PERCEPTION OF PROFESSIONALS OF PRIMARY HEALTH CARE ON THE AMBULATORY INFORMATION SYSTEM

PERCEPÇÃO DOS PROFISSIONAIS DA ATENÇÃO PRIMÁRIA À SAÚDE SOBRE O SISTEMA DE INFORMAÇÃO AMBULATORIAL

PERCEPCIÓN DE LOS PROFESIONALES DE ATENCIÓN PRIMARIA DE SALUD EN EL SISTEMA DE INFORMACIÓN PARA PACIENTES EXTERNOS

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ABSTRACT
Objective: To know the perception of health professionals working in Primary Health Care (PHC) on the Ambulatory Information System, in addition to identifying the activities developed in the daily life of APS. **Methods**: Exploratory study with quantitative and qualitative approach. Semi-structured questionnaires were applied to eight health professionals. Qualitative data were treated through content analysis. The quantitative phase compared outpatient activities and outpatient production. **Results:** The mean length of education and work in primary care was 4.5 and 1.9 years, respectively. The answers were grouped into categories: SIA captures information related to outpatient care and the SIA subsidizes the process of planning, regulation, control and evaluation. Observed a gradual reduction in outpatient procedures approved in the system. **Conclusions**: The perception of the professionals leads to the importance of the system for the planning and organization of professionals activities as well as necessity for better nutrition.
Keywords: Primary Health Care; Unified Health System; Information Systems; Health Personnel.

RESUMO
Objetivo: Conhecer a percepção dos profissionais de saúde atuantes na Atenção Primária à Saúde sobre o Sistema de Informação Ambulatorial (SIA), além de identificar as atividades desenvolvidas no cotidiano da Atenção Primária à Saúde. **Métodos**: Estudo exploratório com abordagem quanti-qualitativa. Foram aplicados questionários semiestruturados a oito profissionais de saúde. Os dados qualitativos foram tratados por meio de Análise de Conteúdo. A

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fase quantitativa comparou atividades ambulatoriais realizadas e a produção ambulatorial. **Resultados**: O tempo médio de formação e de atuação foi de 4,5 e 1,9 anos, respectivamente. As respostas foram agrupadas em categorias: o SIA captura informações referentes ao atendimento ambulatorial, e o SIA subsidia o processo de planejamento, regulação, controle e avaliação. Observou-se uma redução gradativa nos procedimentos ambulatoriais aprovados no sistema. **Conclusão**: A percepção dos profissionais aponta a importância do sistema para o planejamento e organização das atividades profissionais, assim como a necessidade de melhoria da alimentação.

Descritores: Atenção Primária à Saúde; Sistema Único de Saúde; Sistemas de Informação; Pessoal de Saúde.

RESUMEN
Objetivo: Conocer la percepción de los profesionales de salud actuantes en la Atención Primaria a la Salud (APS) sobre el SIstema de Información Ambulatorial, además de identificar las actividades desarrolladas en el cotidiano de la APS. **Métodos:** Se realizó un estudio exploratorio con enfoque cuantitativo y cualitativo. Cuestionarios semi-estructurados se han aplicados a ocho profesionales de la salud. Los datos cualitativos fueron analizados mediante el análisis de contenido. La fase cuantitativa comparó actividades ambulatorias realizadas y la producción ambulatoria.**Resultados:** La duración media de la educación y el trabajo en atención primaria fue de 4,5 y 1,9 años, respectivamente. Las respuestas se han agrupadas en categorías: SIA captura la información relacionada con la atención ambulatoria y sobre SIA subsidia el proceso de planificación, regulación, control y evaluación. Se observó una reducción gradual en procedimientos ambulatorios aprobados en el sistema. **Conclusiones:** La percepción de los profesionales apunta para la importancia del sistema, para la planificación y organización de las actividades profesionales, así como la necesidad de una mejor alimentación.

Descriptores: Atención Primaria a la Salud; Sistema único de Salud; Sistemas de información; Personal de Salud.

