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Assessment of Drug Use in Bethlehem District Public Primary Health Care Clinics

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Abstract

This is a cross-sectional prospective study of drug use that was conducted in 10 Ministry of Health primary health care facilities in the year 2009 at Bethlehem PHC district area.

The aim of the study was to assess essential drugs availability, prescribing and dispensing processes as practiced at governmental primary health care facilities at Bethlehem district.

A quantitative approach using the "WHO drug use indicators" in a form of standardized structured WHO indicator forms was employed for collecting the sought data.

In Bethlehem district, there are 17 governmental primary care facilities. Five of them are clinics shared with other non-governmental health provider, and two of them are mobile clinics. These shared and mobiles clinics were excluded from the study. The remaining 10 governmental primary clinics were the population of the study .In each the health facilities, 30 prescribing encounter forms were prospectively selected and 30 patients care forms were prospectively obtained ,except for the central clinic, the Al-Markazia clinic which is the major primary clinic in Bethlehem district, where 60 prospectively selected prescribing encounter forms and 60 patients care forms were obtained. In total 330 client/provider encounters were studied. The distributions of the participants by sex were (60%) females and (40%) were males.

The results of the study showed that average number of drugs prescribed per encounter was tow drugs; all drugs were prescribed by brand names; the percentage of encounter with an antibiotic prescription was relatively high (34 %) especially for children under 5 years of age; the percentage of encounters with an injection prescribed was rather low (3 %); but the percentage of drugs prescribed from essential drugs list was very high (100%).

Average consultation time was (3.9) minutes; the average dispensing time was very short (65) seconds; the percentage of drugs actually dispensed was high (90%); percentage of drugs adequately labeled was only (27%); and patients` knowledge of correct dosage was high (92%).

Availability of a copy of Essential Drugs List in the studied clinics was (70%); and a high availability of key drugs (95%).

As for the physical conditions of the pharmacies in the studied clinics; the percentage of pharmacies with adequate space was (40%); the percentage of pharmacies with adequate shelves was (40%); only one of the clinics had adequate cooling (air-conditioning) system; none of the pharmacies had drug stores; and only in (30%) of the health facilities, the drug dispenser is a pharmacist.

The study recommends improving rational drug and antibiotic uses; improve using the generic names of drugs through guidelines and proper training for health personal, more education for patients on rational drug use. The study also recommends improving the physical setting of the health facilities as well as using computerized drugs management system and link that system with the central stores in order to improve the availability and the efficiency of drugs. The study suggests that clinic pharmacies should have separate and independent space with adequate drug storage and handling conditions, and pharmacies should be managed by a responsible pharmacist only.

Finally, the study suggests conducting similar studies at the other districts or other sectors/providers and also in Gaza, to allow for comparison studies between the districts and between areas.

ملخص الدراسة

هذه الدراسة طبقية منظورة للنمط الحالي لاستعمال الأدوية في القطاع الصحي الحكومي في محافظة بيت لحم، وقد اجريت هذه الدراسة في عشرة مرافق من مرافق الرعاية الصحية الأولية الحكومية في العام 2009.

الهدف من الدراسة كان تقييم توفر الأدوية الحيوية، وتقييم قواعد وتطبيقات وصف وصرف الأدوية في تلك المرافق. وقد وظفت مؤشرات منظمة الصحة العالمية لأستخدام الأدوية "الأستمارات المعيارية لأستخدام الأدوية الصادرة عن منظمة الصحة العالمية" لجمع البيانات في هذه الدراسة الكمية المقاربة.

يوجد في محافظة بيت لحم سبعة عشر عيادة صحة اولية حكومية وقد تم استثناء خمسة عيادات منها بسبب مشاركتها مع جهات صحية اخرى غير حكومية وكذلك عيادتين متنقلتين. العيادات العشرة الباقية كانت هي عينة الدراسة. لقد تم اخذ عينة منظورة تتكون من 30 مراجع و30 وصفة طبية من كل عيادة أولية في تسعة من العيادات ألأولية واما العيادة العاشرة وهي العيادة الأولية المركزية في مدينة بيت لحم والتي تعد العيادة الأولية الأساسية في المحافظة فقد أخذت منها عينة منظورة تتكون من 60 مراجع و 60 وصفة طبية, وبذلك يكون مجموع عدد العينات في هذه الدراسة 330 مراجع و330 وصفة، وكان التوزيع الديموغرافي للعينة المدروسة (40%) من الذكور و (60%) من الأناث.

