

# A Snapshot of Medical Care Quality: Health Professional and Patient Satisfaction

## RESUMEN

Objetivo: estimar la satisfacción del paciente y del profesional de la salud, e identificar factores que pudieran influir en la satisfacción de los profesionales de la salud.

Métodos: estudio transversal comparativo, tipo encuesta, en la consulta externa de nueve unidades de atención médica del Instituto Mexicano del Seguro Social. Se empleó un cuestionario para medir la satisfacción laboral en 797 trabajadores y otro para medir satisfacción con la atención recibida en 948 pacientes.

Resultados: 402 trabajadores (50.4%) y 439 pacientes (46.3%) se calificaron como satisfechos. El mayor y menor número de trabajadores satisfechos se observó en las unidades de medicina familiar y hospitales de segundo nivel, respectivamente. La mayor proporción de pacientes satisfechos estuvo en los hospitales mencionados. No se encontró correlación entre el número de profesionales de la salud y pacientes satisfechos ( $r = 0.166$ ,  $p = 0.363$ ).

Conclusiones: los resultados muestran el estado actual de la calidad de la atención y de ellos se deriva la sugerencia de llevar a cabo medidas periódicas del proceso de la atención en las cuales se resalten las intervenciones para mejorarla.

## SUMMARY

Objective: the aim of this study was to estimate health professional and patient satisfaction and to identify some of the factors that could impinge on health professional satisfaction.

Methods: a comparative cross-sectional study type survey was carried out at the outpatient setting from healthcare units at the *Instituto Mexicano del Seguro Social*. Two different questionnaires were employed: one to measure work satisfaction of health professionals ( $n = 797$ ); and the second, to measure the satisfaction of patients ( $n = 948$ ) with the quality of medical care received.

Results: in total, 402 (50.4 %) workers and 439 (46.3 %) patients were satisfied. The highest and the lowest numbers of satisfied workers were observed in family care units and second-level hospitals, respectively, while the greatest proportion of satisfied patients was found in the second level hospitals. No correlation was found between the number of health professionals and satisfied patients ( $r = 0.166$ ,  $p = 0.363$ ).

Conclusions: the results of this study have a two-fold goal: to illustrate the current status quality of care and to suggest that an effort on periodic measurements of the process of care should be made to improve the quality of care.

<sup>1</sup>Coordinación de Áreas Médicas, Instituto Mexicano del Seguro Social, Distrito Federal, México

<sup>2</sup>Coordinación de Investigación en Salud, Instituto Mexicano del Seguro Social, Distrito Federal, México

<sup>3</sup>Centro de Ciencias de la Salud de San Antonio, Universidad de Texas, Estados Unidos

Comunicación con:  
 Edith Valdez-Martínez.  
 Tel: (55) 5761 0952.  
 Correo electrónico:  
 edith.valdez@imss.gob.mx;  
 evaldesmz@cis.gob.mx

Recibido: 28 de enero de 2009

Aceptado: 5 de mayo de 2009

## Introduction

Concern over the quality and outcomes of healthcare has increased worldwide, and Mexico is included. This concern is fuelled by many public incidents and growing evidence of serious deficiencies in care.<sup>1-3</sup>

Donabedian's 1966 framework established that the quality of care could be audited in three dimensions—structure, process and outcome. This model has been universally accepted and used as the basis

for the majority of the papers addressing quality and outcomes. The outcome dimension refers to the future health status that can be attributed to a medical intervention or other type of previous care. Patient satisfaction is an important dimension of the outcome of healthcare, not only for designing the actions to improve the quality of services provided, but also it is an indirect measurement of the actions and performance of the health professionals who provide them. Multiple factors are related with pa-

## Palabras clave

satisfacción laboral  
 satisfacción del paciente  
 calidad de la atención  
 de salud  
 estudios de evaluación

## Key words

job satisfaction  
 patient satisfaction  
 quality of health care  
 evaluation studies

tient satisfaction among these are the nature of the treatment received; waiting time versus face-to-face time, communication skills and doctor-patient relationship.<sup>4-7</sup>

