

Evaluation of nursing performance in a social security program

Avaliação do desempenho de enfermagem em um programa de previdência social

Beatriz Ramos Zúñiga¹

Aracely Díaz Oviedo²

Sofía Cheverría Rivera²

José Francisco Martínez Licona²

Keywords

Nursing assessment; Diabetes *mellitus* type 2; Social security; Health programs and plans; Mexico

Descritores

Avaliação em enfermagem; Diabetes *mellitus* 2; Previdência social; Planos e programas de saúde; México

Submitted

December 18, 2015

Accepted

March 18, 2016

Corresponding author

Aracely Díaz Oviedo
Niño artillero, 130, 78230,
Zona universitaria, San Luis
Potosí, Mexico.
aracelydiaz@uaslp.mx

DOI

<http://dx.doi.org/10.1590/1982-0194201600031>



Abstract

Objective: To evaluate nursing performance in the control of diabetic outpatients of the IMSS (Instituto Mexicano del Seguro Social [Mexican Social Security Institute])-Prospera hospital number 44 in Tamazunchale, San Luis Potosi, Mexico.

Methods: This quantitative, descriptive, cross-sectional study consisted of a sample of 30 nurses recruited from August 2014 to April 2015. A performance observation guide that evaluated administrative, care, teaching, and communication functions was used. Performance was classified as good, fair, and poor by means of descriptive statistics.

Results: A total of 93.3% of the sample consisted of female certified nurse assistants, 70% with studies at the technician level. The overall measurements of the administrative, care, teaching, and communication functions indicated that 6.7% presented good performance, 40% fair performance, and 53.3% poor performance.

Conclusion: Care and teaching functions show significant opportunities for improving patient self-care. Nursing performance evaluation provides evidence for the management of services in the diabetes program.

Resumo

Objetivo: Avaliar o desempenho da enfermagem no controle do diabetes de pacientes ambulatoriais do IMSS (Instituto Mexicano de Seguro Social) - Hospital Prospera número 44 em Tamazunchale, San Luis Potosi, México.

Métodos: Estudo quantitativo, transversal e descritivo, com amostra de 30 enfermeiros recrutados de agosto de 2014 a abril de 2015. Foi utilizado um guia de observação de desempenho que avaliou as funções administrativas, assistenciais, de ensino e de comunicação. O desempenho foi classificado como bom, razoável e ruim por meio de estatísticas descritivas.

Resultados: Um total de 93.3% da amostra consistiu de mulheres, auxiliares de enfermagem certificadas; 70% com estudo de nível técnico. As medidas globais das funções administração, assistencial, de ensino e de comunicação indicaram que 6,7% apresentaram desempenho bom, 40% desempenho razoável e 53,3% desempenho ruim. **Conclusão:** As funções de cuidar e ensinar mostraram oportunidades significativas para melhorar o autocuidado ao paciente. A avaliação do desempenho de enfermagem forneceu evidências para a gestão dos serviços no programa de diabetes.

¹Hospital Rural IMSS-Prospera, Tamazunchale, San Luis Potosí, Mexico.

²Facultad de Enfermería, Universidad Autónoma de San Luis Potosí, San Luis Potosí, Mexico.

Conflicts of interest: none to declare.

Introduction

The strengthening of evaluations in health institutions orients the processes of definition, management, and services. One of the priority programs in the Prospera Mexican Social Security Institute [Instituto Mexicano del Seguro Social-IMSS] program is the primary care of patients with diabetes *mellitus* type 2. It is relevant to evaluate the achievements obtained in the implementation of this program through the participation of a multidisciplinary health team, in which the nurse is included in specific actions of promotion, prevention, treatment, and continuity of care.

