Improving antibiotic prescribing in Hai Phong Province, Viet Nam: the "antibiotic-dose" indicator

John Chalker[1]

Objective To improve the use and dosage of antibiotics prescribed at Commune Health Stations in Viet Nam, and in so doing find out whether antibiotic dosage can be easily and reliably measured as a drug-use indicator.
Methods All commune health workers from the 217 commune health stations in Hai Phong Province, Viet Nam, were enlisted over an 18-month study period during 1994–96. The study design was a longitudinal time series, with each new district baseline acting as a rolling control. Each health station was monitored monthly by district supervisors. Two formal evaluations by doctors external to the study were compared with the supervisors' results. Basic medical equipment was provided three times over nine months, conditional on improvements in prescribing practices and adequate supervision of prescribing practices.
Findings The supervisors' data showed that the percentage of encounters in which a patient was prescribed an antibiotic decreased from over 65% to around 45%. When antibiotics were given, the percentage of patients who received an adequate dose increased from under 30% to 98%. These changes were stable for 17 months after the intervention stopped.
Conclusions Such initiatives require the active collaboration of health personnel and civic leaders at every level. Conditional equipment donation was shown to be effective. A simple indicator measuring adequacy of antibiotic dose can be an effective tool to improve the use of antibiotics in a sustainable way.

Keywords: Antibiotics/administration and dosage; Prescriptions, Drug/standards; Community health centers; Longitudinal studies; Viet Nam (*source: MeSH*).

Mots clés: Antibiotiques/administration et posologie; Ordonnance médicale médicament/normes; Centre public santé; Etude longitudinale; Viet Nam (*source: INSERM*).

Palabras clave: Antibióticos/administración y dosificación; Prescripción de medicamentos/normas; Centros comunitarios de salud; Estudios longitudinales; Viet Nam (*fuente: BIREME*).

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Voir page 319 le résumé en français. En la página 319 figura un resumen en español.

Introduction

Arguably the greatest threat to the availability of affordable and appropriate medicine for people of low income is the rise of bacterial resistance to inexpensive generic antibiotics. The importance of finding ways to improve the use of antibiotics is a pressing issue, and has been highlighted (*1–3*).

Many species of bacteria have developed resistance in developing countries where antibiotics are often freely available without prescription (*4–10*). Widespread overuse and insufficient dose of antibiotics has been described in African, South American and Asian countries (*11–15*). Such misuse can create a suitable environment for the spread of resistance (*10, 16–21*). The evidence that subtherapeutic doses are an important factor comes from several strands of work: veterinary (*22*) and in vitro studies (*23, 24*). The only clinical evidence comes from a trial of schoolchildren in France, where presence of penicillin-resistant *Streptococcus pneumoniae* in the throat was positively associated with children who had received subtherapeutic dosages (*25*).

Health services in Viet Nam

Administration in Viet Nam is decentralized from nation to province, district, and commune, with a health service and civil administration at each level. Technical supervision of the province, district, and commune health services are carried out by the Ministry of Health, the Provincial Health Office, and the District Health Offices, respectively, but for all other matters they are governed by the Provincial

[1] The author is currently registered for a Ph. D. at the Division of International Health Care Research, Department of Public Health Sciences, Karolinska Institute, SE-171 76 Stockholm, Sweden, and is Global Program Coordinator, Rational Pharmaceutical Management Plus Management Sciences for Health, Suite 710, 1515 Wilson Boulevard, Arlington, VA 22209, USA (email: ChalkerJ@compuserve.com). The study was formulated and implemented while the author was working as Project Manager with Save the Children Fund (United Kingdom) in Viet Nam.

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People's Committee, District Commune Committee and Commune People's Committee.

Hai Phong Province contains 12 districts that have a total of 217 communes. Each commune has an average population of 7300. Every commune has a commune health station (CHS), which is the hub of primary health care, with a staff of about six health workers. There are secondary and tertiary hospitals at district and provincial levels respectively. Since 1989, private pharmacies and practices have been allowed, and investment in public services has decreased. From 1989 up to 1994, salaries of public health workers declined, use of public health services fell, and many public health workers started working privately as well. Over the same period, many more drugs became available, increasing the irrationality of their use.