It is important to point out that the measurement of satisfaction does not exclusively mean to take into account the patient, but it should take into account the bilateral nature of the relationship between the patient and the health professional. Hence, to measure the satisfaction of the healthcare professionals turns out to be essential as well.<sup>1,3,8</sup>

The work satisfaction on health professionals began to be investigated since 1935 in studies by Hoppock in the US.<sup>9</sup> Patient satisfaction and work satisfaction involve a complex scenario in which not only technological development and clinical competence are concerned, but also a mixture of personal factors (*e. g.*, values, attitudes, expectations); institutional factors (*e. g.*, administrative organization, recognition for work carried out) and extra-institutional factors (*e. g.*, political, legal and market forces).<sup>1,2,10</sup> A lack of work satisfaction not only it is related to poor quality of care offered in clinical practice, but it can lead to serious consequences for the health professional, like a lack of patient satisfaction and high inconformity.<sup>2,3,8,10</sup>

In Mexico, more than one half of conflicts submitted to the Comisión Nacional de Arbitraje Médico (National Commission of Medical Arbitration) are related to poor personal communication skills between the physician and the patient or to unintelligible information (<http://www.conamed.gob.mx>). This is important because, the quality of the interaction between the health professional and the patient affects the outcomes of healthcare. Such outcomes included the length of a patient recovery from an illness treated and the level of satisfaction with the healthcare provided.

Chronic illnesses, as diabetes, high blood pressure, chronic renal failure, rheumatoid arthritis, and cancer are by definition, long term events. The impact upon the suffering in the patients' life and those close to them is inevitably deep. In Mexico chronic conditions are becoming common.<sup>11</sup> The most of Mexicans know someone who suffers from a chronic illness and they are aware from the implications of such conditions beyond biophysical changes. The *Instituto Mexicano del Seguro Social* (IMSS, Mexican Institute of Social Security) is the largest Latin American healthcare institution; it is affiliated to the Mexican Ministry of Health. It provides medical care to forty-five million Mexicans (<http://www.imss.gob.mx>). The majority of complains solved by the *Comisión Nacional de Arbitraje Médico* (CONAMED) were

carried from care provided by the professionals of this Institution given the number of users.

The aim of this study was to estimate health professional and patient satisfaction and to identify some of the factors that could impinge on health professional satisfaction.

## Methods

A comparative cross-sectional study type survey was conducted to evaluate the satisfaction of health professionals and patients at nine Mexico City-based healthcare units of the IMSS. The study was carried out at the outpatient areas of the following healthcare facilities of the IMSS: Two primary care units, which give integral and continuous healthcare services to the individual and his or her family. Two secondary healthcare level hospitals to which patients are referred from primary care units for diagnostic, therapeutic, and rehabilitation procedures and five highly specialized (tertiary care) medical units, which have high-technology support, whose patients are referred from secondary healthcare level hospitals. These healthcare units were chosen by their accessibility. Health professionals from the Medical Units mentioned above participated voluntarily.

All were full-time personnel working morning and evening shifts and physicians, nurses, social workers, and medical assistants were included. Patients participating in the study were volunteers competent to provide information during their participation; and all had cared for by the same physician at least twice, and with one of the following diagnoses: diabetes mellitus; high blood pressure; chronic renal failure; low back pain; rheumatoid arthritis; hip or knee degenerating disease; cancer, and fractures. The sample size was estimated with the formula for cross sectional studies.<sup>12</sup> It was assumed that 50 % of participants would be satisfied<sup>13,14</sup> with an acceptable error of 10 %; alpha and beta levels were set at 0.05 and 0.20 respectively. This yielded a sample size of 105 healthcare workers and 105 patients per healthcare unit (including 10 % of possible losses).

A sample size of 29 persons per medical service was calculated to have 80 % of power to detect a positive correlation (*r*) of 0.50. Alpha level was set at 0.05 and enough to identify correlation between groups.<sup>12</sup>

In the primary care units, the sample size was proportional to the number of workers. Patients sampling was by quota, and proportional to the diseases analyzed in each healthcare unit. The confidentiality and anonymity of healthcare workers and outpa-

tients was assured. As a strategy to enhance response rates, the questionnaires had an attractive layout that was easy to the eye; facilitated the answering of all questions; and was clear about how to respond. The instrument utilized to measure health professional satisfaction was the R.H. Moos questionnaire entitled Work Environment Scale (WES).<sup>15</sup> The WES comprises ten subscales for assessing three domains: the relationship dimension; the personal growth or goal orientation dimension and the system maintenance and system change dimension.

