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AN ASSESSMENT OF THE EFFECTIVENESS OF ALTERNATIVE PROCUREMENT PATHWAYS FOR ENHANCING MEDICATION SUPPLY WITHIN THE JORDANIAN ROYAL MEDICAL SERVICES

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ABSTRACT

1. Introduction:
Jordan's healthcare system heavily relies on the Jordanian Royal Medical Services (JRMS). JRMS faces the challenge of making sure that patients have timely access to necessary medications in critical circumstances such as drug shortages or urgent needs. Due to limited supply or unreasonable costs, the local market might not always be able to meet these demands. To address this, JRMS has employed Military Attaches stationed at Jordanian embassies abroad to assist in the acquisition of pharmaceuticals that are either too costly or unavailable locally. The purpose of this study is to assess the effectiveness of this procurement strategy in improving JRMS's capacity to effectively manage procurement during emergencies, as well as to determine how Military Attaches assist in overcoming these obstacles.

2. Objective:
This study's main goals are to evaluate the crucial role of Military Attaches in the JRMS's international drug acquisition process and to determine how this procurement strategy affects the overall effectiveness of drug acquisition. The study will specifically assess the cost differences in medication between purchases made on the local market and international markets, as well as the efficacy of using Military Attaches to purchase medications from foreign markets.

3. Methodology:
The procurement efficiency of medications will be assessed by conducting a comparative analysis approach in this retrospective study. Data from JRMS procurement records for January through June of 2024 will be gathered. Information on prescription medications purchased through Military Attaches and their equivalents on the local market will be included in the dataset including the following parameters (Medication Name, Quantity, Unit Price for both Local and Military Attache, Total Price for both Local and Military Attache, and Total Savings) which will be the main focus of our analysis and the outcomes will be evaluated to determine whether using Military Attaches offers a substantial advantage over local procurement methods and how well they contribute to meeting medication needs.

Keywords: Emergency Procurement, Jordanian Royal Medical Services (JRMS), Military Attaches, Medication Costs, Procurement Efficiency, Healthcare Logistics, Drug Shortages, International Procurement.

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1. INTRODUCTION:

The Jordanian Royal Medical Services (JRMS) is an essential element of Jordan's healthcare structure tasked with delivering medical care to the armed combatants, their families, and, in certain instances, civilians[1]. During crises, such as drug shortages or urgent medical requirements, JRMS encounters considerable obstacles in guaranteeing the availability and prompt delivery of vital pharmaceuticals.

Acquisition of medication in military settings frequently entails managing intricate supply networks and tackling logistical challenges[2]. The local market may not consistently supply the requisite pharmaceuticals in adequate quantities or at reasonable costs. This circumstance requires alternate techniques to efficiently obtain these essential resources. JRMS has recognized the spread of Military Attaches in Jordanian embassies globally as a critical tactic to tackle these difficulties.

Military attaches stationed to various embassies globally play a vital part in easing international procurement by utilizing diplomatic channels to acquire medications that are either locally unavailable or excessively costly. This method enables JRMS to overcome local market limitations and engage with global supply networks. By acquiring medications via outside channels, JRMS may frequently achieve substantial cost reductions and guarantee prompt delivery of pharmaceuticals during emergencies.

The overseas purchase procedure via Military Attaches entails multiple steps: determining the requirement for specific pharmaceuticals, negotiating with foreign suppliers, and overseeing the logistics of transferring the medications to Jordan. This strategy aids in surpassing local market constraints while also decreasing the total expense of medicine acquisition. It is crucial to evaluate the effects of these measures on drug costs and allocation of resources within the JRMS.

Recent studies have underscored the advantages of foreign procurement tactics, such as cost reductions and enhanced availability of essential pharmaceuticals[3,4]. These advantages are especially significant in military healthcare systems, where effective resource allocation and cost management are crucial. Comprehending the efficacy of these tactics within the framework of JRMS might yield significant insights for enhancing procurement procedures and advancing healthcare delivery.