INTRODUCTION

Informatics and information are basic resources for planning and evaluating actions for promotion, prevention and rehabilitation, capable of subsidizing actions to reduce morbidity and mortality due to certain diseases and diseases, as well as the disclosure of more exposed population groups.[1]

The Health Information System (HIS) is a mechanism for collecting, processing, analyzing and transmitting information necessary to organize and operate health services. Its objective is to diagnose the individual and collective health situations of a population, guiding the actions of professionals and local systems, with a view to becoming more effective. Considering the current need of the Unified Health System (UHS) in the planning, management, evaluation and control of health services and actions offered by federated entities, information systems allow the generation of

accurate and reliable data in the orientation of resolutive actions aimed at needs.[2]

Among the existing information systems in the UHS, in the epidemiological information systems, monitoring the number of cases of a disease in an area over time allows the identification of the occurrence of outbreaks or epidemics.[3] However, improved registry and quality of data, allows a better use and analysis of managers and health professionals.[4]

Some principles and guidelines are proposed by the National Health Information and Informatics Policy (NHIIP), among them the improvement of the quality and access to the Brazilian health system and the support of the information for decision making by the manager and health professional. The sustainability of NHIIP depends essentially on improving the efficiency, quality and reliability of the reported health information.[1]

The use of health information supports professional practice by facilitating and organizing routine records. It allows potential uses of information and health informatics; such as conducting queries and reports on the information produced, as well as other activities such as ease of scheduling, referral, reference of users, and others.[1]

The data consolidated by some of the main HIS, such as the Outpatient Information System of the Unified Health System (OIS / UHS), can be used to provide information about expenditures and quality of health services, improvement of criteria for hiring, importance for the performance of the control and evaluation with perspective in the systematic and continuous monitoring. They provide information on the production of health services, having a fundamental role in health policies.[1] Monitoring allows the observation and analysis of substantial information in a timely manner, rapid situational assessment and timely intervention that confirms or corrects actions in health.[5]

Knowledge to the consultation of the OIS allows the monitoring of the outpatient production[5], the construction of quantitative and qualitative indicators of the actions developed[6], being made available by the Ministry of Health through the TabWin and TabNet / DATASUS[6] applications, this subsidizes the evaluation of the organization in municipalities. Health professionals have an important role in the qualification of health information, since they perform the primary collection of the data that feed the systems.

In view of this, it is necessary to know the perception of health professionals working in the PHC on OIS, besides identifying the activities developed in the daily life of PHC.

METHOD

An exploratory study with quantitative-qualitative approach was carried out to evaluate the perception of health professionals working on PHC on the OIS of a city in the interior of Bahia, as well as to identify the activities developed in the daily life of PHC. The sampling process was non-probabilistic. Semi-structured questionnaires were applied to eight health professionals working at the middle and higher levels, at an outpatient level in the Basic Health Units and at the level of municipal management with questions about their knowledge about OIS (concept, importance and purpose). In addition, they were asked about their activities in the units, in order to identify possible procedures to be informed to the OIS.

The application of the questionnaire occurred in the municipality itself, in the period of June of 2013, using an instrument elaborated by the authors based on the extension actions developed by them in previous years in a self-applied form before and after the completion of an extension activity. For the analysis of the speeches, the professionals were numbered from one to eight in order to preserve their identification. The data collected were treated through Content Analysis and arranged in two categories: OIS captures information regarding outpatient care; The OIS subsidizes the process of planning, regulation, control and evaluation.

In order to increase participation and utilization of the team, the activities related to the units located in the urban and rural areas were carried out in the municipality itself, with a meeting previously established and in a pre-defined place with nursing professionals (nurses and nursing technicians) and professionals active in municipal management, who accepted to participate in the research and signed the Informed Consent Term (ICT).

