Journal of Health and Technology
Volume 1, Issue 1, March 2025; pp: 15-22
eISSN: 2455-2852 DOI: 10.65129/health.v1i1.25

RESEARCH ARTICLE

Cost-Effectiveness of Co-Amoxiclav Versus Clindamycin in the Treatment of Uncomplicated Soft Tissue Infections in a Tertiary Care Hospital

A. Sarath Kumar and Vanitha Samuel*

Department of Pharmacology, Government Medical College and Hospital, Annamalainagar - 608002 Cuddalore, Tamil Nadu, India; vanisamdr1969@gmail.com

Abstract

Background: Soft Tissue Infections (STIs) pose a significant health care burden, ranging from mild conditions, such as cellulitis, to severe infections, including necrotizing fasciitis. Co-amoxiclav and Clindamycin are commonly used for the treatment of uncomplicated STIs; however, comparative cost-effectiveness data in tertiary care settings are limited. **Aim:** To compare the clinical efficacy and cost-effectiveness of co-amoxiclav *vs* clindamycin in treating uncomplicated soft tissue infections in a tertiary care hospital. **Methodology:** A prospective interventional study was conducted on 150 patients with uncomplicated STIs. Patients were equally assigned to receive either co-amoxiclav 625mg TID or clindamycin 300 mg TID for 5-7 days. Clinical responses (cure, improvement, failure) were assessed during and after treatment. Cost-effectiveness analysis included direct drug costs and expenses related to managing adverseevents. Statistical analysis was performed using SPSS. **Results:** Baseline demographic and clinical variables were comparable between groups ($p>0.05$). Co-amoxiclav was found to be more effective than clindamycin in clinical outcomes. The overall treatment costs were also notably higher in the clindamycin group, mainly due to increased antibiotic expenses, and non-medical costs were also higher with clindamycin, while other cost categories remained similar between the groups. **Conclusion:** Co-amoxiclav demonstrates increased clinical effectiveness among patients with uncomplicated soft tissue infections. Moreover, treatment with clindamycin result in significantly higher costs, driven by antibiotic expenses and income loss, as well as increased medical and non- medical costs. Therefore, co-amoxiclav is a more cost-effective and clinically effective option for managing uncomplicated infections, especially in resource-limited healthcare settings.

Keywords: Clindamycin, Co-amoxiclav, Costeffectiveness, Soft Tissue Infections, Tertiary Care Hospital

1. Introduction

Soft Tissue Infections (STIs) impose a significant burden on healthcare systems worldwide, resulting in substantial hospital admissions and outpatient visits, particularly in surgical departments. These infections range from mild cases such as cellulitis and abscesses to more severe deep tissue infections. Despite advances in treatment, challenges persist in selecting optimal antibiotic regimens, determining appropriate treatment durations, managing costs, and addressing patient-specific factors, particularly in the context of increasing antimicrobial resistance. Careful antibiotic selection is becoming increasingly critical for managing infections effectively and preventing resistance. The growing prevalence of drug-resistant organisms and the expanding population of immunocompromised patients further complicate treatment, highlighting the need for empirical therapies that balance clinical efficacy and cost-effectiveness[1].

Pharmacoeconomics, a specialized branch of health economics, employs cost-benefit, cost-effectiveness, cost-minimization, cost-of-illness, and cost-utility analyses to evaluate and compare pharmaceutical products and treatment strategies. McGhan, Rowland,

*Author for correspondence

Article Received on: 02 Jan 2025 Revised on: 05 Feb 2025 Accepted on: 15 March 2025

and Bootman of the University of Minnesota introduced the key concepts of cost-benefit and cost-effectiveness analyses in 1978[2]. Pharmacoeconomic studies provide vital information for healthcare decision-makers to allocate resources efficiently and select treatments that offer the best value. These analyses often include measurements like Quality-Adjusted Life Years (QALYs), which combine quality and quantity of life, to assess the overall benefit of treatment, the Incremental Cost-Effectiveness Ratio (ICER) was calculated to determine the additional cost incurred per unit of increased effectiveness Pharmacoeconomics has become increasingly important, particularly in the context of rising drug costs and limited healthcare budgets, helping to guide formulary decisions, reimbursement policies, and clinical practice[3].