The relationship dimension was measured by the involvement, peer cohesion, and supervisor support subscales. These subscales assess the extent to which employees are concerned about and committed to their jobs; the extent to which employees are friendly to and supportive of one another; and the extent to which management is supportive of employees and encourages employees to be supportive of one another. The personal growth or goal orientation dimension was measured by the autonomy, task orientation, and work pressure subscales. These subscales assess the extent to which employees are encouraged to be self-sufficient and to make their own decisions; the degree of emphasis on good planning, efficiency, and getting the job done, and the degree to which the pressing on work and time urgency dominate the job environment. The system maintenance and system change dimension are measured by the clarity, control, innovation, and physical comfort subscales. These subscales assess the extent to which employees know what to expect in their daily routines and how explicitly rules and policies are communicated and the extent to which the physical surroundings contribute to a pleasant work environment.

The WES was translated into the Spanish language and adapted to the characteristics of the IMSS (García-Peña MC, unpublished observations). The Spanish version was previously validated (Cronbach's alpha coefficient > 0.891). The questionnaire consisted of 84 questions. The response scale had two options for each question: "true" and "not true". The instrument employed for outpatients was the questionnaire to determine satisfaction of IMSS users.<sup>16</sup> A 45-question version was applied at the primary care units (Cronbach's alpha coefficient > 0.644), with a 39-question version applied at hospitals (Cronbach's alpha coefficient > 0.720). Evaluated dimensions included the physician's technical ability, the interpersonal relation with the physician and with other services of the healthcare unit, waiting time, organization of services, and drug supplies. The questionnaire's response had four point scales: "true"; "not true"; "do not know"; and "there is not

any". The questionnaires were anonymous and self-applied. A group of social workers who was not working for the IMSS aided those patients who were unable to respond to the questionnaires by themselves.

In the group of health professionals, the raw score was calculated and the standardized score was obtained according to the methodology proposed by

**Table I**  
**Social and demographic characteristic of the health professionals**  
**(n = 797)**

| Variable         | Categories              | n   | %    |
|------------------|-------------------------|-----|------|
| Age              | 20-29                   | 51  | 6.4  |
|                  | 30-39                   | 212 | 26.6 |
|                  | 40-49                   | 392 | 49.2 |
|                  | 50-59                   | 104 | 13.1 |
|                  | 60 and more             | 9   | 1.1  |
|                  | Unknown information     | 29  | 3.6  |
|                  | Total                   | 797 | 100  |
| Gender           | Male                    | 179 | 22.5 |
|                  | Female                  | 614 | 77.0 |
|                  | Unknown information     | 4   | 0.5  |
|                  | Total                   | 797 | 100  |
| Marital status   | Single                  | 182 | 22.8 |
|                  | Married                 | 503 | 63.1 |
|                  | Widowed                 | 18  | 2.3  |
|                  | Divorced                | 46  | 5.8  |
|                  | Common-law relationship | 40  | 5.0  |
|                  | Unknown information     | 8   | 1.0  |
|                  | Total                   | 797 | 100  |
| Type of contract | Family physician        | 64  | 8.0  |
|                  | No family physician     | 138 | 17.3 |
|                  | Nurse                   | 438 | 55.0 |
|                  | Medical assistant       | 121 | 15.2 |
|                  | Social worker           | 32  | 4.0  |
|                  | Unknown information     | 4   | 0.5  |
|                  | Total                   | 797 | 100  |
| Seniority        | 1 to 9 years            | 172 | 21.6 |
|                  | 10 to 19 years          | 317 | 39.8 |
|                  | 20 and more             | 294 | 36.9 |
|                  | Unknown information     | 14  | 1.8  |
|                  | Total                   | 797 | 100  |
| Work shift       | Morning                 | 539 | 67.6 |
|                  | Night                   | 256 | 32.1 |
|                  | Unknown information     | 2   | 0.3  |
| Total            |                         | 797 | 100  |