A retrospective study in September 1994, of a random sample of 20 CHSs throughout Hai Phong Province, Viet Nam, showed that antibiotics were prescribed in 69% of the 600 patient encounters examined (Table 1). The more serious finding was that 71% of the antibiotics were given in an inadequate dose (i.e. the drugs were either given for less than five days or fewer times per day than prescribed). Subsequent surveys in different districts showed the same pattern (Table 1).

The study presented here aimed to improve the use of antibiotics prescribed at the CHS level and in so doing find out whether dosage measurement is an easy and reliable indicator of antibiotic use.

Methods

Setting

The research took place in Hai Phong Province from June 1994 to March 1996. For the intervention, all commune health workers were enlisted district by district over 18 months. Thus eventually all 217 CHSs in the 12 districts, serving 1.6 million people, were included. The CHS was the unit of study.

Decisions on methodology were taken jointly between counterparts in the Ministry of Health, the Provincial Health Service, and Save the Children Fund (United Kingdom), with approval from the various People's Committees involved. The Provincial People's Committee took an active role throughout, with the Provincial Health Office mainly responsible for organizing the study. District health officers joined in voluntarily, supplying their own staff for monthly supervision of the CHSs, in an effort to upgrade the quality of care at CHSs. The Hai Phong School for Health Workers played an active role in retraining of commune health workers, as did specialists from the Ministry of Health.

The study had ethical clearance from, and was conducted in collaboration with, the Ministry of Health of Viet Nam.

Study design

A longitudinal time series was used. The baseline results from each new district acted as a rolling control to the districts already covered. The methods were the same in each of the 12 districts (Box 1). The first district survey, the provincial survey, and subsequent four district baseline surveys took place in the rural districts of Hai Phong, comprising low-lying farming and fishing communities in the red river delta, with rice as the predominant crop.

Baseline surveys

For the six baseline surveys the last 30 treatment episodes in the outpatient book of each of the CHSs in the particular district were examined. The diagnoses and the treatments were recorded, and each patient encounter was classified according to whether an antibiotic had been given and, if so, if it had been given at the correct dose. The correct dose was defined as prescribed for at least five days and prescribed at the correct number of times a day for that antibiotic. The strength of the individual dose was not classified. The correct number of times per day was defined for common antibiotics as: four times per day for ampicillin, benzyl penicillin, chloramphenicol, and tetracycline; three for amoxicillin and gentamicin; two for cotrimoxazole; and one for procaine penicillin.

In addition, the last 30 diagnoses in the outpatient books were also recorded to help determine which were the most common 10 conditions in order to develop standard treatment guidelines.

Regular supervision

Each CHS was monitored monthly by district supervisors. As the survey was started at different

Box 1. **Study design in each of the 12 districts of Hai Phong**

1. **Select a district**
2. **Baseline survey** (*to determine most common diagnoses and prescribing indicators*)
3. **Meeting with district leaders** (*to agree roles and responsibilities*)
4. **Workshops** for:
   - clinical staff from all CHSs[a] (*to agree STGs[b], EDL[c] and antibiotic doses (workshop 3 or 4 days)*);
   - CHS accountant and Commune People's Committee accountants from all communes (*to agree account system (workshop 1 or 2 days)*);
   - district supervision team (*to agree supervision method (workshop 1 day)*)
5. **Ceremony and donation of drug money** (*to pledge commitment to responsibilities*)
   Start of IEC[d] campaign (*lasted till the end of the study*)
6. **Retraining** (*on STGs, including diagnoses, treatment, and antibiotic doses (1 week)*)
7. **Supervision** (*to check if STGs and antibiotic dose were followed*)
8. **Equipment donation**
   - 1st equipment donation (*after 3 months*)
   - 2nd equipment donation (*3 months later*)
   - 3rd equipment donation (*3 months later*)

[a] CHSs = Commune health stations.
[b] STGs = Standard treatment guidelines.
[c] EDL = Essential drugs list.
[d] IEC = Information, education, and communication.

times in each district, the time for the collection of supervision data from baseline to evaluation varied from 6 to 24 months. The supervisor also collected the details of the treatment recorded for the last 30 patients in the outpatient book and the number of patients seen that month. These treatments were later reclassified according to whether an antibiotic had been prescribed and, if so, whether it had been prescribed at the correct dose.