This research seeks to analyze the function of Military Attaches in the acquisition of pharmaceuticals by JRMS, emphasizing the effects of this strategy on drug pricing and resource distribution. We want to assess the efficacy of this procurement method and its ramifications for JRMS's comprehensive healthcare management by examining data from January 2024 to June 2024.

2. METHOD:

This retrospective study assessed the efficacy of the JRMS's procurement approach by analyzing data from the JRMS procurement department records for January through June of 2024 on 18 pharmaceuticals acquired through Military Attaches and comparing it to their local market costs. The dataset has the following parameters: Medication Name, Quantity, Unit Price (Military Attaché), Unit Price (Local), Total Price (Military Attaché), Total Price (Local), and Total Savings. The data analysis entailed computing the total expenses for each purchase technique and assessing the savings realized via foreign procurement. The results were subsequently aggregated to emphasize trends and insights on the cost-effectiveness of this method.

3. RESULTS:

The examination indicated significant savings from employing Military Attaches for pharmaceutical purchasing. The total savings were around 253,531.90 Jordanian Dinars (JOD). Principal findings encompass: Phenol 5% vials in almond oil yield substantial savings of 765.03 JOD, as local prices are considerably elevated. Ofev 150 mg capsules demonstrate significant savings of 181,449 JOD, underscoring a pronounced cost disparity between international and local sourcing. Human Coagulation Factor VII results in savings of 45,947.472 JOD, indicative of the medication's expensive costs and the advantages of international procurement.Conversely, certain pharmaceuticals like Metenix saw marginal cost rises via Military Attaches, indicating unpredictability in savings based on the specific medication (Table 1).

Table 1: Summary of Medication Procurement Data

Medication	Quantity	Unit Price (Military Attaché)	Unit Price (Local)	Total Price (Military Attaché)	Total Price (Local)	Total Savings
Entacort 2mg/100ml Enema	7	5.108	5.108	35.756	35.75	0.006
Phenol 5% Vials in Almond Oil	58	10.24	23.43	1358.94	593.91	765.03
Ursofalk suspension	70	83.547	89.358	2085.02	1949.41	135.61
Lanoxin Elixir 50mcg/ml	417	17.61	17.658	2454.462	2438.96	15.502
Milrione 1mg/ml ,10ml Amp	600	3.78	12.28	7368	2268.09	5099.91
Frusemide Syrup 10mg/ml	2000	9.331	9.331	18662	18661.5	0.5
Metenix, metolazone 5mg Tablet	800	0.382	0.382	152.8	153.12	-0.32
Tambocor Tablets 100mg	112020	0.121	0.318	17811.18	6874.94	10936.24
Lopressor Ampules 5mg	2500	0.71	4.346	10865	1775	9090
Samozina Syrup 100 mg/ml	24	11.006	11.006	264.144	264.13	0.014
Levophed Ampules 0.1%	13200	1.608	1.608	10612.8	10611.22	1.58
Argatrobane Injection	30	273.491	273.491	8204.73	8204.74	-0.01
Arixtra 7.5mg/0.6ml pre-filled syringe	1450	35.601	35.601	17207.15	17206.86	0.29
Recothrom	20	81.345	85.2	1704	1626.9	77.1
Questran Powder Sachets	18000	0.782	0.782	7038	7029	9
Fibrovein, 2 ml ampoule	85	6.316	6.316	536.86	536.88	-0.02
Human Coagulation Factor VII, Freeze Dried 1-5mg/Vial	76	3603.25	7835.254	85068.472	39121	45947.472
Atrovent Respiratory Solution 0.5%, 2ml Vial	20000	0.231	0.231	4620	4615	5
Ofev 150 mg capsule	6000	0.959	31.2	187200	5751	181449
Total	177357	**4145.418**	**8442.9**	**383249.314**	**129717.41**	**253531.904**

4. DISCUSSION:

The examination of the Jordanian Royal Medical Services' (JRMS) utilization of Military Attaches for foreign pharmaceutical procurement uncovers numerous critical discoveries about its efficacy and ramifications for healthcare administration.