Diabetes *mellitus* is a degenerative chronic systemic disease of hereditary predisposition that is also influenced by environmental factors. Diabetes *mellitus* is characterized by chronic hyperglycemia due to deficient insulin production and affects the metabolism of carbohydrates, proteins, and fats.^(1,2) It is an epidemic recognized by the World Health Organization as a global threat, with over 180 million people with diabetes.^(3,4) The disease affects one in ten Mexicans and thus constitutes a public health problem.⁽⁴⁻⁶⁾

In the Mexican Social Security Institute, diabetes is the primary cause of death nationwide. Its complications cause hospitalizations with high mortality and costs. Diabetes is the principal cause of blindness, non-traumatic lower limb amputation, and kidney failure. It is also the leading cause of pension for disability.^(5,6) Since 2011, diabetes has been the second most common cause of death in people ascribed to the IMSS-Prospera program.⁽⁷⁾

The state of San Luis Potosi is divided into seven sanitary jurisdictions. The municipality of Tamazunchale, located in the southern Huasteca region, is classified as sanitary jurisdiction six. The epidemiological overview published in 2012 refers to diabetes as having a 48% morbidity and a 49.12% mortality.^(8,9)

The evaluation, as an element of control in the administrative process, analyzes how planned actions are performed and how the results are obtained. In the public sector, evaluation is a

fundamental process for defining public policy, planning, and decision making.⁽¹⁰⁾ The World Health Organization defines evaluation as a systemic and impartial valuation of an activity, project, program, strategy, policy and institutional performance, focusing on expected and achieved accomplishments, examining the chain of results and the processes, the contextual factors, and the causality for understanding the achievements attained or the lack thereof.⁽¹¹⁾

In the field of health, evaluation measures the results, impact, efficiency, and form in which the objectives and strategies are accomplished.⁽¹²⁾ It represents the micro-level of the performance evaluation. Evaluations are performed on production units, health centers, and hospitals in which services are designed, organized, and implemented to improve the health of the population.⁽¹³⁾ The assessment supports service management decision making at the operational level and aims to evaluate the provision of both personal services and public health. It evaluates resources, hospital services, clinical quality and efficiency, patient safety, proper treatment, user satisfaction, financial performance, and human resources.

Nursing has experienced changes associated with the technological advancement of health services and their growing contributions to the processes of maintenance or recuperation of the individual, family, and community in the different stages of life. Nursing has demonstrated the importance of the role played as a member of an interdisciplinary team, with the objective of offering quality services according to the different roles performed.⁽¹⁴⁾

This participation is determined by the professional role assumed by nursing staff within an organizational structure: care provider and manager, health educator or researcher of their practice, with the nursing process as the axis.⁽¹⁵⁾ To specify the levels of performance, functions, and salary of the nursing staff, the institutions have job profiles from which their functions are derived. At any level where nurses perform their work; they execute administrative activities, care, teaching, and research.

La Mónica⁽¹⁶⁾ states that nursing performance evaluation is a method that the director prepares for controlling the events in the organization. The process permits comparing individual and group results for achieving the objectives with the planned initiatives. It allows directors to guide employees in their professional development, as its purpose can be one of both assessment and recognition of performance. The nursing performance evaluation is used to decide the need for employee training and improved human relations.

Huber⁽¹⁷⁾ describes the nursing performance evaluation as the measurement of the efficiency determining the competence and effectiveness of the nursing process and the activities used by individual nurses in the care of patients.

In Mexico, the IMSS-Prospera program is supported by the federal government and administered by the Mexican Social Security Institute. It features 35 years of work directed at the population that inhabits rural and marginalized urban areas, where it contributes to achieving access to health services. This program supports its actions in the model of comprehensive health care and provides medical services to more than 11.8 million Mexicans who lack access to social security services and where nearly 3 million are indigenous.⁽¹⁸⁾

The contribution of the present study is directed at searching for alternatives to help improve the care provided by the nurse for diabetic patients in primary care in the IMSS-Prospera program to avoid the presence of complications. Thus, the purpose of this study was to evaluate the performance of nursing personnel in the control of patients with diabetes *mellitus* type 2.