In addition to the monthly supervision undertaken during the study, supervisors also collected data in September 1997, a year after the study had finished.

External evaluation

As a reliability test, two formal evaluations were performed by external doctors from Hai Phong Medical School who were otherwise not involved in the study. One of these evaluations took place three months before the end of the 18-month period and was conducted on a random selection of 40 CHSs from the eight districts selected early. The second was held six months after the end of the study in a different random selection of 40 CHSs from the same districts. The same information was collected at the baseline survey, and at each supervision and evaluation. The evaluation results were compared with the supervisors' results from the same period of data collection.

Both during supervision and in the evaluations, it was clear to the commune health workers what evidence was being gathered and why. The supervisors discussed the results with them. The health workers did not know, however, when the supervisors would come or that there would be external evaluations. Because the last 30 patients were looked at retrospectively, the health workers did not know which patients' records would be checked.

Intervention: conditional equipment donation

For the intervention, the importance of correct antibiotic use and adequate dose was emphasised throughout. It was also crucial to use local data and encourage the participation of peripheral health workers in decision-making. Health workers assisted in devising standard treatment guidelines and a short essential drugs list (of around 30 drugs), and they received retraining. In all district baseline surveys, acute respiratory infections constituted around half of all diagnoses, and the national guidelines for such infections were adopted using WHO/UNICEF algorithms. For the other nine most common conditions in each district, simple standard treatment guidelines were adopted. This was followed by the provision of some basic medical equipment conditional on improvements in prescribing practices and adequate supervision.

A ceremony after the workshops and before the supervision began provided an opportunity for provincial, district, and commune civic and health leaders to sign publicly a contract, pledging their commitment to carry out their responsibilities. All emphasized the important messages of rational drug use. These ceremonies were televised as the start of the information, education, and communication (IEC) campaign. Money for drugs was donated to each CHS, to the value of about US$ 350 per CHS. The IEC campaign included posters, leaflets, and radio and TV programmes, made inexpensively locally.

The donation of equipment to each CHS consisted of items chosen by each CHS chief depending on individual needs, from an agreed, priced, standard list to a value of US$ 250 each time. This list was agreed between the collaborators involved in the provision of basic equipment for CHSs. Each donation was conditional on the districts providing adequate supervision and that the supervision showed that the CHS had improved its antibiotic prescribing practices, following the agreed standard treatment guidelines, and had improved their bookkeeping. Three donations were made at three-monthly intervals.

Outcome variables

The same outcome variables were looked at in the baseline surveys, the monthly supervision, and the two evaluations. This gave a record of monthly progress from baseline up to 18 months after the intervention for each of the 217 CHSs for firstly, the percentage of patients receiving an antibiotic as part of their prescription while attending a CHS, and secondly, the percentage of antibiotics given in adequate dose (defined as described above).

It should be noted that metronidazole is not classified as an antibiotic as it is primarily used against parasites. However the doctors in the second evaluation team mistakenly classified it as an antibiotic.

Results

Baseline surveys

Comparison of the results of the six baseline surveys showed no reduction in the percentage of patients receiving antibiotics or an increase of adequate antibiotic dosage during the time the CHSs were recruited to the study (Table 1). Thus the interventions in one district did not influence the other districts.

The baseline survey for Hai Phong showed that of 599 diagnoses recorded, 51% were acute respiratory conditions; 5% wounds; 4% diarrhoea or dysentery; 4% abdominal pain; 4% conjunctivitis; 4% neuralgia; about 3% urinary tract infections; 2.5% arthritis; 2% abscesses; and 2% earache (Table 2). It should be remembered that these diagnoses were clinical only, without diagnostic tests, and were made mostly by paramedics. The other district baseline surveys showed similar findings.