4.1 Cost Savings: The most notable discovery from this study is the substantial cost reductions realized via overseas procurement. The acquisition of pharmaceuticals like Ofev and Human Coagulation Factor VII yielded significant financial savings, illustrating the cost-effectiveness of this strategy. The total savings of about 253,531.90 JOD highlight the potential for foreign procurement to mitigate budgetary constraints and improve resource management within JRMS.

International procurement via Military Attaches frequently uses diplomatic contacts and worldwide supply chains to secure more favorable pricing than what is locally accessible. This technique can bypass local market limitations, such as restricted availability and elevated prices, thus granting JRMS access to vital pharmaceuticals at more competitive rates. The acquisition of Phenol 5% Vials in Almond Oil and Ofev revealed notable price discrepancies between domestic and overseas suppliers, underscoring the opportunity for cost savings.

4.2 Resource Allocation: Effective resource allocation is essential in military healthcare systems, where financial constraints are prevalent and medicine demand may fluctuate unpredictably[5,6]. By procuring medications via foreign channels, JRMS can enhance its inventory management and guarantee the availability of vital drugs as required. This strategy not only mitigates acute deficiencies but also facilitates long-term planning and financial allocation. The procurement plan enables JRMS to provide a consistent supply of essential drugs, vital for emergency management and operational resilience. The capacity to obtain pharmaceuticals at reduced

prices allows for the reallocation of saved resources to other healthcare sectors or operational requirements, hence enhancing overall resource distribution.

4.3 Variability in Cost Savings: While the general impact of foreign procurement is beneficial, some fluctuations in cost savings were noted. The expense of Metenix was somewhat elevated via Military Attaches in comparison to local pricing, leading to a negligible loss. This variety can be ascribed to multiple reasons, including the terms of negotiation, pharmaceutical availability, and variations in worldwide market prices[3]. Comprehending these variations is essential for enhancing purchasing tactics. JRMS must consider supplementary considerations, such as supplier reliability, transportation expenses, and possible delays, when assessing the overall cost-effectiveness of foreign procurement[5]. Additional investigation into these characteristics may enhance procurement processes and reduce the occurrences of elevated costs.

4.4 Strategic Implications: The results indicate that although foreign procurement via Military Attaches provides significant advantages, there exists potential for strategic enhancement. JRMS could investigate methods to improve negotiation strategies, strengthen ties with overseas suppliers, and optimize procurement processes to maximize savings. Furthermore, incorporating data analytics into procurement methods may enhance the accuracy of drug demand forecasting and improve supply chain management[7]. The employment of Military Attaches for the procurement of medication constitutes an effective technique for mitigating drug shortages and regulating expenses. By persistently refining and optimizing this methodology, JRMS can augment its capacity to deliver prompt and economical healthcare to its workforce and beneficiaries.

5. CONCLUSION:

This study highlights the crucial function of the Jordanian Royal Medical Services' (JRMS) procurement policy, which include Military Attaches, in maintaining a consistent supply of drugs. Through the utilization of foreign procurement channels, JRMS has realized significant cost reductions, illustrating that this strategy not only alleviates local pharmaceutical shortages but also enhances resource allocation efficiency. The comparative examination of international and local procurement has demonstrated that sourcing medications internationally, with the aid of Military Attaches, can be a more efficient and cost-effective alternative in crucial circumstances. Future procurement strategies should prioritize the enhancement of this model, including diverse market situations, pharmaceutical availability, and the distinct healthcare requirements of JRMS. By customizing the strategy to address these elements, JRMS may further improve its supply chain resilience and guarantee sustained cost-effectiveness in drug acquisition.

Limitations of the Study: The study is constrained by its length, concentrating just on a subset of pharmaceuticals during a six-month duration. The analysis fails to consider potential variances in procurement processes, market dynamics, or other affecting factors. Expanded research utilizing a more extensive dataset and incorporating additional variables would yield a more thorough comprehension of the procurement strategy's effects.

Conflict of Interest: The author discloses no conflicts of interest pertaining to this study.

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