Moos,<sup>15</sup> in which 50 is the cut-off point. A global score was estimated later<sup>17</sup> A health professional was considered satisfied if standardized global score was greater than the mean of the global scores of the entire group. To identify statistical differences by healthcare level, the Mann-Whitney or the Student *t* test was utilized whether the distribution of the data was non-Gaussian or Gaussian. In addition, to determine the nature of the distribution the Lilliefors test was applied.<sup>18</sup> In the group of patients, the raw scores were calculated in addition to standardized scores to compare between the distinct healthcare levels. The cut-off point was determined based on the median of standardized scores. Independence and existing correlation between worker and patient satisfaction by healthcare level was determined by the

$\chi^2$  and the Pearson correlation coefficient (*r*), respectively.<sup>18</sup> Data normality was verified with the Lilliefors test to justify the use of the Pearson correlation coefficient.<sup>18</sup> It is noteworthy that the estimations obtained with other tests, such as the Kendall and Spearman, which do not suppose normality, were similar

## Results

### Response rates and participant characteristics

There were no differences in the type of contractual relationship between those who agreed and those who refused to participate and in healthcare level where they worked. The group of 797 health professionals was made up of 202 (25.3 %) physicians; 438 (54.9 %) nurses; 121 (15.2 %) medical assistants; and 32 (4.0 %) social workers. The female-male ratio was 3:1, the mean age was 40 years and with >10 years of seniority (table I).

The patient group was integrated with 948 persons. All of them had one or more of the previously mentioned diagnoses. The mean age was 50 years, and the female-male ratio was 1.7:1 (table II). A total of 41.9 % of patients had the antecedent of having been at the same service and hospital from two to five times.

### Health professional work satisfaction

With the global satisfaction score, 402 (50.4 %) satisfied health professionals were identified. The primary healthcare level had the greatest amount of satisfied workers (*n* = 124, 68.5 %); while the secondary healthcare level had the lowest number of satisfied workers (*n* = 61, 37.9 %). The satisfaction of the workers of the tertiary care level measure was between the workers of the primary and the secondary level (figure 1). At the three healthcare levels, nursing was the work category with the greatest percentage of satisfied persons (51.8 %, *n* = 227) (table III).

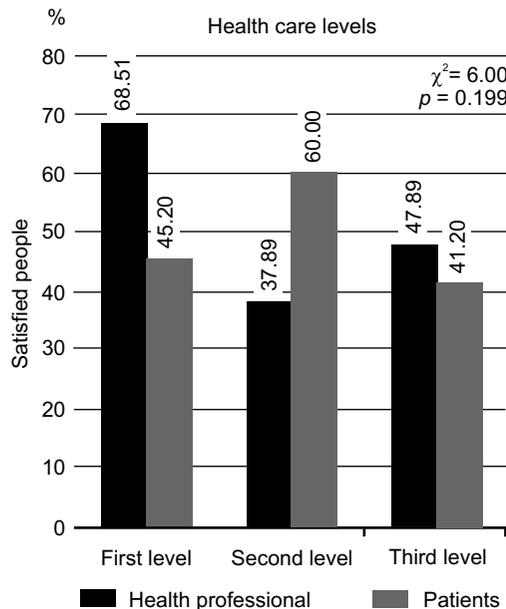
The figure 2 shows the physicians-satisfaction-scoring. Primary Care physicians placed emphasis on system maintenance and system change dimensions: clarity, physical comfort and innovation. On the personal growth dimension: task orientation was above average; work pressure was below average; autonomy was relatively poor. With respect to the relationship dimension the peer cohesion was around the average. The scoring of consultants, of