Supervision

The supervision results for CHSs of each district were combined according to when they joined the

Table 1. **Results of baseline surveys**

	Date of survey (location)						
	Mar. 1994 (An Hai)	Sept. 1994 (all Hai Phong)	Sept. 1994 (Vinh Bao)	Feb. 1995 (Kien An)	Aug. 1995 (Thuy Nguyen)	Dec. 1995 (Hong Bang)	Aggregate of all 6 surveys
No. of CHSs[a] visited	23	20	30	9	36	11	129
No. of records examined	690	600	900	270	1080	330	3870
Patients who received antibiotics %	55	69	77	60	68	63	67
Patients who received adequate antibiotic doses %	47	29	34	16	25	24	31

[a] CHSs = Commune health stations.

project. Therefore "month 1" shows the first month's activity in that district, regardless of in which calendar month this occurred. As can be seen from Table 3, information was gathered from over 200 CHSs and 6000 patients monthly in months 1–5. These numbers decreased to 53 CHSs and 1590 patients by month 20, as only these initial districts completed 20 months of supervision results.

According to supervision results, in the first six months of the project in each district the percentage of patients who received an antibiotic decreased from 69% to 43%, and of those given an antibiotic, the percentage who received an adequate dose increased from 30% to 98% (Table 4). If the figures are disaggregated for each district, the same pattern is seen.

Evaluation

The two evaluations independently calculated the same indicators as the supervisors, from a randomly chosen number of CHSs. The first evaluation was performed three months before, and the second six months after, the final equipment donation, which was the end of the intervention. The changes in prescribing practices from baseline to the first evaluation were significant (Table 4).

Table 2. **Baseline survey results of the 10 most common diagnoses (*n* = 599) from commune health stations (CHSs) in Hai Phong[a]**

Diagnosis	No. (%)	
Acute respiratory conditions	303	(50.6)
Wounds	30	(5.0)
Diarrhoea and dysentery	24	(4.0)
Abdominal pain	24	(4.0)
Conjunctivitis	24	(4.0)
Neuralgia	22	(3.7)
Urinary tract infection	20	(3.3)
Arthritis	15	(2.5)
Abscess	11	(1.8)
Earache	10	(1.7)
Total[b]	**483**	**(80.6)**

[a] Results from 20 CHSs: 30 diagnoses per CHS (one diagnosis was missing).

[b] The remaining 116 records comprised a large number of other diagnoses, none of which came to more than 1% of the total.

A comparison of evaluation and supervision findings for the same months can be seen in Table 4. In December 1995 the evaluators and supervisors found that 46% and 45% of patients, respectively, were prescribed antibiotics, whereas in September 1996 they found 48% and 43%, respectively. Later, in September 1997, results from the supervisors only showed that the figure had decreased further to 40%. None of these values were significantly different from each other at the 5% level.

In December 1995 the evaluators and supervisors found that 91% and 98% of patients, respectively, were prescribed an adequate dose, whereas in September 1996 they found 93% and 98%, respectively. The supervisors found a frequency of 98% in September 1997. These results could suggest that the supervisors significantly exaggerated the number of adequate doses.

Discussion

Outcome variable: proportion of patients receiving an adequate antibiotic dose

The main findings of this intervention are that the percentage of antibiotics prescribed with an adequate dose, as defined by the project, increased from less than 30% to over 90%, and that the percentage of patient encounters where antibiotics were prescribed decreased from 68% to between 41% and 45%. These changes were maintained for 17 months after the intervention stopped. Such sustainability is unusual. The use of antibiotic dose as an indicator proved usable, reproducible, and effective. The importance of antibiotic dose has been largely ignored, and has so far not been addressed by the WHO initiative on monitoring drug use (*26*).

The scale of the project, which covered 217 CHSs in Hai Phong Province, with more than 71 000 patients seen monthly, adds validity to the results. This extensive coverage was possible because it was a health systems research project, performed in collaboration with policy-makers who had their own priority of ensuring equity throughout the province. This work on rational drug use in one province provided information and motivation, leading to the

formation of a new national drug policy in Viet Nam, which was adopted less than a year after the project was completed.