وأظهرت نتائج الدراسة أن متوسط عدد الأدوية الموصوفة للمرضى في الدراسة دوائين، وكل ألأدوية الموصوفة كانت بالأسم التجاري، وكانت النسبة المئوية للمضادات الحيوية الموصوفة عالية نسبيا (34%) و خاصة للأطفال تحت عمر الخمس سنوات و كان معدل الأدوية الموصوفة على شكل حقن منخفضا (3%)، وأما نسبة الأدوية الموصوفة من قائمة الأدوية الأساسية الحكومية فقد كانت مرتفعة جدا و قد قاربت (100%) .

ان متوسط الزمن الذي تستغرقه استشارة المريض للطبيب كان (3.9 دقيقة)، وكان المعدل الزمني لصرف الدواء للمريض في الصيدلية قصيرا جدا (65 ثانية)، وكانت النسبة المئوية للأدوية المصروفة للمرضى والتي تم تسليمها لهم فعليا مقارنة بالأدوية التي تم وصفها بمعدل عام (90%). وبلغت نسبة الأدوية التي دون على غلافها المعلومات اللازمه للمريض فقط (27%) من نسبة جميع الأدوية المصروفة، اما معلومات المرضى عن الجرعة الدوائية المعطاة فقد كانت عالية في الدراسة التي اجريت حيث بلغ معدل هذه النسبة (92%) من مجمل عدد المرضى .

وقد توافرت قائمة الأدوية الأساسية في العيادات التي تمت فيها الدراسة بنسبة (70%) وكذلك كانت نسبة توفر الأدوية الأساسية في هذه العيادات مرتفعة (95%)، وبالنسبة لأوضاع الصيدليات في العيادات المدروسة فقد كانت نسبة الصيدليات ذات المساحة المناسبة (40%) ونسبة الصيدليات التي بها رفوف مناسبة (40%) وفقط صيدلية واحده كان بها التكييف المناسب، و أن كل الصيدليات تعاني من عدم توفر مساحة ملائمة لتخزين الأدوية داخل المراكز الصحية. وعند دراسة مؤهلات العاملين في الصيدليات وجد ان (30%) فقط كانوا صيادلة.

وقد أوصت الدراسة على ضرورة ترشيد استعمال الأدوية و المضادات الحيوية وتحسين استعمال الأسماء العلمية للأدوية من خلال التعليمات و التدريب الملائم للعاملين الصحيين و زيادة ثقافة المرضى حول ترشيد استعمال الادوية. وأوصت الدراسة كذلك الى ضرورة تحسين وضع أبنية المراكز الصحية وكذلك استعمال نظام محوسب لأدارة ألأدوية وربط هذا النظام مع المخازن المركزية من اجل تحسين توفرالأدوية وكفاءة النظام وتقترح الدراسة ان تكون صيدليات العيادات ذات مساحات مستقلة مناسبة مع ضرورة توفر مخازن مناسبة للأدوية وأن تدار هذه الصيدليات من قبل صيادلة .

وأوصت الدراسة الى ضرورة عمل دراسات حول استعمال الأدوية و تقييمها في مختلف المرافق الصحية العاملة في فلسطين وعمل دراسات مقارنة فيما بينها.

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Introduction

1.1 Introduction

A health system can be defined as a structured set of resources, actors and institutions related to the financing, regulation and provision of health actions that provide health care to a given population. Health action is conceived as any set of activities whose primary intent is to improve or maintain health. The overall objective of a health system is to optimize the health status of an entire population throughout the life cycle, while taking account of both premature mortality and disability, (Murray & Frenk, 2001).

Health systems aim to achieve three fundamental objectives.

• Improved health (for instance, better health status and reduced health inequalities).

• Enhanced responsiveness to the expectations of the population, encompassing: respect for the individual (including dignity, confidentiality and autonomy); client orientation (including prompt attention, access to services, and quality of basic amenities and choice of provider).

