

SURVEY OF PRIMARY CARE PHYSICIAN'S ATTITUDES ON
COMMUNICABLE DISEASE SURVEILLANCE IN IASI DISTRICT

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Abstract

A survey based on a confidential questionnaire addressed to one doctor from every primary health care centre from Iasi district. The GPs' attitudes in surveillance of certain communicable diseases and their opinions on the existing system were investigated. The results were compared with an objective evaluation of the same diseases based on eight criteria. In this study, GPs were more interested in surveillance of severe diseases, with or without high incidence (i.e. tuberculosis, hepatitis, HIV-infection or sexually transmitted diseases) and less interested in diseases which are not specific to this study area (West Nile infection) or those having rare occurrence or being eliminated as a result of the vaccination (pertussis and respectively diphtheria). The same diseases were found on the top of the list resulted from the analysis per criteria. Some demographic characteristics (i.e. location of the practice, age of the doctor or proportion of the children in the assisted population) influenced the GPs' choices they made in this exercise on epidemiological surveillance of communicable diseases.

Key words: communicable diseases, survey, Iasi district

Rezumat

Lucrarea a avut la bază o anchetă prin chestionar confidențial adresat câte unui medic din fiecare centru de îngrijiri medicale primare din județul Iași. Au fost investigate atitudinea medicilor de familie privind supravegherea epidemiologică a anumitor boli transmisibile și opiniile acestora privind sistemul actual de supraveghere. Rezultatele au fost comparate cu cele obținute printr-o evaluare a bolilor pe baza a opt criterii obiective. Medicii de familie au arătat un interes mai mare pentru supravegherea bolilor transmisibile severe cu sau fără incidență crescută (tuberculoza, hepatitele, infecția HIV sau bolile cu transmitere sexuală) și un interes redus pentru bolile care nu sunt specifice acestei zone (de exemplu infecția West Nile) sau bolile care au incidență redusă sau au fost eliminate ca rezultat al vaccinării (pertusis și respectiv difteria). Bolile pentru care a fost exprimat un interes crescut s-au aflat și la începutul listei de evaluare obiectivă per criteria. Anumite caracteristici demografice (i.e. locația cabinetului, vârsta medicului sau proporția de copii în populația asistată) au influențat alegerile pe care medicii de familie le-au făcut în acest exercițiu de supraveghere epidemiologică a bolilor transmisibile.

Cuvinte cheie: boli transmisibile, studiu, municipiul Iași

INTRODUCTION

Acceptability - the extent to which persons involved in a surveillance system are accepted it being convinced by the system and its utility, or the willingness to contribute to the data collection – is an well-known quality of the surveillance systems. Acceptability is influenced by factors such as importance of the event from public health viewpoint, capacity of change based upon suggestions, easiness and costs of data reporting, and on its turn influences data quality – an essential prerequisite of any surveillance system(1),(2),(3). Through the decision of the European Parliament and Committee (no 2.119/98), in Romania the surveillance of the communicable diseases is going to be reorganized, in order to facilitate participation to the European Community network for surveillance and control of the communicable diseases. At present, the Romanian national surveillance system involves Ministry of Health and Family, Institutes of Public Health, Cantacuzino Institute, district public health authorities and the primary and specialist care units (public or private - i.e. nongovernmental organizations authorized for health services). Within this structure, the role of the general practitioners (GPs) consist in notification for all mandatory diseases, involvement in public health strategies for controlling and

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preventing the spread of diseases and participation in health promotion and education activities (4),(5). Add to this, a national GP sentinel network (MEDINET) is running, represented by 100 computerized dispensaries all around the country, connected to a central server through internet (6). In this context, a survey on GPs' attitudes and opinions on surveillance of communicable diseases is of an obvious importance especially since that is - to our knowledge – the first of this kind undertaken in Romania. The aim of this study was to assess in Iasi district the level of GPs' interest in surveillance of 15 communicable diseases, including their opinions on the existing surveillance system, and to compare the results with those obtained through an objective evaluation for the same diseases based on eight criteria.