This study aims to evaluate the cost-effectiveness and clinical efficacy of co-amoxiclav versus clindamycin in patients with uncomplicated soft tissue infection. The objective is to identify antibiotic options that optimize clinical outcomes and cost-efficiency, thereby providing evidence to support empiric prescribing decisions in tertiary care hospitals.

2. Aim and Objectives

2.1 Aim

To evaluate the cost-effectiveness of Co-amoxiclav *vs* Clindamycin in patients with uncomplicated soft tissue infection in a tertiary care hospital.

2.2 Objectives

1. To compare the efficacy of co-amoxiclav *vs* clindamycin in uncomplicated soft tissue infection in a tertiary care hospital.
2. To evaluate the cost-effectiveness of co-amoxiclav versus clindamycin in the treatment of uncomplicated soft tissue infections using pharmacoeconomic analysis measures.

2.3 Review of Literature

Soft Tissue Infections (STIs) are one of the most common reasons hospital admission around the globe. They account for 1-2% of emergency room visits and upto 10% of all admissions for infectious diseases in developed countries[1].

Uncomplicated soft tissue infections, typically caused by pathogens such as *Staphylococcus aureus* (including community-acquired methicillin-resistant *S. aureus*, or MRSA) and β- haemolytic *streptococci*, often require empirical antibiotic therapy, where the choice of drug plays a critical role in both clinical outcomes and cost management[4]. Co-amoxiclav and clindamycin are among the most commonly used antibiotics for these infections. Co-amoxiclav offers broad-spectrum coverage, including anaerobes, but is associated with gastrointestinal side effects and the potential for resistance development. Clindamycin is effective against gram-positive organisms and community-acquired MRSA, with additional benefits of good tissue penetration and toxin suppression. However, it carries a risk of Clostridioides difficile-associated diarrhoea[5].

However, increasing concerns about antimicrobial resistance and rising healthcare costs necessitate a careful evaluation of antibiotic therapies beyond just clinical effectiveness. Pharmacoeconomic analysis, which assesses both the costs and outcomes associated with medical interventions, provides valuable insights into optimizing antibiotic selection, particularly inresource-limited tertiary care settings.

Davey PG *et al.* assessed the cost-effectiveness of amoxicillin/clavulanic acid (co-amoxiclav) as antibacterial prophylaxis in abdominal and gynaecological surgery, showing that co-amoxiclav is effective and cost-efficient in preventing postoperative infections. The study highlighted co-amoxiclav's broad-spectrum antibacterial coverage, ease of administration, and favourable safety profile, supporting its use as a preferred prophylactic antibiotic in elective abdominal and gynaecological surgeries, which is associated with our studies[6].

Tancawan *et al.* studied the efficacy and safety of amoxicillin/clavulanic acid (co-amoxiclav) taken twice daily compared to clindamycin 150 mg four times daily in treating odontogenic infections. This simpler schedule reduces and enhances treatment effectiveness, and lowers non-medical costs such as travel and time lost. Moreover, twice-daily dosing maintains similar clinical efficacy and safety as three-times-daily regimens, making it a convenient treatment option[7].

3. Materials and Methods

3.1 Study Design and Setting

A prospective interventional study was conducted in the Department of Surgery at Cuddalore Government Medical College, Cuddalore.

3.2 Study population and Duration

Patients diagnosed with uncomplicated soft tissue infections who attended the surgical OPD for 6 months were included in the study following ethical committee approved (EC/NEW/INST/2020/1249). Only those who volunteered, whose information was kept confidential, and from whom written informed consent was obtained, participated in the study.

3.3 Sample Size: 150

The sample size was calculated to be 150, 5%. Non-responsiveness rate was considered, and the sample size was adjusted to be 150, with 75 in each group (Table 1).

3.4 Selection Criteria

3.4.1 Inclusion Criteria

Patient newly diagnosed with uncomplicated STIs such as cellulitis, erysipelas, impetigo, folliculitis, furuncles, carbuncles, and simple abscesses.

Patient aged between >18 - < 60 years of both genders. Patient willing to participate in the study.