The quantitative phase of the study was based on the comparison of the outpatient activities referred to by them and the evaluation of outpatient production performed by the PHC in the municipality in the period from 2010 to 2012 through the OIS data provided by Tabnet / DATASUS. This data is in the public domain. With this, it was possible to identify the outpatient activities developed by the professionals and

compare them with the production provided by the system.

The data were tabulated using the Microsoft Excel 2010 program and treated in the free statistical software Gretl version 1.9.14. The research project was approved by the Ethics and Research Committee of the University of Pernambuco under the CAE 06550512.8.0000.5207 on September 04, 2012.

RESULTS

Of the survey subjects, 75% had a higher education level, 87.5% said they had not participated in previous training on OIS. The mean training time of the professionals was 4.54 years (min = 0.33, max = 10, ± 3.7), and the mean time of performance in the PHC was 1.9 years (min = 0.08, max = 7, ± 2.7).

The answers whose contents corresponded to the definition of OIS were considered valid and grouped according to two categories: OIS captures information regarding ambulatory care and OIS subsidizes the process of planning, regulation, control and evaluation.

The OIS captures information regarding outpatient care

The answers showed that most of the professionals could perceive the system as the one that captures information regarding outpatient care provided by the municipality and Basic Health Units, both quantitatively and qualitatively of health actions and services in the outpatient area. This view can be observed in the following speeches:

Its purpose is to inform the procedures performed in health establishments to managers in order to feed the system [...] (E3).

It is a system by which it shows the reality of the health units and the municipality in relation to the activities or procedures performed in them [...] (E2).

System that informs all procedures, actions used in both primary care and hospitals. Objective to collect the data, quantitatively and qualitatively of the actions developed in the health of the municipality (E8).

The OIS subsidizes the process of planning, regulation, control and evaluation

The OIS vision was also seen as a system that supports the planning, regulation, control and evaluation process. It is worth noting that professionals also did not perceive the system as an evaluation of outpatient costs. Some testimonials were described below:

[...] it is important to know the main actions / procedures / activities carried out by the health unit. In order to guarantee what is needed in that unit in terms of equipment, materials, professionals, etc. (E3).

[...] through the system, we will analyze the situation of the municipality, seeing its failures, its qualities and what is a priority for the place. Show the reality of the municipality (E2).

The perception of a system used only in primary care was presented in some speeches. However, they considered the importance of evaluating municipal actions as identified in the:

It is a system that operates all the data of outpatient and specialized production of basic care by UHS. Produce consolidated information on the procedures performed in primary care. The OIS unifies this information so that it is the mirror of the municipality in question (E1).

It is a system for feeding, data processing, for outpatient information. It has the purpose in the system data process, feeding the same. It has the importance in the data process for primary health care (E7).

With a view to knowing the outpatient procedures that can be collected by primary health care professionals in the OIS, they were asked to report their daily activities in the health units, and the following activities were identified for professionals of higher education: family planning, hypertensive and diabetic care, child care, educational activities in health, women's health, cervical screening, low-risk prenatal care, home visit and foot test. For nursing technicians: vital signs (temperature, blood pressure measurement), dressings, foot test, anthropometric evaluation, medication administration, home visit, medication delivery, stitches removal, general screening and prenatal consultation.

This information subsidized the analysis of the outpatient production of the municipality in the period from 2010 to 2012. There was a gradual reduction in the number of outpatient procedures performed and approved in the OIS, from 726,392 procedures performed in 2010 to 138,855 in 2012 (Table 1). Among the actions performed by higher level professionals, it was possible to identify that information about the collection of material for cytopathological examination of the uterine cervix (preventive) was not launched in the system in the years 2010 and 2011.

Another procedure that could be collected in the system and not observed in production is the anthropometric evaluation, in which professionals reported doing, for example: child care, and were not reporting (Table 1). These absences may not represent the failure to perform the procedure, but point out a possible failure to include in the OIS, or at the time of completion by the executor, by typing, analyzing, criticizing and / or inconsistent data by the system.