MATERIAL AND METHODS

The study was conducted during 1 March – 31 May 2004, in Iasi district. The district, with a population of 819044 inhabitants in 2003, comprised 2.3% of the country total surface (7).

A confidential questionnaire was sent to one doctor from every primary health care centre in the study area. In the questionnaire they were asked to record:

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- their own personal data: age, sex, date of registration, supplementary training
- the characteristics of the practice and community: location, number of doctors in the health centre, distance to the nearest hospital, size and structure of the listed population, office endowment and computer utilization
- their attitudes to the surveillance of each of the 15 communicable diseases (i.e. acute diarrhoea, diphtheria, food poisoning, HIV serology, influenza, measles, meningitis, pertussis, poliomyelitis, rubella, sexually transmitted diseases, STDs, tetanus, tuberculosis, viral hepatitis, West Nile)
- their interest in surveillance of other communicable diseases
- their opinion on the existing system of surveillance of communicable diseases.

The attitudes on the surveillance have been estimated by using 10 identical squares (cells) disposed on series for each disease and ranging from 1 representing 'not at all important' to 10 representing 'very important' (i.e. importance of the diseases for surveillance). The grade out of 10 was represented by the corresponding number of the marked square by the GP.

The questionnaire was sent to 135 primary care doctors (57 in urban areas and 78 in rural ones), randomly selected in each centre from a list with 372 persons in all.

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Two months after the questionnaire administration the response rate was around 47% (59 had replied out of 123, 12 addresses either changed or not traced) and after one reminder the final response rate reach 65.6% (81/123).

RESULTS

Table 1 outlines the main characteristics of the respondents compared with the population from which the group was drawn. The age of the 81 GPs ranged 30 to 54y, doctors working in rural areas having a lower mean age than those from urban areas (41.1 vs. 44.8, $t=2.44$ $p<0.05$). Also a higher number of listed patients (2055 vs. 1880, $t=1.6$ p not significant) and a higher proportion (%) of children within their assisted population (21.2 vs. 16.0, $t=0.67$ p not significant) were registered in rural areas compared with urban ones, the total population accounting for 19.4% of Iasi district inhabitants. The mean distance from the primary care centre to the nearest hospital was of 19.4 km in rural areas (ranged 4 to 65) whereas in urban areas this distance was of 1.3 km (ranged 1 to 5).

Although all the primary care centres were endowed with computers, almost 34% of the GPs in this study were not familiar with the email or Internet (no statistical differences regarding areas or age). Usually, computers were used for the evidence of the cases and activities

Survey Of Primary Care Physician's Attitudes

Table 1. Characteristics of the GPs (n=81) and of the population from which the group was drawn (n=372)

	Sfârșit de secțiune (Continuu)- n=81	n=372
age of the doctors, years mean (95% CI)	43.0 (41.5 – 44.5)	42.3
number of years in practice mean (95% CI)	17.0 (15.6 – 18.4)	-
gender, % females (95% CI)	82.7 (74.3 – 91.1)	88.2
localisation of practice, % urban (95% CI)	51.8 (41.0 – 62.6)	42.2
type of practice, % two or more doctors (95% CI)	69.2 (58.7 – 79.7)	54.8
mean number of persons listed (95% CI)	1964 (1853 – 2075)	2202

- data not available

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7.5/10

and for data reporting to the Social Health Insurance, District Public Health Authority and Ministry of Health and Family. 86% of the physicians had a complementary training (overall 15 domains were reported); the most frequent were internal medicine (41%), epidemiology (30%), family planning (26%), infectious diseases (12%) and sanitary management(9.6%).

Table 2 indicates the GPs' attitudes to the surveillance of each of 15 communicable diseases (included in the questionnaire) by means of the 10 identical squares. Overall, four out of the 15 diseases obtained an average grade higher than 9/10: tuberculosis, viral hepatitis, HIV serology and STDs. For almost half of the communicable diseases investigated, the average grade was within the interval 8.5/10 ±0.5 points. West Nile infection, pertussis and diphtheria were classified at the bottom of the list with average

grades of 5.9/10, respectively 7.8/10. Rural physicians rate surveillance of most of the diseases and especially poliomyelitis, influenza and food poisoning as more interesting than urban ones. Although not statistically significant, differences up to 0.8 points have been registered for the previously three stated diseases (rural vs. urban).