3.4.2 Exclusion Criteria

Patient with underlying systemic disease such as Coronary Artery Disease (CAD), Chronic Kidney Disease (CKD), Type 1 Diabetes Mellitus, hepatic impairment, or an immunocompromised patient.

Paediatric patients (below 18 years old). Pregnant females

Elderly patient over 60 years old.

Patient was already on other antibiotics and other modes of administration prior to enrolment.

Table 1. Distribution based on drug group

Drug Group	Frequency	Percent
Co-amoxiclav	75	50.0
Clindamycin	75	50.0
Total	150	100.0

3.4.3 Study Procedure

Newly diagnosed patients with soft tissue infection of either sex, aged 18-60 years, were administered either co-amoxiclav 625 mg TID or clindamycin 300 mg TID orally for 5-7 days. Clinical response was assessed on Days 0, 3, 5-7 during treatment and Days 3 and 10 post-treatment. Clinical response categories: Cure (complete resolution), Improvement (partial or relapse), Failure (no response after 3+ days). Base line demographic characteristics of the patients were recorded for both groups on the initial visit. The mean efficacy of co-amoxiclav and clindamycin in patients was compared by statistically analysing the proportion of patients achieving predefined clinical curecriteria. Phone follow-ups for adverse events and disease progress; in-person evaluations on Day 3 and Day 5 during and after treatment.

Outcomes: Complete cure/improvement/failure of clinical response.

Cost-Effectiveness Analysis (CEA)- The Cost-Effectiveness Analysis (CEA) was performed by comparing the cost and effectiveness data of the two drug combinations. The costs included direct drug acquisition expenses and any additional costs related to managing adverse events during treatment. Since diagnostic investigations were similar for both groups, their costs were excluded from the analysis. The total cost per treatment group was calculated by multiplying the daily unit cost by the number of treatment days.

Effectiveness was measured as the percentage reduction in soft tissue infection after 5 to 7 days of therapy. The CEA quantified the cost required to achieve a 0.1% reduction in infection. When one therapy was more effective but also more expensive, the Incremental Cost-Effectiveness Ratio (ICER) was calculated to determine the additional cost incurred per unit of increased effectiveness[8].

The ICER formula used was:

ICER= (Cost of more expensive therapy-Cost of other therapy)/(Effectiveness of more expensive therapy-Effectiveness of other therapy)

This ratio helps determine whether the additional cost of a more effective treatment is justified by the incremental clinical benefit it provides.

3.4.4 Safety and Tolerability

Treatment-Emergent Adverse Events (TEAEs) occurring during the study period were documented and evaluated for their potential association with the administered medications. All such events in both treatment groups were thoroughly assessed to compare the safety and tolerability profiles of the two combination therapies.

3.4.5 Statistical Analysis

The data collected will be entered in Microsoft Excel and will be analysed using SPSS software. Both inferential and descriptive statistics will be analysed.

4. Results (Including Observations)

In this study, an equal number of participants were allocated to each treatment group. Out of a total of 150 participants, 75 (50.0%) received Co-amoxiclav and 75 (50.0%) received Clindamycin (Table 1). Baseline characteristics in both groups were comparable, and there was no significant difference in the mean age and gender is comparable between the patients receiving co-amoxiclav and those receiving clindamycin (agep=0.881, genderp=0.621) (Table 2, Figure 1). Both groups were well-matched at baseline with similar clinical characteristics, minimizing confounding factors. Co-amoxiclav had a much greater cure rate (97.3%) than Clindamycin (81.3%), with a treatment failure of 1.3% *vs*16% in the Clindamycin group ($p<0.05$) (Table 3, Figure 2).