When analyzing the procedures of mid-level / technical professionals, the conclusions are similar as observed in the withdrawals from surgeries, where there was no record in 2011. Blood collection for neonatal screening (foot test) to be reported

only in the year 2012. Other procedures were being launched but had a considerable reduction from the year 2011 to 2012. This reduction or even lack of information from some procedures does not necessarily represent a lack of achievement or decrease, but may be related to distortions at the time of filling, feed instruments or system glosses.

Table 1: Distribution of ambulatory procedures approved by the OIS in the municipality of Sobradinho, Bahia, from 2010 to 2012.

Procedure	2010	2011	2012	Total
Home care by a mid-level professional	405.844	4.358	3.845	414.047
Home visit by a mid-level professional	79.439	62.584	25.046	167.069
Educational activity / group orientation in primary care	75.257	58.315	24.059	157.631
Medical consultation in basic care	60.321	21.442	19.404	101.167
Blood pressure measurement	32.476	26.960	29.229	88.665
Consultation of higher education professionals in basic care (except doctor)	23.986	18.299	19.423	61.708
Medication management in basic care (per patient)	25.863	18.670	4.984	49.517
Consultation / home care	1.951	30.868	1.886	34.705
Grade I cutoff and / or debridement (per patient)	4.334	3.310	3.612	11.256
Emergency care in basic care	5.929	1.100	792	7.821
Capillary glycemia	2.586	2.401	368	5.355
Prenatal consultation	442	270	3.125	3.837
Inhalation / nebulization	1.595	675	345	2.615
Permanent tooth extraction	1.089	863	345	2.297
Exodontia of deciduous tooth	839	501	361	1.701
Removal of basic surgeries (per patient)	632	-	851	1.483
Resting of deciduous tooth	743	286	213	1.242
Restoration of posterior permanent tooth	708	255	72	1.035
Oral Rehydration Therapy	309	420	182	911
Scraping smoothing and polishing supra gingival (by sextant)	348	229	81	658
First dental programmatic consultation	357	100	119	576
Topical application of fluoride (individual per session)	213	167	65	445
Previous permanent tooth restoration	279	74	47	400
Sealant application (per tooth)	355			355
Temporary seal of dental cavity	210	64	35	309
Blood collection for neonatal screening			278	278
Access to dental pulp and medication (per tooth)	168	46		214
Scaling subgingival straightening (per sextant)	74			74
Collection of material for cytopathological examination of the uterine cervix			52	52
Puerperal consultation	16		24	40
Pulpal capping	29			29
Consultation of cured tuberculosis patients (supervised treatment)			12	12
TOTAL	726.392	252.257	138.855	1.117.504

Source: UHS Ambulatory Information System - OIS/ UHS / Ministry of Health / DATASUS.

DISCUSSION

Through the execution of the activities, it was possible to perceive that the knowledge and importance of adequate feeding of OIS to some professionals became more consistent, verified through post-exposure responses. It is important to mention that before the activity it was noticed that several workers who worked in the PHC admitted that they did not know or did not know the OIS, being worth emphasizing that the correct feeding of the OIS and obtaining the information in a reliable way depends on the primary collection of the data, showing the importance of knowledge in front of the system and its specifications.[7]

The analysis of the speeches ratifies the importance of carrying out researches and orientations regarding the importance of the information systems with health professionals for the planning and evaluation of their actions.

