)	% isolates sensitive May - July 2016 (n= 61)	<b>Blood Isolates</b>		
			Antibiotic sensitivity	% isolates sensitive May - July 2013 (n=66)	% isolates sensitive May - July 2016 (n= 39)
<b><i>K. pneumoniae</i></b>			<b><i>S. aureus</i></b>		
Amikacin	67.0	72.0	Amikacin	91.0	93.0
Cefepime	DNU	38.0	Ampicillin	18.0	25.0
Cefexime	48.0	24.0	Cefepime	66.6	DNU
Cefotaxime	73.0	24.0	Ceftriaxone	65.0	DNU
Ceftazidime	DNU	30.0	Cephalexin	54.5	68.0
Ceftriaxone	69.0	24.0	Ciprofloxacin	DNU	85.0
Cefoperazone + sulbactam	DNU	61.0	Chloramphenicol	91.0	89.0
Cephalexin	16.0	DNU	Clindamycin	57.6	60.0
Ciprofloxacin	50.0	43.0	Cloxacillin	66.6	67.0
Chloramphenicol	DNU	62.0	Cotrimoxazole	53.0	51.0
Colistin	100.0	100.0	Doxycycline	94.0	100.0
Cotrimoxazole	11.0	28.0	Erythromycin	33.3	36.0
Doxycycline	64.0	53.0	Gentamycin	DNU	76.0
Gentamicin	33.0	48.0	Imipenem	66.6	DNU
Imipenem	81.0	75.0	Levofloxacin	69.7	88.0
Levofloxacin	73.0	56.0	Ofloxacin	63.6	88.0
Meropenem	83.0	75.0	Teicoplanin	100.0	100.0
Ofloxacin	50.0	DNU	Tigecycline	DNU	100.0
Piperacillin	62.0	DNU	Vancomycin	100.0	100.0
Piperacillin + tazobactam	67.0	59.0			
Tigecycline	100.0	100.0			
Antibiotic sensitivity	% isolates sensitive May - July 2013 (n=180)	% isolates sensitive May - July 2016 (n= 193)	Antibiotic sensitivity	% isolates sensitive May - July 2013 (n=22)	% isolates sensitive May - July 2016 (n= 29)
<b><i>S. aureus</i></b>			<b><i>S. typhi</i></b>		
Amikacin	67.0	91.0	Ampicillin	91.0	100.0
Ampicillin	6.0	10.0	Azithromycin	100.0	66.0
Cefexime	29.0	DNU	Cefepime	100.0	DNU
Cefotaxime	57.0	DNU	Cefixime	100.0	100.0
Ceftriaxone	69.0	DNU	Ceftriaxone	100.0	100.0
Cephalexin	29.0	66.0	Chloramphenicol	100.0	100.0
Ciprofloxacin	58.0	43.0	Ciprofloxacin	DNU	41.0
Clindamycin	69.0	85.0	Cotrimoxazole	100.0	100.0
Chloramphenicol	DNU	94.0	Doxycycline	100.0	DNU
Cloxacillin	DNU	72.0	Imipenem	100.0	DNU
Cotrimoxazole	13.0	48.0	Levofloxacin	27.0	66.0
Doxycycline	80.0	98.0	Ofloxacin	27.0	DNU
Erythromycin	DNU	43.0			
Gentamicin	37.0	73.0	Antibiotic sensitivity	% isolates sensitive May - July 2013 (n=27)	% isolates sensitive May - July 2016 (n= 15)
Imipenem	73.0	72.0	<b><i>S. paratyphi A</i></b>		
Levofloxacin	59.0	78.0	Ampicillin	81.5	86.0
Meropenem	71.0	72.0	Azithromycin	100.0	50.0
Nitrofurantoin	66.0	DNU	Cefepime	100.0	DNU
Ofloxacin	61.0	DNU	Cefixime	100.0	100.0
Piperacillin + tazobactam	66.0	DNU	Ceftriaxone	100.0	100.0
Teicoplanin	100.0	100.0	Chloramphenicol	100.0	100.0
Tigecycline	100.0	100.0	Ciprofloxacin	DNU	36.0
Vancomycin	100.0	100.0	Cotrimoxazole	100.0	100.0
			Doxycycline	96.3	DNU
			Imipenem	100.0	DNU
			Levofloxacin	3.7	55.0
			Ofloxacin	3.7	DNU
Antibiotic sensitivity	% isolates sensitive May - July 2013 (n=27)	% isolates sensitive May - July 2016 (n= 32)	<p>PIG6af0ffbs AofS6l/ofx?sf]lj ?4 dfq pko]ul x65, ef0{; (Virus) j f6 nflg]/fu, h:t}?3fvf\$lsf] pkrf/sf]nflu slxn]klg PIG6af0ffbs ko]u gugxf] \</p> <p>Source: APUA-Nepal poster, 2009</p>		
<b><i>P. aeruginosa</i></b>					
Amikacin	88.0	60.0			
Cefepime	83.0	72.0			
Cefotaxime	74.0	DNU			
Cefoperazone + sulbactam	DNU	68.0			
Ceftazidime	79.0	59.0			
Ceftriaxone	72.0	DNU			
Cephalexin	33.0	DNU			
Ciprofloxacin	54.0	34.0			
Colistin	100.0	100.0			
Gentamicin	74.0	55.0			
Imipenem	80.0	70.0			
Levofloxacin	63.0	39.0			
Meropenem	80.0	70.0			
Ofloxacin	54.0	DNU			
Piperacillin	74.0	68.0			
Piperacillin + tazobactam	88.0	70.0			

## FUTURE PROPOSED ACTIVITIES

- Making clearing house for publications related to prudent use of antibiotics and AMR.
- Continuation of training on rational use of antimicrobials to fresh medical graduates in all medical colleges throughout Nepal.
- Making efforts to solicit funding for seminar on containment of AMR in SEAR countries.
- Publication of APUA-Nepal newsletter regularly to update scenario of antibiotic use, misuse, overuse and activities of APUA-Nepal.

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### Reader's form

*Please send your comments on the following:*

1. Usefulness and quality of this newsletter

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2. Suggestion for the future topics

\_\_\_\_\_

3. Any other comments

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