The cost-effectiveness analysis showed that the mean total treatment cost in the Clindamycin group was significantly higher than in the Co-amoxiclav group, with a highly significant difference. Specifically, antibiotic costs were greater with Clindamycin (₹656.40 ± 111.48) than Co-amoxiclav (434.40 ± 86.47). Total medical and non-medical costs were also elevated in the Clindamycin group. The Incremental Cost-Effectiveness Ratio (ICER) is approximately-1586. The negative ICER indicates that co-amoxiclav is both more effective (higher cure rate of 0.98 vs. 0.84) and less costly (lower antibiotic cost) compared to

Figure 1: Demographic profile

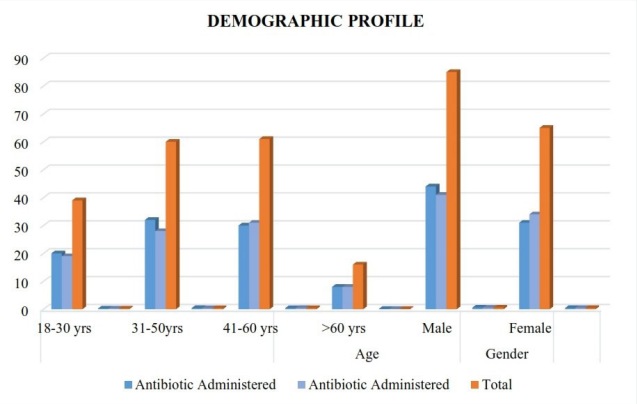

Figure 1. Demographic profile.

Table 2. Demographic profile (age and gender)

Parameters		Antibiotic Administered		Total	Chi-Square Value	p value
		Co-amoxiclav	Clindamycin			
Age	18-30 yrs	20	19	39	1.764	0.881
		26.7%	25.3%	26%		
	31-50yrs	32	28	60		
		42.7%	37.3%	40%		
	41-60 yrs	30	31	61		
		40%	41.3%	40.7%		
	>60 yrs	8	8	16		
		10.7%	10.7%	10.7%		
Gender	Male	44	41	85	0.244	0.621
		58.7%	54.7%	56.7%		
	Female	31	34	65		
		41.3%	45.3%	43.3%		

clindamycin (Table 5). Overall, Clindamycin treatment resulted in a greater economic burden compared to Co-amoxiclav in both medical and non-medical expenses, as shown in Table 4 and Figure 3.

FIGURE 2: Clinical Outcomes Of Antibiotics Administered

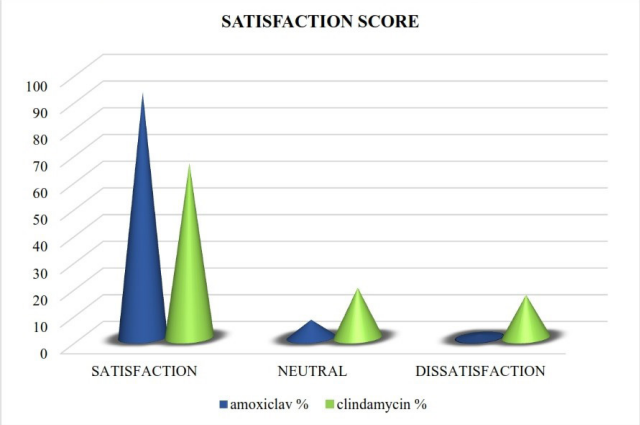

Figure 2. Clinical outcomes of antibiotics administered.

5. Discussion

This study aims to compare co-amoxiclav and clindamycin not only in terms of their clinical efficacy but also interms of their overall economic impact, including direct medical costs, indirect costs such as loss of income, and non-medical expenses. Identifying the more cost-effective treatment option can inform prescribing practices, improve patient care, and help in the allocation of limited healthcare resources while addressing the challenge of antimicrobial resistance. This makes pharmacoeconomic studies vital for evidence-based decision-making in the management of uncomplicated soft tissue infections.

Antibiotic choice depends on factors like patient health, infection type, and drug properties. Co-amoxiclav is preferred for polymicrobial infections due to its broad coverage, while clindamycin is favoured for infections involving bacterial toxins and anaerobes[4].