**Table II**  
Social and demographic characteristic of the patients (*n* = 948)

| Variable       | Categories              | <i>n</i> | %    |
|----------------|-------------------------|----------|------|
| Age            | 20-29                   | 60       | 6.3  |
|                | 30-39                   | 93       | 9.8  |
|                | 40-49                   | 134      | 14.1 |
|                | 50-59                   | 187      | 19.7 |
|                | ≥ 60                    | 454      | 47.9 |
|                | Unknown information     | 20       | 2.1  |
|                | Total                   | 948      | 100  |
| Gender         | Male                    | 341      | 36.0 |
|                | Female                  | 607      | 64.0 |
|                | Total                   | 948      | 100  |
| Marital status | Single                  | 156      | 16.5 |
|                | Married                 | 550      | 58.0 |
|                | Widowed                 | 166      | 17.5 |
|                | Divorced                | 36       | 3.8  |
|                | Common-law relationship | 36       | 3.8  |
|                | Unknown information     | 4        | 0.4  |
|                | Total                   | 948      | 100  |
| Schooling      | Illiterate              | 49       | 5.2  |
|                | Incomplete primary      | 67       | 7.1  |
|                | Complete primary        | 339      | 35.8 |
|                | Secondary               | 186      | 19.6 |
|                | Preparatory             | 78       | 8.2  |
|                | Technician              | 127      | 13.4 |
|                | Bachelor                | 99       | 10.4 |
|                | Unknown information     | 3        | 0.3  |
| Total          | 948                     | 100      |      |
| Work shift     | Morning                 | 719      | 75.8 |
|                | Night                   | 229      | 24.2 |
|                | Total                   | 948      | 100  |

the second healthcare level, was characterized by ratings below the average except for clarity and work pressure which were around average. Finally, the scoring of consultants, of third healthcare level, placed emphasis on clarity—that was the only one that figured prominently. Task orientation and peer cohesion were on the average. Work pressure was below average.

The results of the satisfaction scoring of nurses, medical assistants, and social workers indicated that there was no emphasis on the relationship dimension: involvement, peer cohesion and supervisor support. On the personal growth dimension, work pressure is below average, while autonomy was relatively low; the same may be said for task orientation except for nurses and medical assistants who were around average. With respect to the system maintenance and system change dimension, the clarity of expectations was slightly above average. Physical comfort was around the average for medical assistants, and was below average for nurses and social workers. There was no special emphasis on innovation.



López-García A et al.  
Health professional  
and patient  
satisfaction

Figure 1. Health professionals and patients satisfaction

Table III  
Health professional satisfaction by healthcare level and type of contract

| Healthcare levels     | Type of contract    | Satisfaction |       | Dissatisfaction |      | Total |     |
|-----------------------|---------------------|--------------|-------|-----------------|------|-------|-----|
|                       |                     | n            | %     | n               | %    | n     | %   |
| First level           | Family physician    | 42           | 65.6  | 22              | 34.4 | 64    | 100 |
|                       | Nurse               | 41           | 70.7  | 17              | 29.3 | 58    | 100 |
|                       | Social worker       | 6            | 66.7  | 3               | 33.3 | 9     | 100 |
|                       | Medical assistant   | 34           | 69.4  | 15              | 30.6 | 49    | 100 |
|                       | Unknown information | 1            | 100.0 | 0               | 0.0  | 1     | 100 |
|                       | Total               | 124          | 68.5  | 57              | 31.5 | 181   | 100 |
| Second level          | No family physician | 8            | 22.2  | 28              | 77.8 | 36    | 100 |
|                       | Nurse               | 47           | 46.5  | 54              | 53.5 | 101   | 100 |
|                       | Social worker       | 1            | 20.0  | 4               | 80.0 | 5     | 100 |
|                       | Medical assistant   | 5            | 26.3  | 14              | 73.7 | 19    | 100 |
|                       | Total               | 61           | 37.9  | 100             | 62.1 | 161   | 100 |
| Third level           | No family physician | 49           | 48.0  | 53              | 52.0 | 102   | 100 |
|                       | Nurse               | 139          | 49.8  | 140             | 50.2 | 279   | 100 |
|                       | Social worker       | 7            | 38.9  | 11              | 61.1 | 18    | 100 |
|                       | Medical assistant   | 21           | 39.6  | 32              | 60.4 | 53    | 100 |
|                       | Unknown information | 1            | 33.3  | 2               | 66.7 | 3     | 100 |
|                       | Total               | 217          | 47.7  | 238             | 52.3 | 455   | 100 |
| All healthcare levels | Physician           | 99           | 49.0  | 103             | 51.0 | 202   | 100 |
|                       | Nurse               | 227          | 51.8  | 211             | 48.2 | 438   | 100 |
|                       | Social worker       | 14           | 43.8  | 18              | 56.3 | 32    | 100 |
|                       | Medical assistant   | 60           | 49.6  | 61              | 50.4 | 121   | 100 |
|                       | Unknown information | 2            | 50.0  | 2               | 50.0 | 4     | 100 |
|                       | Total               | 402          | 50.4  | 395             | 49.6 | 797   | 100 |