Methods

A descriptive cross-sectional study was performed in the rural IMSS-Prospera hospital in the state of San Luis Potosi. The data were collected during April 2015, with a sample consisting of 30 outpatient nurses. The guide for the observation of nursing personnel performance in the care of patients

with diabetes *mellitus* type 2 was utilized in the collection of information. Data relating to the care of patients with diabetes *mellitus* type 2 were evaluated for their administrative, care, educational, and communication functions.

In the instrument development, 64 items were created, in which a dichotomous type of response option was established. The instrument had a Cronbach's alpha reliability of 0.91 and was submitted for peer review by experts in primary care. A section on patient reception and recorded entries was included among the administrative functions. Patient assessment and plan of care were measured in the care functions. The training provided was evaluated in the teaching function. Regarding communication, the nurse/patient relationship and the relationships between the nurse and the working team were investigated.

The instrument had a weighting of 64 points and performed the following performance classification: Good, from 58 to 64 points (90-100%); Fair, from 47 to 57 points (89-79%); and Poor, less than 44 points (69%). In the application of this instrument, the observation of nursing personnel was conducted during the care provided to three patients, and the sum of the scores was then calculated and divided by three to obtain the total score.

A nursing sociodemographic data form, structured in two sections, was also used: the form collected data on sociodemographics, employment, and training received on the comprehensive care model, the guidelines for care given to diabetic patients, integration of care plans, and control card management of chronic diseases. The form was self-reportable.

Once the respective authorizations were received, we proceeded to the collection of information, which took place in the area of the outpatient unit during the morning shift. A presentation was made to the area nursing personnel, and their participation was explained. They were given an informed consent letter for their signature. If their answer was affirmative, they were given a sociodemographic data questionnaire to fill out. The questionnaires

were checked to assure that they were completely answered so that no responses would be eliminated.

The technique of non-participant observation was used to evaluate the performance of the nursing personnel in the care provided to the patient in the diabetes program. Using the structured guide, monitoring of their performance was conducted by performing observations of the care provided by the nurse to three patients.

The IBM® SPSS® Statistics package version 19 was used for information processing, capture, and analysis. The analysis of the descriptive data obtained was conducted, using measures of central tendency along with modes, medians, means, and frequencies.

The study approved by the Ethics Committee of the Nursing School of the Autonomous University of San Luis Potosi on 04.29.2015, with the record number 2015-117.

Results

Of the nursing staff observed, 86.7% were married women. The most prevalent age group was 20-29 years (76.7%), with a mean age of 25 years. With respect to the occupational data of the staff, 93.3% were in the category of certified nurse assistant, 50% were salary-based employees, 66.7% had working seniority of 1 to 5 years, the minimum service seniority was 6 months, and the maximum service seniority was 28 years, with a mean seniority of 2 years. A total of 70% of the staff had a general nursing degree.

In total, 76.7% of the nursing personnel reported that upon admission to work, they did not receive orientation on the comprehensive health care model, which is the base that sustains the care of the Prospera program. Additionally, 63.3% received no training in the program of care for diabetes *mellitus* at the start of their performance in the outpatient unit. Only 50% of the personnel received orientation on the handling of the control card, a basic instrument performed by nurses assigned to the service. Finally, 70% reported receiving no training on the development of care plans.

In analyzing the activities performed by the nursing personnel with respect to care and teaching functions, according to the structure applied to the data collection of performance level, the following results were found.

Table 1 shows the nursing performance evaluations of the care function. A basic nursing activity is the patient assessment process. It was observed that 83.3% of nurses did not offer privacy to the patient because this process takes place in the external module of patient reception. All (100%) of the staff complied with basic activities, such as somatometry, body mass index, abdominal circumference, and the taking and recording of vital signs.

Table 1. Nursing performance levels in the care and teaching functions

Functions	Performance (n=30)		
	Poor n(%)	Fair n(%)	Good n(%)
Care-related			
Patient assessment	19(63)	11(36.7)	0(0)
Care plans	30(100)	0(0)	0(0)
Teaching			
Patient training	25(83.3)	3(0)	2(6.7)

The performance of a capillary glucose intake evaluation was omitted for 13% of the patients. The evaluation of visual acuity was excluded by 90% of the personnel, and 83% did not perform the dental evaluation. The skin evaluation and the questions regarding neuropathy, pain, and cramps were fulfilled. Only 50% of the personnel performed an evaluation of the feet. The assessment indicator suggested poor performance.