Table 3. Association between patient satisfaction and antibiotic administration

Satisfaction Score	Antibiotic Administered		Total	Chi-Square Value	p value
	Co-amoxiclav	Clindamycin			
Satisfied	69	49	118	**16.961**	**<0.001**
	92.0%	65.3%	78.7%		
Neutral	5	14	19		
	6.7%	18.7%	12.7%		
Dissatisfied	1	12	13		
	1.3%	16.0%	8.7%		

Table 4. Comparison of direct and indirect costs between co-amoxiclav and clindamycin groups

Cost	Antibiotic Administered	N	Mean ± SD	t value	p value
Antibiotic cost	Co-amoxiclav	75	434.40 ± 86.47	-13.627	.000
	Clindamycin	75	656.40 ± 111.48		
Other pharmacy cost	Co-amoxiclav	75	506.80 ± 100.88	-.243	.808
	Clindamycin	75	510.53 ± 86.71		
Travel cost	Co-amoxiclav	75	266.12 ± 130.63	-1.407	.161
	Clindamycin	75	296.11 ± 130.35		
Total medical cost	Co-amoxiclav	75	1724.77 ± 441.32	-3.392	.001
	Clindamycin	75	1964.29 ± 423.35		
Total non-medical cost	Co-amoxiclav	75	1790.69 ± 549.32	-2.015	.046
	Clindamycin	75	1973.21 ± 559.86		
Total cost	Co-amoxiclav	75	3515.47 ± 692.45	-3.707	.000
	Clindamycin	75	3937.51 ± 701.89		

Table 5. Cost-effective analysis

Parameter	Co-Amoxiclav	Clindamycin	Difference (Incremental)
Cure rate (Effectiveness)	0.98	0.84	0.14
Antibiotic cost (per course)	434.40	656.40	-222.00
Incremental cost (Co-Amox - Clindamycin)			-222.00
Incremental effectiveness			0.14
Incremental Cost-Effectiveness Ratio (ICER)			-1586

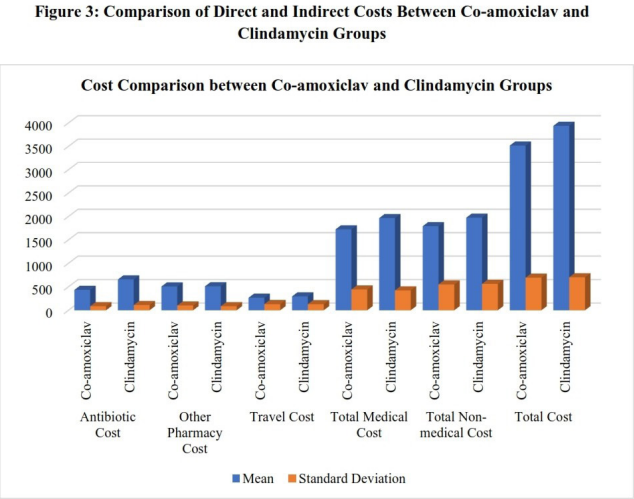

Figure 3. Comparison of direct and indirect costs between co-amoxiclav and clindamycin groups.

Their differences in spectrum, resistance, and side effects make direct clinical comparison important.

Although existing literature provides some insights into the comparative efficacy and safety of these antibiotics, important gaps remain, particularly regarding their effectiveness in specific patient subgroups and real-world clinical outcomes[9]. This present study is an interventional comparative study to evaluate the efficacy and cost-effectiveness of Co-amoxiclav and Clindamycin in the treatment of uncomplicated soft tissue infections (SSTIs).

This study included 150 participants who were allocated into 2 equal groups. The baseline characteristics data reveal no statistically significant differences between the co-amoxiclav and clindamycin groups in age and gender. In the present research, the majority were 51-60 years (23.3%), followed by 31-40 years (22.7%) (Table 2, Figure 1). This shows that older people were at higher risk for SSTIs due to age-related immune changes, and this may be due to other comorbidities. Moellering noted that SSTIs are more frequent in adults aged 45-65 years, particularly due to comorbid illnesses like diabetes and vascular disease[10]. This accords with findings from our research on the dominance of age of occurrence of soft tissue infection in this age group, being 51-60 years in our research. We noticed that males had a greater prevalence (56.7%) compared to females (43.3%) (Vide Table 2, Figure 1). This can be attributed to occupational exposures and an increased incidence of trauma in men. Pham Tetal reported 58% male patients in their cohort and proposed that susceptibility might be affected by gender-linked skin thickness and hygiene habits[11]. This indicates that both groups were well balanced at the start of the study, reducing the risk of demographic confounding in outcome comparisons.