## Patient satisfaction with medical care received

The global score identified was satisfied in 439 (46.3 %). The majority proportion of satisfied patients was observed at the secondary healthcare level (60.0 %,  $n = 126/210$ ); followed by the first and third healthcare level (45.2 %,  $n = 99/219$ ; and 41.2%  $n = 214/519$ ; respectively). The demographic variables of age, gender, marital status, and educational attainment, were not shown to influence the satisfaction ratings measured.

### Relationship between health professional work satisfaction and patient satisfaction

On comparing persons satisfied among health professionals and patients by healthcare level, it was observed that at the tertiary healthcare level the proportion was similar in both groups. In contrast, at the first and second healthcare levels the persons satisfied were different between one group and the other. Nonetheless, the differences were not found to be statistically significant ( $\chi^2 = 6.00$ ,  $p = 0.199$ ). No statistically significant correlation ( $r = 0.166$ ,  $p = 0.363$ ) was found between work satisfaction

of health professionals and patient satisfaction with respect to healthcare received.

## Discussion

This study revealed that the satisfaction of the healthcare professionals studied was due to having clear expectations in their daily routine, and understanding the rules and policies of the IMSS. The data also revealed that a great proportion of the health professionals were dissatisfied. They felt their work environment as undersupported, low in involvement and with little peer cohesion. These findings give us an idea about the extent to which the health professionals studied were concerned about and committed to their jobs. The fact that autonomy and work pressure were not important in determining the satisfaction of these workers evidenced the need for more independence to make their own decisions, and the need for reduction of work pressure. Evidence suggests that threats to physicians' autonomy and to their time are strongly associated with changes in satisfaction.<sup>3</sup> At this respect, Smith<sup>8</sup> stated doctors' unhappiness is a worldwide phenomenon: "they feel as though they are battling the system rather than being supported by it".

The relationship between specific areas of work settings and the job satisfaction score varied among different groups of employees. For example, the practising physicians' perceptions of their work environments were particularly weak at the secondary level of care. According to Moss,<sup>15</sup> this difference might reflect that health professionals' understanding of their practice affects their attitudes towards their patients and as a consequence their performance.

The patient survey results did not show demographic variables that influenced in satisfaction ratings. These results appeared to coincide with the median by who had worked on patient satisfaction.<sup>2,19</sup> It is important to point out also that the results are similar to those that have been reported in the literature,<sup>4,20-22</sup> and that did not demonstrate a statistical significance correlation between the satisfaction of the health professional and the patient. This fact captures the battle between what the patient and health provider want, need, expect and encounter, when they establish their relationship with the context of an institution and care provided by a team of healthcare professional.

The current quality of Mexican healthcare is far from being satisfactory. This should come as no surprise; because patients frequently live with high intensity their rights than their duties in the society.<sup>23</sup>