Younger physicians show a higher interest in the surveillance of all 15 communicable diseases, for five of these the differences in evaluation been statistically significant (i.e. acute diarrhoea, measles p<0.05; diphtheria, pertussis and rubella p<0.01). Moreover, physicians caring for a higher proportion of younger patients (over 18% of the listed population children 0-14y) are more interested in the surveillance of most of the studied diseases. Statistically significant differences have been

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Table 2. GPs' interest in the surveillance of the 15 communicable diseases

Diseases	Total n=81	Rural Urban		Age of the GP < 43y ≥43y		Children ^a ≥ 18% <18%	
		n=39	n=42	n=36	n=45	n=44	n=37
Tuberculosis	9.9	9.9	9.9	9.9	9.8	9.9	9.9
Viral hepatitis	9.4	9.2	9.5	9.4	9.3	9.7	8.9*
HIV infection	9.3	9.1	9.6	9.5	9.2	9.4	9.3
STDs ^b	9.1	9.1	9.1	9.4	8.8	9.4	8.8
Tetanos	8.9	9.0	8.7	9.2	8.7	9.0	8.8
Influenza	8.7	9.1	8.4	8.8	8.6	9.0	8.3
Food poisoning	8.8	9.1	8.5	9.0	8.6	9.1	8.4
Meningitis	8.5	8.4	8.6	9.0	8.1	8.9	8.1
Acute diarrhoea	8.5	8.6	8.2	8.9	8.0*	8.8	8.0
Rubella	8.5	8.4	8.5	9.3	7.8**	8.6	8.3
Measles	8.3	8.5	8.1	8.8	7.8*	8.7	7.8*
Poliomyelitis	8.3	8.7	7.9	8.9	7.8	8.0	8.7
Diphtheria	7.8	7.8	7.8	8.7	7.0**	7.9	7.6
Pertussis	7.5	7.7	7.4	8.6	6.7**	7.4	7.7
West Nile	5.9	5.5	6.3	5.8	5.1	5.6	6.3

^aproportion of children in the listed population; ^bsexually transmitted diseases

* p < 0.05, **p < 0.01 (t Student test)

obtained for viral hepatitis and measles (p < 0.05).

Almost 40% of the questioned GPs would like to add other communicable diseases to those included in the questionnaire. A number of 14 diseases have been listed overall, the most frequently: scarlet fever (19%), toxoplasmosis (12%), intestinal parasitosis (10%) and streptococcal infection (10%).

The opinion of the GPs on the system of surveillance of is shown in table 3. Although almost one-third of the GPs are satisfied the system or considered this as an accurate one, for most of the surveyed GPs there are reasons of discontent with the surveillance. No statistically significant differences have been

found between urban/rural areas, age group under/over 43y or structure of the listed population under/over 18% children.

DISCUSSION

The participation rate was of 65.6%, not high, but taking into account that postal surveys are not common within this target population, it can be assumed as an appropriate one. Furthermore, the respondents were representative for the population from which they were drawn, except for belonging to a slightly higher proportion of larger practices (i.e. with two or more doctors) and having smaller size of listed populations.

In this study, GPs were more interested in surveillance of severe

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Survey Of Primary Care Physician's Attitudes

Table 3. GPs' opinion on the existing system of surveillance of communicable diseases

	Sf: %	tjune (Continuu) (n=81)
Satisfied with the system		12.3
An accurate system	Continuu)	9.9
Lack of collaboration with specialists		9.0
The previous system was better ^q		
A defective system for tuberculosis/STDs		
Uninformed population/ low addressability		
Paperwork overload ^p		
Non-answer		
	22.2	
	8.6	
	18.5	
	14.8	
	14.8	

total procentaj (%) over 100 due to multiple answers (to this open ended question)

^q due to reasons such as : lack of hygiene assistants, impossibility to follow-up or constrain patients' treatment, high migration of listed patients; 'previous system' refers to the period before 1998 when PHC list system and the Social Health Insurance have been introduced in Romania