• Guaranteed financial fairness (including households paying a fair share of the national health bill; and protection from financial risks resulting from health care) (WHR, 2000)

Primary health care is that level of a health system that provides entry into the system for all new needs and problems, provides person-focused (not disease-oriented) care over time,

provides care for all but very uncommon or unusual conditions, and coordinates or integrates care provided elsewhere or by others (Starfield,1998) .

Primary health care (PHC) is the principles of accessible, comprehensive, continuous and coordinated personal health care in the context of family and community .PHC is the bases of the health care system, as it provides the essential and the initial health care as the majority of the population seeks primary health care yearly. Also it provides diagnostic and preventive health care at early stages.

The ultimate goal of PHC is better health for all, WHO has identified five key elements to achieving that goal:

- Reducing exclusion and social disparities in health (universal coverage reforms);
- Organizing health services around people's needs and expectations (service delivery reforms);
- Integrating health into all sectors (public policy reforms);
- Pursuing collaborative models of policy dialogue (leadership reforms); and
- Increasing stakeholder participation (WHO, 2009).

Since the declaration of Alma-Ata in 1978 which was the first international declaration advocating primary health care as the main strategy for achieving WHO's goal of "health for all". Many health improvements had been achieved such as immunization coverage and access to safe water and hygiene. On the other hand, such equitable accesses to essential health care are still under expectation in many countries. People are increasingly impatient with the inability of health services to deliver levels of national coverage that meet stated demands and changing needs and with their failure to provide services in ways that correspond to their expectations (WHR, 2008).

In Palestine PHC is considered the cornerstone of health services, and not only the major tool but also the promoting and improving mechanism to restore and sustain the well-being of the Palestinian people. Therefore, PHC has been given top priority in all national health strategies and plans in Palestine. In this aspect, all stakeholders in the health sector aim to improve the access to PHC services especially for the marginalized groups and enhance the PHC services efficiency and effectiveness (NSHP, 2008).

1.2 Provision of PHC in Palestine

MoH is considered the major provider of primary health care services in Palestine, and provides services through multiple activities, (Annex 1A&1B).It operates in the West Bank 370 PHC facilities out of 542 PHC representing (68.3%) of total PHC facilities. Local NGO's operates 121 PHC clinics which represent (22.3 %), followed by UNRWA operates 35 PHC (6.5%) (MoH, 2008).

Through the public PHC the government health insurance offers a benefit package of services. There are benefits that are available for the whole population (insured or not insured). These services include vaccination, tuberculosis and epidemic diseases, MCH services, school health, chronic mental disorders, primary and secondary care for children below three years of age, blood diseases, high risk pregnancy and family planning services.

According to the National Strategic Health Plan (MoH, 2008), PHC and public health facilities are classified into four levels according to the type of services provided. There are different levels according to population size benefiting of the PHC facility, distance to nearest PHC facility, availability and type of health services in nearest facility, and the distribution of PHC centers in the West Bank (Table 1.1).

Table (1.1): Classification of MoH primary health care facilities

Level I	It is a facility with one health worker or nurse that serves a location of 2000 capita or less and provides on a daily basis the basic preventive services; mother and child health care and immunization, curative services; first aid. A general practitioner would visit the facility once or twice a week.
Level II	It is a facility where a doctor, nurse and midwife provide different services for a locality of 2001 – 6000 capita. In addition to the basic preventive services, this level also provides curative treatment and some lab tests on a daily basis.
Level III	It is a facility which provides level II services in addition to specialized medical consultation mainly for mother and child for a locality of 6001 – 12000 capita. It also provides laboratory services
Level IV	It is a "comprehensive health centre" which serves more than 12000 capita, and provides more specialized services than those provided in level III. It also provides medical consultation and psychological, dental care and radiology services mainly x –ray and ultrasound (if not present elsewhere in the service area)

Source: (NSHP, 2008)

In the West Bank there are (88) governmental PHC level I, (184) PHC level II, (76) PHC level III and (8) PHC level IV from the total (356) PHC (Table 1.2).

as examining rooms, files keeping or even a kitchen. Adequate dispense windows were observed only in 3 out of the 10 studied facilities.