In the current study, Co-amoxiclav had a much greater cure rate (97.3 %) than Clindamycin (81.3%), with a single treatment failure of 1.3% *vs* 16% in the Clindamycin group (p=0.005) (Table 3, Figure 2). Mahakit *et al.* who noted greater clinical cure in Clindamycin (92.6%) compared with Amoxicillin/ Clavulanic acid (85.2%) in group A β-hemolytic streptococcal pharyngotonsillitis[12]. This could be because their study aimed at pharyngeal infections and not skin-based SSTIs. Pusponegoroand Wiryadi in their paper noted similar efficacy of Clindamycin (87.1%) and cloxacillin (60%) for SSTIs by Day 15[13].

The economic burden was significantly higher with Clindamycin than in the Co-amoxiclav group. Specifically, antibiotic costs and loss of income was greater with Clindamycin. Total medical and non-medical costs were also elevated in the Clindamycin group. Other cost categories showed no significant difference, though travel costst ended to be higher with Clindamycin. Overall, Clindamycin treatment resulted in a greater economic burden compared to Co-amoxiclav, Davey. PG *et al.* study highlighted co-amoxiclav's broad-spectrum antibacterial coverage,

ease of administration, and favourable safety profile, supporting its use as a preferred prophylactic antibiotic in elective abdominal and gynaecological surgeries[6]. Tancawan *et al.* emphasized the convenience and cost advantages of Co-amoxiclav due to its twice-daily dosing, a feature that likely improved adherence and reduced non-medical costs in our study[7].

Cost-Effective Analysis (CEA) was analysed using ICER with the cure rate and total antibiotic cost per course of treatment. It was calculated with the following data

Cure rate of clindamycin = 0.84, Cure rate of co-amoxiclav = 0.98, Antibiotic cost of clindamycin = 656.40, Antibiotic cost of co-amoxiclav = 434.40

The Incremental Cost-Effectiveness Ratio (ICER) is approximately-1586.

The negative ICER indicates that co-amoxiclav is both more effective (higher cure rate of 0.98 *vs.* 0.84) and less expensive (lower antibiotic cost) compared to clindamycin (Table 5). This suggests that co-amoxiclav is the dominant treatment option, providing better clinical outcomes at a lower cost.

This study provides strong real-world evidence that Co-amoxiclav is associated with a lower cost burden compared to Clindamycin in the treatment of uncomplicated SSTIs. Co-amoxiclav demonstrated significantly lower overall treatment costs, including direct medical expenses and indirect costs, contributing to a more cost-effective therapeutic option in managing these infections.

6. Summary and Conclusion

6.1 Summary

This study compared the efficacy and cost-effectiveness of Co-amoxiclav and Clindamycin in treating uncomplicated Soft Tissue Infections (STIs) in a tertiary care hospital. A total of 150 patients aged 18-60 years were allocated equally to receive either co-amoxiclav 625mg TID or clindamycin 300 mg TID for 5-7 days. Baseline demographic and clinical characteristics, including age, gender, pain scores, lesion size, and drug duration, showed no statistically significant differences, indicating well- balanced treatment groups. Clinical response was assessed through cure rates, in which Co- amoxiclav showed increased clinical effectiveness than clindamycin. The cost-effectiveness analysis revealed significantly higher total treatment costs in the clindamycin group compared to co- amoxiclav, mainly driven by increased antibiotic costs and non-medical costs were also higher with clindamycin, while other expense categories showed no significant difference. The ICER analysis indicates that co-amoxiclav is the preferred treatment, offering superior clinical outcomes with lower costs. Overall, Co-amoxiclav emerges as a more cost-effective option, balancing clinical effectiveness with a lower economic burden, particularly in resource-limited settings.

6.2 Conclusion

This study provides evidence that Co-amoxiclav is a more clinically efficacious and cost-effective treatment option than Clindamycin for treating uncomplicated soft tissue infections, with lower total treatment costs and better adherence. Both antibiotics have similar safety and tolerability. Co- amoxiclav reduces the overall economic burden on patients and healthcare systems, making it a preferred choice for managing uncomplicated SSTIs in tertiary care settings.