A relatively low average experience time was observed, both in relation to the formation time and to the time of PHC performance. In addition, extremes were also found from the identification of a minimum of four months (0.3) and a maximum of ten years of training. It is essential to institute

and maintain human resources policies focused on investments, focused primarily on the training needs of professionals who work in health teams in particular, the Family Health Strategy. The world context increasingly requires the expansion of the use of information in the everyday decision-making process, especially in health, due to its breadth and complexity.[8]

The results also emerged, namely: the valuation of measurable indicators, to the detriment of qualitative ones; there are nurses who understand the importance of using the HIS for decision making, and others who refer to use as observance of the vertical decisions of other spheres of government. It is of fundamental importance the qualification in HIS, and also in decision making, preferably in the work places of the professionals, since this possibility is configured as an opportunity to reflect on their daily experiences / experiences.[8]

The concern with the training and qualification of human resources was also presented in a study carried out with small municipalities highlighted as an important factor for the underutilization of the SIS, being the State's support for the improvement of these human resources, a factor that will contribute to optimize the use

of HIS.[9] Experiences experienced by academics in PHC in a municipality in the metropolitan region of Belém-PA showed the importance and at the same time the difficulties experienced in the basic health network, including lack of resources and competent professionals, social problems identified in the locality directing to the need of a better preparation of the professional for the action.[10]

The nurse, as manager, in his / her competence must be attentive to the feeding of the system, so that faithful information is obtained about the service that the nursing professional himself provides to the population, especially in the municipal scope. The adequate handling of the information overlaps with the normative designations, and should be understood and integrated as a potential improvement proposal for the work process, and the nurse is an agent of potential performance in the sphere of systematized and computerized health care.[11]

In epidemiological surveillance, one of its functions depends on the availability of data to support the process of information production. The quality of the information depends on the adequate collection of data generated in the place where the data is collected.[12] This observation is also adequate for the other computerized systems existing in the UHS. The other systems also follow a similar operating logic. Nursing work shows interest in generating knowledge and programming strategies according to the managerial phenomena of health information, without losing sight of the assistance objectives, of its doing at the national level. They engage in the process of managing health information with the use of HIS as essential tools for decision-making and practice of care.[11]

According to the National Primary Care Policy, it is the responsibility of both nurses and other members of the health team to ensure the quality of registration of activities in the Primary Care HIS. Keeping, therefore, the same updated and using this data for the analysis of the health situation of the attached population. Sociodemographic, economic, cultural and epidemiological characteristics should also be considered, prioritizing situations to be followed at the local level.[13,14]

Due to the mandatory monthly and systematic feeding of the national databases, as recommended in Ministerial Orders, it is evident that there is a need to base the knowledge on outpatient procedures that can be used by PHC professionals, as well as record the outpatient activities provided and

use the codes of procedures.[15] This fact demonstrates the need to ensure that the collection instruments are adequately filled, and these actions can be carried out through educational activities and continuing education actions for professionals.

The lack of integration of the systems and their databases besides the fragmentation of the information can be cause of the rework for the professionals, since the information can be fed and recovered by the user in more than one system [16], as well as the duplicate feeding in the primary source of data. This fact is evidenced by the PNIIS when it points out as a focus of the policy the improvement of the interoperability of the systems 1.Associated to this, the posterior typing of the data can increase the probability of errors and bias in the information produced and used for the decision making. The divergence of information found in the outpatient production of the municipality and the activities reported by the professionals may be related to this problem. This inconsonance can interfere with the assessment of local needs, since the reality of the activities carried out by primary care is not perceived.

This study identified an irregularity in the number of procedures approved over the years, including absence of registration in a given period. In a study about the estimated coverage of neonatal hearing screening for UHS users in Brazil, it showed positive and negative points regarding studies with secondary and public domain data. Positive factors related to the availability of the data, translating into agility for analysis. Negative points were related to the delay in updating the data and sub-registration of the HIS. In OIS / UHS, besides under-registration, overestimation of the data was identified.[17]

The OIS / UHS is the basis for billing the procedures performed by UHS units that provide outpatient care at various levels of care. In this sense, the coverage estimates may present biases as a consequence of the registration of a procedure number divergent from what is actually performed. Such oscillations over time may suggest such evidence.[17]