To provide care for a diabetic patient, the development of a plan of care is required. Poor performance was observed in this process: while 100% complied with the evaluation, 90% did not record the nursing diagnoses. All (100%) omitted descriptions of objectives and interventions, without performing evaluations of results. An opportunity for personnel improvement exists in this indicator.

In the teaching function, the training given to the patient is evaluated. A total of 86.7% of the staff omitted conducting collective conversations. All (100%) of the patients received individual orien-

tation, which was given without visual aids. Of the staff, 90% informed about nutrition, 66% focused on alarm data about hypoglycemia and hyperglycemia, 83.3% excluded training about insulin, 70% omitted guidance about ophthalmologic examinations, 30% did not inform about mutual aid groups, 3.3% did not inform about foot care, and 90% of the educational material used in training was inadequate. Thus, the teaching function exhibited poor performance.

Table 2 evaluates the observed overall basic functions effected by the nurse. The staff conducting the diabetes *mellitus* program presented levels of poor performance. However, within the care functions, there are opportunities for improvement in the evaluation and implementation of care plans. Weakness in the teaching function was indicated; this function is essential for performing the training of the patient and their family.

Table 2. Overall performance levels of nursing personnel

Overall performance level (n=30)	n(%)
Poor performance	16(53.3)
Fair performance	12(40)
Good performance	2(6.7)

Discussion

The sociodemographic characteristics of the personnel operating the diabetes *mellitus* program in this hospital are similar to those reported in the characterization of diabetes *mellitus* and hypertension programs of the Secretariat of Health in San Luis Potosi, where the personnel who care for chronic patients have levels of training as technicians in general nursing. In their absence, patient care is administered through social services personnel. Additionally, the job seniority of the outpatient personnel is less than five years.⁽¹⁹⁾

The training received by the staff operating the diabetes program in this rural hospital describes the deficiency in the continuing education received. Similar results were found in the study on the evaluation of the quality of care for diabetic patients given by a family physician and nurse in Cuba. These

results demonstrate that the scientific and technical training was insufficient; thus, the quality of comprehensive medical care is compromised. The need for training to improve the staff performance and to raise the quality of care is recognized.⁽²⁰⁾

Regarding training, a study describing the characterization of programs for diabetes *mellitus* and hypertension of the Secretariat of Health in San Luis Potosi recounts that with respect to scientific training and technical updates for diabetes, 53.7% of the personal said that they received no training.

In the assessment indicator, regarding the care functions performed by nurses, there was a lack of an area allowing privacy for evaluations, only questioning was performed, with no physical examination, 50% of the personnel assigned little importance to evaluations of visual acuity and the oral cavity, and 50% of the nurses omitted evaluations of the feet. These findings are similar to those reported in an article characterizing the programs for diabetes *mellitus* and hypertension where, based on the data obtained, the clinical assessments and laboratory exams qualified as inadequate.

The results obtained in this study concerning the assessment of patient eye health and foot care approach the evidence from the National Health and Nutrition Survey 2012, which indicated that 63.2% of diabetic patients comply with the periodicity of medical consultations. Ophthalmologic examinations were referenced by only 8.6% of patients; foot examinations were referenced by only 14.7%. It is recommended that these examinations be performed for 100% of patients in a diabetes program.⁽²¹⁾

Within the care functions in developing care plans, there were weaknesses in the development and monitoring functions, without any description of nursing diagnoses. These findings coincide with the results of research on the use of standardized care plans for nursing staff, where only 46% used them, a finding that can be classified as poor.