To the best of my knowledge, this is the first time that dose has been used as an outcome indicator for improving rational drug use. In the context of CHSs in Hai Phong, the health authorities and Save the Children Fund (United Kingdom) made simple rules as to the duration and number of times per day an antibiotic should be given, appropriate for the type of drug and condition. In other contexts, the five days' minimum treatment chosen in this study may not be appropriate. The more patient-related factor of amount per dose was not assessed, as in a retrospective study issues such as severity are impossible to measure accurately. It would be more complete to relate the choice of antibiotics and the doses to the particular diagnoses, but this was not done in this study.

Outcome variable: proportion of patients receiving antibiotics

The other outcome variable used in this study was the percentage of patients who received an antibiotic: this can be easily measured and is recommended by WHO (*26*). An analysis of results from 12 countries showed that this indicator varied between 25% and 66% (*27*). The baseline levels reported here of between 77% and 55% are therefore high: this may be one of the reasons that facilitated the subsequent reduction. The problem with this indicator is that there is no normative value. The assumption is the lower the better, but to what level depends on local morbidity patterns and health-seeking behaviour. An attempt to decide locally on a normative value by looking at reported morbidity and attendance rates and by using standard treatment guidelines was made in Nepal (*11*). However, it was found that drug availability altered the diagnoses made by the health workers.

Antibiotic dose as defined in the study is more easily compared with a correct value than the percentage of patients receiving antibiotics which is more subject to judgement and local epidemiology. In Yemen, a normative value for the latter indicator was calculated to be 23% (*27*). On this basis, the percentage of patients receiving antibiotics in Hai Phong (45%) is still high.

Supervisors vs evaluators

Both evaluations found significantly fewer correct doses than the supervisors had. A possible explanation is that when a judgement was being made, the supervisors were less willing to find fault with the health workers than were the evaluators. However, the results from the evaluators still show a considerable improvement from the baseline of 30%.

For the patient encounters that ended with an antibiotic prescription, there was more agreement between the supervisors and the evaluators in the first evaluation (46% and 45%, respectively) than in the second (48% and 43%, respectively). During the second evaluation, the evaluators counted metronidazole as an antibiotic whereas in all the other measures it was classified as an antiparasitic drug. This accounts for the 5% difference.

Table 3. **Supervision results**

Month	Patients who received antibiotics %	Patients who received adequate antibiotic dose %	No. of participating CHSs[a]	No. of records analysed
0 (all baselines aggregated)	67	31	129	3870
1	58.2	89.2	217	6510
2	46.8	83.4	212	6360
3	47.2	86.3	212	6360
4	46.4	96.3	212	6360
5	46.3	97.3	212	6360
6	43.5	98.7	189	5670
7	41.0	98.4	189	5670
8	41.6	98.5	189	5670
9	42.4	96.9	212	6360
10	42.5	96.9	212	6360
11	41.2	96.8	190	5700
12	42.2	97.4	167	5010
13	42.8	97.0	131	3930
14	43.0	98.1	131	3930
15	42.1	98.3	102	3060
16	43.5	98.6	102	3060
17	44.4	98.6	102	3060
18	44.9	99.5	85	2550
19	45.2	99.1	53	1590
20	45.3	98.4	53	1590

[a] CHSs = Commune health stations.

The broader question is whether the motivation to secure equipment was strong enough for the CHS workers, the supervisors, or the evaluators to falsify the results. The evaluators did not know where they were going to be sent until the day of departure and had no vested interest in showing good outcomes. The CHS staff did not know if or when they were going to be visited. The question of whether the CHS workers falsified their records is much more difficult to assess. The evaluators tried to look for this during the evaluations, but to assess this definitively would have taken a lot more resources. Since the supervisors and evaluators, although looking at different records (i.e. the last 30 records at the time of the visit), showed similar results, and since the CHS staff did not know when either were due to arrive, the CHS staff would have to have falsified all their records, which seems unlikely. What was definitively shown was that the health workers knew from the fourth month after the intervention the correct doses, which they did not before the study.