Another factor may be related to the primary collection of data by professionals. Data collection should occur at all levels of health system performance, including primary care. Those responsible for the collection should be prepared to gauge the quality of the data obtained12. Another study pointed out some weaknesses in relation to the use of HIS in the scope of management, among them; the reluctance of

managers to adopt the HIS in the public health work routine justified by the scarcity of human resources to the needs of each service. Other points considered by the authors are the deficit in information technology, the inefficiency of the constant updating of the HIS, the integration between them and the lack of capacity of the professionals to work with information technology and HIS.[18] The HIS was developed under a compartmentalized vision of the information being its applications created to attend specific actions. Part of this system was created prior to the creation of the UHS and developed with some technologies in disuse and without integration.[16]

With the changes frequently made by the Ministry of Health, through Ministerial Ordinances, regarding changes in certain procedures regarding the collection mode, instruments for recording procedures, exclusion or inclusion of a certain procedure in the Unified Table of UHS, it is necessary to consult (SIGTAP), also available from DATASUS.[6] It is through SIGTAP that the total characteristics of a procedure can be known, such as: type of financing, instrument of registration , value of the procedure, Brazilian Code of Occupations (BCO) allowed for each procedure code,

service / classification, qualifications, complexity, as well as others.[19]

The identification of BCO is also necessary to feed the system, since it identifies the professional executor of the procedure. In addition, the number of the National Register of Health Establishments (NRHE) of the health unit locates the procedure carried out where the professionals work.[6,19] The correct information of these fields will allow the procedures performed by each professional to be launched in the corresponding unit and according to the professional who performed it. This will allow both managers and professionals to quantitatively and qualitatively assess their activities over a certain period of time. With this, the importance of registering the activities in an appropriate way is emphasized.

The professionals' perception evidenced by the HIS discourse brings evidence of a system such as the one that captures information regarding outpatient care provided by the municipality and Basic Health Units and subsidizes the process of planning, regulation, control and evaluation both quantitatively and qualitatively of the actions and services of health in the outpatient area. Although OIS allows only the registration of the visits and treatments

performed at each health facility in the outpatient setting, it allows the characterization of actions performed in the health care network.[19]

In addition, the information obtained by this system is used as an important management tool, subsidizing the actions of planning, programming, regulation, evaluation, control and audit of ambulatory care.19 For the organization and processing of data collected in health, the main objective is to produce health indicators that allow the knowledge of the reality of the population studied and the possible modifications that occur in it.[18]

This research also showed the professional view of a system focused only on primary care, despite the evaluation of the information obtained from the OIS to highlight the importance of the health information system for professional performance. For the analysis of the production by the professional, it is necessary that the system is adequate to the reality of both the assisted population and the procedures performed by the professionals. In order for professionals, especially nurses, to use information in their daily lives, they need to know the information system and know how to use it in an adequate way. Nurses who reported on

the Basic Attention Information System (BAIS) pointed out as the main challenge in the use of HIS the lack of professional qualification.[20]

CONCLUSIONS

The research was motivated from the fundamental role of the HIS of the UHS for the planning and organization of activities at local and municipal level. With this, it aimed to evaluate the perception of health professionals working in the PHC about OIS. The results showed the professionals' approach to what the system is, its purpose and importance. Factors such as mean training time and low PHC performance were also observed, which may be limiting to the study.

However, it was perceived to the professionals that the correct information provides important subsidies in the implementation of social policies and health programs, as well as in the reorganization and control of health actions, being this an integrated network. These activities may provide improved information in the municipality's OIS since they are actions focused on the reality of the service provided to the population.

In addition, one can perceive the need to feed the system by the demonstration of

outpatient production informed by the OIS / UHS. However, the motivation for divergences between the information reported by the professionals and the data presented by the OIS was not investigated.

Therefore, new research and interventions must be carried out in order to corroborate the data presented and promote the constant search for the improvement of the information provided by HIS.

COLABORATIONS

Fernandes FECV contributed with the orientation and conception of the work, analysis, interpretation of data and writing of the article.

Gomes GMS, Leal IS and Andrade JDA contributed with the collection, analysis, interpretation of the data and writing of the article.

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