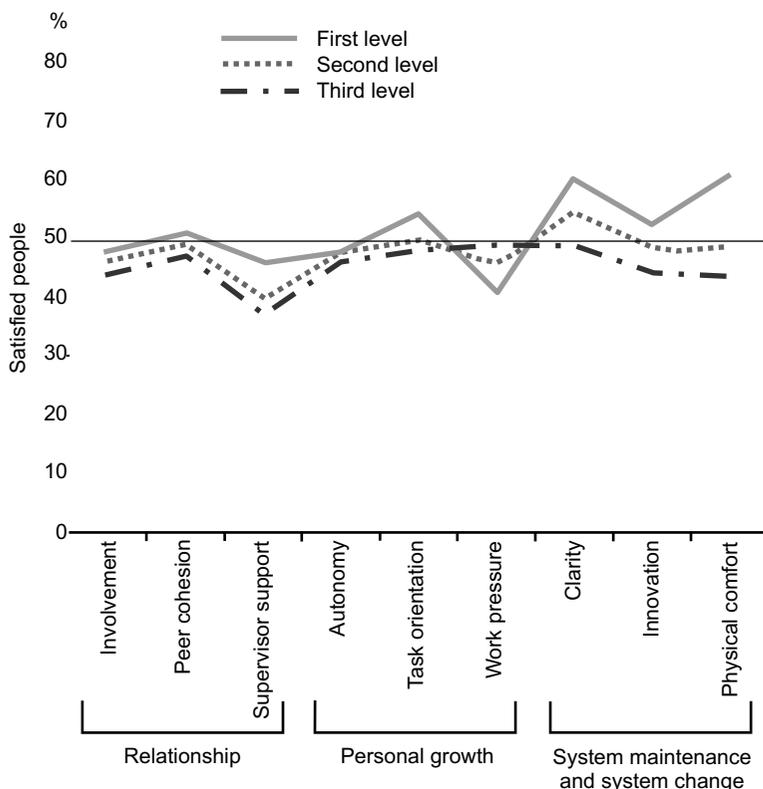


Figure 2. Health professionals satisfaction by healthcare level

On the other hand, Mexican medical schools teach ethics so lightly. As a consequence, the human potential for service of the professional is not enough. Roughly speaking, the most enhancing potentials liberated, A higher morality produced by a health intervention. Health professionals must actively participate in the development of better standards of care and the application of quality measures to routinely assess their performance.

From the methodological point of view it must be stated that the fact that the questionnaire for health professional and patient were self-applied and that interviewers had received prior training for aiding in the filling out of the questionnaires (when requested by the participant) eliminated the interviewer bias (i. e., when the interviewer asks questions with a different emphasis on each dimension and induces responses).<sup>24</sup> Nonetheless, we did not exclude the possibility of bias in the area of the social acceptability (i. e., when interviewers report greater satisfaction than they truly feel because these believe that positive comments are more acceptable),<sup>24</sup> or the complimentary response bias (i. e., when interviewers use the satisfaction survey to flatter themselves in the research or to ingratiate themselves with hospital personnel).<sup>24</sup>

The limitations of this work are related to the strengths, the study included the three healthcare levels and a variety of professionals practice setting (family practitioners, consultants, nurses, social workers and medical assistants), varying length of professional practice (ranging from one year to more than 20 years); and different personal background (single, divorced, married, etc.). Likewise, a wide variety of patients was included with different personal background (schooling, age, gender, marital status, etc.). Furthermore, this satisfaction survey provided evidence also about how health professionals perceived their work and highlighted the unresolved problems that required change to improve the satisfaction of both.

The results may help to policy makers, human resource planners, managers, and healthcare professionals, in the understanding that the improvement of quality care does not solely entail maintaining clinical competence. If they managed to create the conditions for more satisfied workforce there would be optimising the outcome of care, increasing patients' safety, and the reduction of medical error. The rationale behind this assumption is discussed by Lain Entralgo<sup>23</sup> who stresses that health professional—patient relationship ought to involve friendship.

The authors suggest that an effort can be made to carry out periodic measurements of the health-

care process. Keeping in mind the multidimensional nature of the concept and exploring and reflecting on the assumptions underlying the various perspectives about the care of the groups involved. The measurement of satisfaction is a key element, since it provides information on the development of continuing medical education programs for health professionals: clinicians and managers.

A full copy of the questionnaires used in this study can be obtained from the authors.

## Acknowledgements

We would like to express our sincere appreciation to those involved in the survey and to Laura Benitez, project assistant. This research was funded in part by the (National Council of Science and Technology) and by the IMSS.