^p too much paperwork with the overall data collection and reporting (i.e. morbidity, utilisation of services)

diseases, with or without high incidence (i.e. tuberculosis, hepatitis, HIV-infection or STDs) and less interested in diseases which are not specific to this study area (West Nile infection) or those having rare occurrence or being eliminated as a result of the vaccination (pertussis and respectively diphtheria). The classifying pattern that GPs made in this survey was consistent with other studies regarding French GPs' attitudes toward surveillance of communicable diseases (8),(9). An other major finding of the present survey is that the location of the practice, the age of the doctor and proportion of the children in the assisted population seem to influence

the GPs' evaluation of the communicable diseases. The perception of the risk for their registered patients has been proved as an important factor in the GPs' attitude regarding surveillance of diseases (10). In Romanian rural areas compared to urban ones, the addressability to primary health care level is lower (mainly due to the uninformed population) and the geographical accessibility to the higher levels of health care is limited (in this survey for example 19.4 km rural vs.1.3 km urban to the nearest hospital), both factors being associated with lower utilization of health care services. In this context the same diseases might have been of greater concern for GPs taking care

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for rural population than for urban ones.

According to this survey younger doctors (under 43y) or those having a higher proportion of children 0-14y within their assisted population (over 18%) were more likely to have their practice in rural areas. Add to this, the physicians' experience as well as the fact that some of these diseases are either specific to childhood e.g. measles, rubella or have a greater impact on child health status compared with the adult one, e.g. viral hepatitis, food poisoning, might have influenced GPs' choices they made.

The hierarchical classification of these diseases made by the questioned GPs was found to be similar – to some extent – not only with that obtained from the analysis per criteria in Iasi district, but also with the overall results of a national survey. In November 2003, the Ministry of Health and Family conducted the first national (email) survey on communicable diseases prioritization (11). The participants were 520 physicians involved in all levels of communicable diseases surveillance and it was based on eight criteria, each of them scored 1 to 5. These were: event dimension, severity, possible outbreaks, epidemiological/clinical changes, capacity of intervention at the population level, socioeconomic impact, public interest and international programmes and

regulations. At the country level, for the first 12 out of 57 listed diseases the following order was obtained: tuberculosis, HIV serology and influenza (within 35-25 mean score 95% CI, out of a maximum of 40); hepatitis B, hepatitis C, syphilis and poliomyelitis (within 30-20 mean score 95%CI); SARS, hepatitis A, cholera, respiratory viruses, diarrhoea infections (within 25-20 mean score 95% CI). At the Iasi district level the leading diseases were tuberculosis, influenza and HIV infection, diseases that are also on the top of GPs' list for surveillance. The overall score (per criteria) for each of the studied diseases were presented in table 4. National surveys have shown that GPs are not satisfied with the health care reform, especially list system, for reasons as bureaucracy, poor collaboration with higher levels of health care (despite a very easy access of patients to specialist), under finance of primary health care (7-8 % of Health Insurance House budget) or requirement of high financial or organizational skills (12),(13),(14). In this survey the physicians' opinions should encourage improvements to the system as it is today, especially on areas as communication between health care levels, on surveillance for certain diseases – tuberculosis, STDs and on GPs' paper-workload. The

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issues here are related not only with the vast amount of information requested to be collected, but also with the flow of this data from GPs to public health authorities that is not electronically network based. Perhaps this is one reason way over 30% of the survey participants are - at present - not familiar with the Internet/ email, and there is poor communication amongst physicians. Regarding tuberculosis and STDs, major changes are already under way, since one of the objectives of the National Program for Control of Tuberculosis is integration of tuberculosis measures in the primary health care network until the year 2005, whereas for STDs development of a new surveillance system integrated with

priority (15),(16).

In conclusion, the participating GPs show interest for surveillance of complex diseases (public health problems in Romania today), diseases that were found also at the top of the list of prioritization, based on objective criteria. The location of the practice, age of the doctor and proportion of the children in assisted population have influenced the choices they made in this exercise on epidemiological surveillance of communicable diseases.

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-Sfârşit de coloană

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