7. References

1. Stevens DL, Bisno AL, Chambers HF, Dellinger EP, Goldstein EJ, Gorbach SL, Hirschmann JV, Kaplan SL, Montoya JG, Wade JC. Practice guidelines for the diagnosis and management of skin and soft tissue infections: 2014 update by the infectious diseases society of America. Clin Infect Dis. 2014; 59(2):e10-e52. https://doi.org/10.1093/cid/ciu296
2. Desu PK, Sri LG, Shankar S, Prasanna K, Rao V. Pharmacoeconomics: An overview. UJP. 2018; 7(4):1-6.
3. Janodia M, Patel A, Udupa N. Pharmacoeconomics and its applications- Emerging role in India. Value Health. 2014; 17(7):796. https://doi.org/10.1016/j.jval.2014.08.468
4. Esposito S, Leone S, Noviello S. Epidemiology and microbiology of skin and soft tissue infections. Curr Opin Infect Dis. 2008; 29(2):109-115. https://doi.org/10.1097/qco.0000000000000239
5. Teng C, Reveles KR, Ofoegbu OOO, Frei CR. Clostridium difficile infection risk with important antibiotic classes: An analysis of the FDA adverse event reporting system. Int J Med Sci. 2019; 16(5):630-635. PMID: 31217729. PMCID: PMC6566741. https://doi.org/10.1097/10.7150/ijms.30739
6. Davey PG, Parker SE, Crombie IK, Jaderberg M. The cost effectiveness of amoxicillin/clavulanic acid as antibacterial

prophylaxis in abdominal and gynaecological surgery. Pharmacoeconomics. 1995; 7(4):347-356. PMID: 10172460. https://doi.org/10.2165/00019053-199507040-00008

7. Tancawan AL, Pato MN, Abidin KZ, Asari AM, Thong TX, Kochhar P, Muganurmath C, Twynholm M, Barker K. Amoxicillin/clavulanic acid for the treatment of odontogenic infections: A randomised study comparing efficacy and tolerability versus clindamycin. Int J Dent. 2015; 2015(1):472470. PMID: 26300919. PMCID: PMC4537712. https://doi.org/10.1155/2015/472470
8. Tandon T, Dubey AK, Srivastava S, Manocha S, Arora E, Hasan N. A pharmacoeconomic analysis to compare the cost-effectiveness of metformin plus teneligliptin with metformin plus glimepiride in patients with type 2 diabetes mellitus. J Family Med Prim Care. 2019; 8(3):955-959. PMID: 31041232. PMCID: PMC6482796. https://doi.org/10.4103/jfmpc.jfmpc_22_19
9. Musaraj A, Musaraj A, Dervishi A. Pharmaco-economics analysis, as a strategy for facilitating choices between health and non-health programs in the establishment of the national health care system. Alex J Med. 2014; 50(1):1-6. https://doi.org/10.1016/j.ajme.2013.06.001
10. Moellering RC. Current treatment options for community-acquired methicillin-resistant *Staphylococcus aureus* infection. Clin Infect Dis. 2008; 46(7):1032-1037. PMID: 18444820. https://doi.org/10.1086/529445
11. Pham TT, Gariani K, Richard JC, Kressmann B, Jornayvaz FR, Philippe J, Lipsky BA, Uckay I. Moderate to severe soft tissue diabetic foot infections: A randomized, controlled, pilot trial of post- debridement antibiotic treatment for 10 versus 20 days. Ann Surg. 2022; 276(2):233-238. PMID: 35623048. PMCID: PMC9259031. https://doi.org/10.1097/SLA.0000000000005205
12. Mahakit P, Vicente JG, Butt DI, Angeli G, Bansal S, Zambrano D. Oral clindamycin 300 mg BID compared with oral amoxicillin/clavulanic acid 1 g BID in the outpatient treatment of acute recurrent pharyngotonsillitis caused by group A β-hemolytic streptococci: An international, multicenter, randomized, investigator-blinded, prospective trial. Clin Ther. 2006; 28(1):99-109. https://doi.org/10.1016/j.clinthera.2006.01.006
13. Pusponegoro EH, Wiryadi BE. Clindamycin and cloxacillin compared in the treatment of skin and soft-tissue infections. Clin Ther. 1990; 12(3):236-241. PMID: 2379228.