## References

1. Donabedian A. An introduction to quality assurance in health care. New York, USA: Oxford University Press; 2003.
2. Sitzia J, Word N. Patient satisfaction: a review of issues and concepts. *Soc Sci Med* 1997;45(12):1829-1843.
3. Landon BE, Reschovsky J, Blumenthal D. Changes in career satisfaction among primary care and specialist physicians 1997-2001. *JAMA* 2003;289(4):442-449.
4. Zandbelt LC, Smets EM, Oort FJ, Godfried MH, de Haes HC. Satisfaction with the outpatient encounter: a comparison of patients' and physicians' views. *J Gen Intern Med* 2004;19(11):1088-1095.
5. Feddock CA, Hoellein AR, Griffith CH 3rd, Wilson JF, Bowerman JL, Becker NS, et al. Can physician improve patient satisfaction with long waiting times? *Eval Health Prof* 2005;28(1):40-52.
6. Frankel RM. Relationship-centered care and patient-physician relationship. *J Gen Med* 2004;19(11):1163-1165.
7. Bronfman-Pertzovsky MN, López-Moreno S, Magis-Rodríguez C, Moreno-Altamirano A, Rutstein S. Atención prenatal en el primer nivel de atención: características de los proveedores que influyen en la satisfacción de las usuarias *Salud Publica Mex* 2003;45(6):445-454.
8. Smith R. Why are doctors so unhappy? *BMJ* 2001;322(7294):1073-1074.
9. Hoppock R. Job satisfaction. New York, USA: Harper Publisher; 1935.

**López-García A et al.**  
**Health professional**  
**and patient**  
**satisfaction**

10. Zuger A. Dissatisfaction with medical practice. *N Engl J Med* 2004;350(1):69-75.
11. Secretaría de Salud. Sistema de protección social en salud. Elementos conceptuales, financieros y operativos. Segunda edición. México: Fondo de Cultura Económica; 2006.
12. Hulley SB, Cummings SR, Browner WS, Grady D, Hearst N, Newman TB. Designing clinical research. An epidemiologic approach. Second edition. Philadelphia: Lippincott Williams and Wilkins; 2001.
13. Cabrera-Piraval CE, Franco-Chávez SA, González-Pérez G, Vega-López G, Parra-Estrada J, Íñiguez-Núñez JE. Satisfacción laboral de profesionales de la salud en el IMSS, Jalisco 1999-2002. *Rev Med IMSS* 2004;42(3): 193-198.
14. Hernández-Leyva B, García-Peña C, Anzures-Carro R, Orozco-López M. Satisfacción de usuarios en unidades de medicina familiar. *Rev Med IMSS* 2002;40(5):373-378.
15. Moos RH. Work environment scale manual. California, USA: Consulting Psychologists Press; 1981.
16. García-Peña MC, Hernández-Leyva B, Anzures-Carro R, Reyes-Frausto S. Development and validation of an inventory to measure satisfaction of user of family medicine clinics in Mexico. *Psychol Rep* 1999;84(2):677-685.
17. Mardia KV, Kent JT, Bibby JM. Multivariate analysis. New York, USA: Academic Press; 1979.
18. Dawson SB, Trapp RG. Basic and clinical biostatistics. Second edition. Norwalk CT, USA: Appleton and Lange; 1994.
19. Hopkins A. Measuring the quality of medical care. London: Royal College of Physicians of London; 1990.
20. Rashid A, Forman W, Jagger C, Mann R. Consultation in general practice: a comparison of patients' and doctors' satisfaction. *BMJ* 1989;299(6706):1015-1016.
21. Winefield HR, Murell TG, Clifford J. Process and outcomes in general practice consultation: problems in defining high quality care. *Soc Sci Med* 1995;41(7):969-975.
22. Probst JC, Greenhouse DL, Selassie AW. Patient and physician satisfaction with an outpatient care visit. *J Fam Pract* 1997;45(5):418-425.
23. Laín-Entralgo P. El médico y el enfermo. Segunda edición. Madrid, España: Triacastela; 2003.
24. Streiner DL, Norman GR. Health measurement scales. Second edition. Great Britain: Oxford University Press; 2001.