Regarding the teaching function, the training given to the patient was poor. Individual patient orientations were performed; however, no collective discussions were observed. Furthermore, insufficient educational material was available for performing

orientation, particularly focusing on taking medications. In the characterization study of diabetes and hypertension programs, in the sanitary jurisdictions of San Luis Potosi, it was reported that the availability of educational materials for providing guidance on health was restricted, which decreases the self-care training provided to the patient.

The National Health and Nutrition Survey in 2012 documented figures suggesting a major challenge for improving the health system: only 1 in 4 patients was in metabolic control. Of the persons with diabetes, 24.7% are at high risk of complications, and 49.8% are at very high risk. These data indicate the need for improvements in the quality of medical care, counseling, training, and health education.⁽²¹⁾

The results obtained in the analysis of this study, where a poor overall performance was obtained, were similar to those described in the research on the evaluation of the performance quality of outpatient nursing personnel in Veracruz when their technical and interpersonal dimensions were analyzed regarding prevention activities performed in a program encompassing hypertension, diabetes *mellitus*, cervical cancer, and dignified treatment given to users.

This study reports that 43% of users received dignified treatment by nursing personnel and that 73% of nurses worked with opportunities for improvement, signifying that most nurses do not perform quality activities. These results require the implementation of strategies that strengthen systems of training, supervision, and advice from nursing managers to improve the practice and the degree of dignified treatment offered.

The overall evaluation of performance, which yielded a poor result, coincides with the results obtained in the study. In the evaluation of the diabetes *mellitus* program in units of primary care of the Health Services of San Luis Potosi, the assessed technical efficiency was estimated as inadequate when evaluating indicators of structure, process and outcome.

The figures reported in the National Health and Nutrition Survey 2012 indicate a suboptimal performance. These figures coincide with the performance results obtained in this investigation. These data, through the measurement indicators, indicate

the need for strengthening the quality of care. In addition to implementing guidelines of activities applicable by health care providers, the guidelines take into account the needs of promotion, prevention, and disease control for the beneficiaries, health workers, and decision makers to achieve awareness through effective educational communication.⁽²¹⁾

Conclusion

The performance evaluation provides evidence of management and services. There is opportunity for improvement among the nursing personnel in their health care and educational functions and in the process of training in the development of the diabetes *mellitus* program in IMSS-Prospera.

Collaborations

Zúñiga BR, Oviedo AD, Rivera SC and Licona JFM contributed to the study conception and design, data analysis and interpretation of findings, literature review, data collection, data recording and analysis, participated in drafting the article and final approval of the version to be published.

References

1. Diagnóstico, metas de control ambulatorio y referencia oportuna de la Diabetes *Mellitus* tipo 2 en el primer nivel de atención. Evidencias y recomendaciones. In: Catalogo maestro de guías de práctica clínica. Ciudad de Mexico: Secretaria de Salud; 2013. [SS-093-08]. [citado en: 2016 Mar 14]. Disponible en: http://www.cenetec.salud.gob.mx/descargas/gpc/CatalogoMaestro/093_GPC_Diabmellitus2/SSA_093_08_EyR.pdf.
2. Secretaria de Salud. Subsecretaria de innovación y calidad. Programa de acción específico de diabetes *mellitus* 2012. Mexico: Secretaria de Salud; 2012.]. [citado en: 2016 Mar 14]. Disponible en: http://www.salud.gob.mx/unidades/cdi/documentos/diabetes_mellitus.pdf.
3. World Health Organization. Diabetes. Geneva:WHO; 2014. [citado en: 2016 Mar 14] Disponible en http://www.who.int/topics/diabetes_mellitus/en.
4. Instituto Mexicano del Seguro Social. Guía técnica para para otorgar atención médica en el módulo DIABETIMSS a derechohabientes con diagnóstico de diabetes *mellitus*, en unidades de medicina familiar. Mexico: IMSS; 2012. [citado en: 2016 Mar 14]. Disponible en: <http://www.scribd.com/doc/236609454/Diabetimss-Guia-Tecnica#scribd>.
5. Hernández AM, Gutiérrez JP, Reynoso N. Diabetes *mellitus* en México. El estado de la epidemia. Salud Pública de Mex 2013; 55 (Supl.2):129-36.