Value of training

In Indonesia, Santoso, Suryawaati, & Prawaitasari (*28*) provided both small-group training and seminars

Table 4. **Comparison of results from baseline surveys, regular supervision, and evaluation**

	Sept. 1994	Dec. 1995[a]		Sept. 1996[b]		Sept. 1997
	Baseline	Evaluation	Supervision	Evaluation	Supervision	Final supervision
No. of CHSs[c] visited	20	40	135	40	217	149
No. of records examined	600	1200	4050	1200	6510	4470
No. of doses examined	414	552	1822	576	2799	1788
Patients who received antibiotics %	69	46 (< 0.01)[d]	45 (> 0.05)	48	43 (> 0.05)	40
Patients who received adequate dose %	30	91 (< 0.001)	98 (< 0.01)	93	98 (< 0.01)	98

[a] 3 months before end of intervention.

[b] 6 months after end of intervention.

[c] CHSs = Commune health stations.

[d] Figures in parentheses under the percentages are *P*-values. They relate to the likelihood of random change compared with the percentage in the previous column. χ^2 tests were carried out to analyse differences between proportions.

for prescribers of antibiotics in order to improve the management of childhood diarrhoea. Both methods resulted in improvements over the three months subsequent to the training: the prescription rates of those who had undergone training in small groups decreased from 77% to 60%; and for those who had attended seminars, the rate fell from 82% to 72%. The improvement was not measured over a longer period, however, and without further interventions one would expect the improvement to drop off. An earlier project in Sri Lanka showed a baseline value of only 33% of patients receiving antibiotics. Here there was no difference between giving printed material and holding a seminar as well, and neither showed a significant change (*28*). In Ghana, an educational intervention on treating malaria carried out by Ofori-Adjei & Arhinful (*29*) showed that the level of knowledge deteriorated a year after training had taken place.

A more complex and multifaceted intervention by Perez-Cuevas et al. in Mexico used a variety of methods: participatory approaches, education, and peer review (*30*). This intervention was highly successful: the proportion of patients prescribed antibiotics for rhinopharyngitis by doctors decreased from 69% to 49% for three months after the multifaceted intervention. Prescribing practices changed positively in 40% of cases for the first three months after training, but dropped by a third after 18 months. Therefore the results reported here show an unusually large size of change and sustainability. The baseline data showing such high levels of antibiotic use with such poor dosage may have contributed to this, as may have the nine-month incentive of equipment donation. Possible types of interventions to improve prescribing practices have been grouped as giving information, persuasion, incentives, and coercion (*31*). What is generally not addressed is whether long-term input is needed to bring about a sustainable change in habit. In the study reported here, aspects of all of the above categories were used. Feedback and information was gathered, both of baseline data in the workshops (as with Perez-Cuevas (*30*)) and through monthly supervision. Having respected civil and health leaders publicly pledging themselves to the importance of rational prescribing, together with the use of television and radio programmes and posters, was a form of persuasion. The equipment promised conditionally over nine months acted as a powerful and continuous incentive. Coercion was applied, as all health workers knew which CHSs had poor prescribing results and were alerted each time a district failed to supervise properly.

Value of supervision

The importance of supervision was shown because although most of the recorded improvements took place in the first month after the workshops, over the next two or three months they continued to improve, reaching a plateau, which was then maintained. The improvement in the months after the workshops can be credited to the supervisors' efforts. Support was also provided at this time by the project staff, to help the supervisors' to understand better the study process. The supervision system eventually functioned well in all districts although equipment was twice withheld from entire districts until it did.

As the project was started district by district over an 18-month period, the baseline research in new districts acted as a rolling control to the results. Each new district showed no baseline improvement compared with previous district baselines (Table 1), thus showing that the impact could be attributed to the project activities and not some other confounding factor at the national or provincial level.

Value for money

The total cost of the intervention was US$ 325 000 for the 217 CHSs, or about US$ 1500 per CHS (of which US$ 1100 was for equipment and drugs). Before the project, all CHSs needed the equipment and money for drugs to function. As for many other provinces, they

would have had this investment either from a donor or the government. It was the linking of this necessary investment to quality of care in a conditional manner that was innovative, affordable, and effective. Investing in infrastructure without embarking on effective ways of improving the quality of care is an often-taken and wasted opportunity. The methodology presented here can be widely implemented to increase the effectiveness of programmes aimed at improving health infrastructure. ■

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Main facilitators at the workshops were Dr Duc (Viet Nam Ministry of Health's Department of Training) for the standard treatment guidelines workshops, Dr Tiep (retired paediatrician) for retraining, Mr Lam Trong Hien (Head, Financing and Accounting Department, Hai Phong) for the bookkeeping workshops and most of the coordinating work in Hai Phong.