Despite that in all the pharmacies, no medicines were seen unattended or on the floor, all were on shelves or cupboard.

Frequently nurses in the clinics complained for doing multi tasks as they perform, a nurse, s a clerk and sometimes as a drug dispenser.

In general, most of health facilities were small ,and located in old buildings which cannot serve and cope with the increasing patients number attending the clinic neither or suitable for adding new health services e.g. laboratory or x-ray. On the other hand the two new health facilities in Nahhalin and in Za'tara are good models of clinics to be replicated.

Finally, one of the main problems observed in approximately all the health facilities visited was the hygiene conditions and the shortages in cleaners. Most of the cleaners working in these facilities are not regular employees, but working as part-timers with very low salary.

6.5 Conclusions

Based on the study results we can conclude that:

- The average numbers of drugs prescribed per encounter reflects the fact that public health system in Bethlehem district has reasonable prescribing practices in comparison with other local health providers and developing countries.
- Drugs are prescribed by using the commercial (brand name) rather than the generic names despite the fact that all drugs EDL are generics. This reflects low physicians` awareness of the issue.
- In general, the prescribing level of the antibiotics is very high especially for children under 5 years age (Figure5.1).

- Injection drugs are rarely used which is a good indicator for reducing drug cost and for patient safety reasons. Most of injections used were for insulin injections.
- There is a high adherence to the national essential drugs list EDL. Physicians prescribed only drugs included on the EDL.
- Although the consultation time in average is better than other developing countries, it remains under the optimal time needed for proper interaction between patient and physician and for achieving good quality of patient care.
- Very short dispensing time was noticed leading to improper labeling, and insufficient patient informing about the drug use precautions and interactions.
- High availability of drugs in the health facilities is reflected by the high percentages of drugs actually dispensed out of those prescribed as well as by the high availability of key drugs.
- The drugs dispenser problems mainly consist from unclear job description.
- Finally, most of the studied health facilities lack proper infrastructure and enough space, and have improper working environment for health personnel besides the increased number of patients receiving services at the MoH clinics. Probably all this would impact negatively on the quality of health care provided.

6.6 Recommendations

1. Clinics should be located in suitable area in the health facility, and should have all the means for securing the privacy of patients and relaxed work environment for staff.

2. There is a need to improve the physical setting of the pharmacies in the clinics to better serve the patients. Pharmacies should have separate and independent space, adequate storage and handling conditions of drugs, and adequate dispensing window with glass to separate patients from dispensers.

3. It recommended that health facility pharmacies should be managed by pharmacists and in case of workload he or she can be assisted by a pharmacist assistant.

4. To improve the consultation and dispensing times, there is a need for a continuous practices supervision and monitoring process.

5. There is an urgent need for a continuous education and training programmes for all health personnel including physicians, pharmacies and nurses on drugs related issues.

6. It is important to provide health personnel with clear and up-to-date guidelines for drugs prescribing and dispensing. There is a need also for a follow up and monitoring system for the implementation of these guidelines.

7. In specific there is a need to rationalize prescribing and use antibiotics. Protocols and guidelines and proper training for physicians as well as a monitoring system will help towards that end.

8. It is essential to provide the health facilities with an updated Essential Drugs List. A computerized drugs management system at the clinics that is linked with centre can improve the availability and the efficiency of drugs.

9. There is a need to educate patients about drugs and their rational use.

10. MoH should develop guidelines about the use of generic names of drugs and to train the physicians and pharmacists on using them in prescribing and in dispensing.

11. Staffing patterns of the MoH health facilities (in specific the needed type, numbers and skills of health personnel) to be reviewed in light of health services provide and workload at the facilities. This should aim at empowering the clinics staff and developing their capacities as well as filling the vacant posts at the facilities.

6.7 Recommendation for further research

This is the first study in public primary health facilities in Bethlehem District.

1. Similar studies could be conducted at the other districts or other sectors/providers and also in Gaza, to allow for comparison studies between the districts and between areas.

2. Interventional research rationalizing antibiotics prescribing practices by physicians and the factors affecting that in MoH clinics.

3. Study and research the MoH Essential Drugs List.