6. Pan American Health Organization. Manual para la implementación de proyectos colaborativos para el mejoramiento de la calidad de la atención a las personas con enfermedades crónicas. Proyectovida. Washington: PAHO; 2007. [citado en Mar 2016 14]. Disponible en: http://www.paho.org/hq/index.php?option=com_docman&task=doc_view&gid=16151&Itemid.
7. Instituto Mexicano del Seguro Social. IMSS OPORTUNIDADES. Informe a la asamblea 2011 - 2012. Informe de labores 2011 - 2012 y programa de actividades IMSS. ILPA. [citado en Mar 2016 14]. Disponible en: <http://www.docsunrise.com/d/Informe-Asamblea-2011-2012-Imss-opportunidades.pdf>.
8. Panorama epidemiológico Subdirección de Enfermería de San Luis Potosí; 2013.
9. SSA. Sistema Nacional De Vigilancia Epidemiológica. Panorama epidemiológico San Luis Potosí; 2013.
10. SSA Dirección general de Evaluación del desempeño. Programa de acción específico de evaluación de desempeño. 2006- 2012. Disponible en: http://www.dged.salud.gob.mx/contenidos/dess/html/6_07_14_12:00_hrs.
11. Organización Mundial de la Salud. Reforma de la OMS. Política de Evaluación de la OMS [Internet]. Geneva: OMS; 2011. [citado en 2015 Mai 10]. Disponible en: http://apps.who.int/gb/ebwha/pdf_files/EB130/B130_5Add8-sp.pdf. [EB130/5 Add.8].
12. Dirección general de evaluación del desempeño 2013-2018. Indicadores de resultados. Mexico: Secretaría de Salud; 2008. [citado en 2015 Ago 10]. Disponible en: <http://www.dged.salud.gob.mx/contenidos/dess/html>.
13. SSA. Programa de acción específico evaluación del desempeño 2007 - 2012. Subdirección de calidad. [citado en: 2015 Jul 6]. Disponible en: http://www.dged.salud.gob.mx/contenidos/dged/descargas/paead2007_2012.pdf.
14. SSA. Subsecretaría de innovación y calidad. Perfiles de enfermería. 2005. Disponible en: salu.edomexico.gob.mx.
15. SSA. NOM 019SSA3 2012. Para la práctica de enfermería en el sistema nacional de salud. Disponible en: <http://dof.vlex.com.mx/vid/norma-mexicana-nom-practica-enfermera-457248490> consultada 18/01/2015 16:00 hrs.
16. La Mónica E. I. Dirección de Administración en enfermería. Un enfoque práctico. España: Mosby Doyma; 1994.
17. Huber D. Liderazgo en enfermería. México: McGraw Hill Interamericana; 1999.
18. Informe de la evaluación específica de desempeño 2012-2103. Programa IMSS-Oportunidades. Disponible en: http://www.coneval.gob.mx/Informes/Evaluacion/Especificas_Desempeno2012/IMSS-%20OPORTUNIDADES/IMSS-OPORTUNIDADES_Ejecutivo.pdf Consultado 15/03/14 12:00 hrs.
19. Acosta Ramírez LP, García Barrón A. Caracterización de los programas para la prevención y control de diabetes *mellitus* e hipertensión arterial en el primer nivel de atención en San Luis Potosí. *Respyn* 2010; 11(4). Disponible en: respyn.ua.nl.mx.
20. Sánchez B, Rivas AE, Zerquera TG, Peraza AD, Rosell GI. Evaluación de la calidad de la atención al paciente diabético. *Rev Finlay* [Internet]. 2012 [citado 2015 Jul 2]; 2(4):[aprox. 13 p.]. Disponible en: <http://www.revfinlay.sld.cu/index.php/finlay/article/view/75>.
21. Encuesta Nacional de Salud y Nutrición 2012. [citado 2015 Jul 2]. Disponible en: <http://ensanut.insp.mx>.