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Résumé

Amélioration de la prescription d'antibiotiques dans la province de Hai Phong (Viet Nam) : l'indicateur « dose d'antibiotique »

Objectif Améliorer l'utilisation et le dosage des antibiotiques prescrits dans les postes communaux de santé au Viet Nam, et rechercher si la dose d'antibiotique peut facilement et avec une bonne fiabilité servir d'indicateur de l'utilisation de ces médicaments.

Méthodes Tous les agents de santé des 217 postes communaux de santé de la province de Hai Phong au Viet Nam ont été recrutés dans une étude qui s'est étendue sur 18 mois entre 1994 et 1996. Il s'agissait d'une étude longitudinale, dans laquelle la valeur de référence de chaque nouveau district servait de témoin pour les districts précédents. Tous les postes de santé étaient suivis une fois par mois par un superviseur de district. Les résultats de deux évaluations officielles réalisées par des médecins extérieurs à l'étude ont été comparés à ceux obtenus par les superviseurs de district. Des éléments d'équipement médical de base ont été fournis à trois reprises sur une période de 9 mois, cette fourniture étant conditionnée par l'amélioration des pratiques de prescription et la qualité de leur supervision.

Résultats Les données obtenues par les superviseurs de district ont montré que le pourcentage de contacts avec les patients ayant débouché sur une prescription d'antibiotique est tombé de 65 % à environ 45 %. Lorsque des antibiotiques étaient donnés, le pourcentage de patients ayant reçu une dose correcte est passé de 30 % à 98 %. Ces améliorations étaient toujours observables 17 mois après la fin de l'intervention.

Conclusion Une telle initiative exige la collaboration active du personnel de santé et des responsables locaux à tous les niveaux. Le don d'équipement médical sous condition s'est montré efficace. Un indicateur simple mesurant l'adéquation de la dose peut être un moyen efficace d'améliorer de façon durable l'utilisation des antibiotiques.

Resumen

Mejora de la prescripción de antibióticos en la provincia de Hai Phong (Viet Nam) mediante un indicador de la posología

Objetivo Mejorar el uso y la posología de los antibióticos prescritos en puestos de salud comunales de Viet Nam, y determinar si es posible emplear fácil y fiablemente la dosificación del antibiótico a modo de indicador del uso del medicamento.

Métodos Se reclutó a todos los agentes de salud de 217 puestos de salud comunales de la provincia de Hai Phong (Viet Nam) a lo largo de un periodo de estudio de 18 meses durante 1994-1996. El estudio se diseñó como una serie temporal longitudinal, empleando cada nuevo

valor basal de distrito como testigo continuo. Supervisores de distrito vigilaban todos los meses la situación de cada puesto de salud. Los resultados de los supervisores se compararon con los de dos evaluaciones formales realizadas por médicos ajenos al estudio. En tres ocasiones a lo largo de nueve meses se proporcionó equipo médico básico, condicionado a la observación de mejoras en las prácticas de prescripción y a una supervisión adecuada de esas prácticas.

Resultados Los datos de los supervisores mostraron una disminución del porcentaje de encuentros en los que se prescribía antibióticos al paciente, de más del 65% a un 45% aproximadamente. En los casos en que se administraron antibióticos, el porcentaje de pacientes que recibieron una dosis adecuada aumentó de menos del 30% al 98%. Esos cambios se mantuvieron estables por espacio de 17 meses después de terminada la intervención.

Conclusiones Estas iniciativas requieren la colaboración activa del personal de salud y de los líderes municipales a todos los niveles. La donación de equipo condicionada resultó eficaz. Un indicador sencillo que refleje el grado de idoneidad de las dosis de antibiótico puede ser un instrumento valioso para mejorar el uso de esos medicamentos de manera sostenible.

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