



EVALUATION OF QUALITY OF LIFE AND MORALE IN MILITARY HEALTH STAFF USING A DIGITAL INSTRUMENT

EVALUACIÓN DE CALIDAD DE VIDA Y MORAL EN PERSONAL MILITAR DE SALUD POR MEDIO DE UN INSTRUMENTO DIGITAL

Adriana Martínez-Cuazitl M.D., Sc.D.¹

2LT Abiel Adolfo Segura-Olivares M.D.²
2LT Frida Paulina Partida-Zaragoza M.D.²
2LT Daniel Emanuel González-Meléndez M.D.²
2LT Angélica Nava-Pedraza M.D.²
2LT Daniel Gallegos-Díaz M.D.²
2LT Oscar Eduardo Castro-Flores M.D.²
2LT Juan Carlos Vega-Vargas M.D.²
2LT Guadalupe Flores-Oviedo M.D.²
2LT Marbella del Socorro Butrón-Candila M.D.²
2LT Yolanda Guadalupe Damián-del Ángel M.D.²

2LT Janeth Ramírez-Beltrán M.D.²
MAJ. Damián Rios-Vela M.D.¹
LTC. Iván Noé Martínez-Salazar M.D., M.A., Ph.D.¹
¹Military Central Hospital Mexico City, Mexico.
²Military School of Medicine, Mexico City, Mexico.

Corresponding author: LTC. Ivan Noe Martínez-Salazar M.D., M.A., Ph.D.,
Periférico Blvd Manuel Ávila Camacho S/N, Miguel Hidalgo, C.P. 11200,
CDMX. Email: drivanmartinez@icloud.com

ABSTRACT

Introduction: TQuality of life is a multidimensional concept, which comprises physical, material and social well-being as well as development and activity. It is the subjective perception of general satisfaction that is related to physical, mental and social factors. It enables the realization of the potentialities of individuals in their daily life. Coverage can be categorized into five dimensions: physical well-being, material well-being, social well-being, emotional well-being, and development and activity.

Objective: Evaluate the quality of life and morale in military health staff through the digital application of the Morale Survey and Q-LES-Q instruments.

Material and methods: Observational, transversal and descriptive study. The Questionnaire on Quality of Life: Satisfaction and Pleasure (Q-LES-Q) and a Morale Survey were applied to military personnel working in the Military Central Hospital (N= 2519), with a representative sample of the population of n= 1517 for the Q-LES-Q questionnaire and n=1002 for the Morale Survey. Descriptive and inferential statistics was used to evaluate both questionnaires.

Results: Out of 1517 individuals, only 34% (510) fully answered the Q-LES-Q questionnaire; while of the 1002 individuals in the Morale Survey, only 93% (929) fully answered the survey; results showed a tendency of experiencing a good quality of life and high morale.

Conclusions: The Morale Survey is a reliable method (Cronbach's Alpha coefficient of 0.83) for quality of life and it is more likely to be answered completely for evaluation.

Keywords: Quality of life, morale, military personnel

RESUMEN

Introducción: la calidad de vida es un concepto multidimensional que comprende bienestar físico, material y social, así como desarrollo y actividad. Es la percepción subjetiva de satisfacción general que está relacionada con factores físicos, mentales y sociales. Permite materializar las potencialidades de los individuos en su vida diaria. La cobertura puede ser categorizada en cinco dimensiones: bienestar físico, bienestar material, bienestar social, bienestar emocional, y desarrollo y actividad.

Objetivo: evaluar la calidad de vida y la moral en personal militar de salud a través de la aplicación digital de una Encuesta sobre Moral y el instrumento Q-LES-Q.

Métodos y materiales: estudio observacional, transversal y descriptivo. El Cuestionario sobre Calidad de Vida: Satisfacción y Placer (Q-LES-Q) y Encuesta sobre Moral se aplicaron a personal militar que trabaja en el Hospital Central Militar (N= 2519), con una muestra representativa de la población de n= 1517 para el cuestionario Q-LES-Q y n=1002 para la Encuesta sobre Moral. Se usó estadística descriptiva e inferencial para evaluar ambos cuestionarios.

Resultados: de los 1517 participantes sólo 34% (510) respondió en su totalidad el cuestionario Q-LES-Q; mientras que de los 1002 individuos en la Encuesta sobre Moral sólo 93% (929) la respondió completamente. Los resultados muestran una tendencia a experimentar una buena calidad de vida y elevada moral.

Conclusiones: la Encuesta sobre Moral es un método confiable (coeficiente alfa de Cronbach de 0.83) en calidad de vida y es más probable que sea respondido en su totalidad en una evaluación.

Palabras clave: calidad de vida, moral, personal militar

INTRODUCTION

The World Health Organization (WHO) defines quality of life as the way in which individuals perceive their place in the cultural environment and in the value system in which they live, in relation to their objectives, criteria and expectations.(1)

The factors that appear to influence quality of life are physical and mental health, functional skills, being able to care for oneself, economic status, social relations, access to social and health services, housing quality and, in the immediate context, being able to feel satisfied with life, being able to access cultural and educational opportunities and having opportunities to learn new things.(2)

Medical practice aims to preserve the quality of life through the prevention and treatment of diseases.(3) A valid approach to its measurement is based on the use of questionnaires, which help to effectively quantify health problems.(4)

In 1948, WHO defined "health" as the complete state of physical, mental and social well-being, not only as the absence of disease. Numerous studies have been carried out to translate this conceptual definition into objective methods that, through questionnaires or various instruments, generate scales and indices to facilitate the measurement of the dimensions that make up the state of health.(5)

There are multiple instruments designed to assess the dimensions comprised in the measurements of health and quality of life.(6)

Since some of the components of quality of life cannot be directly observed, these are assessed by means of questionnaires, which contain groups of questions and each of them represents a variable that contributes with a specific weight to an overall rating for a factor or domain. Theoretically, it is assumed that there is a true value of quality of life and that it can be indirectly measured on some scales.(7)

As quality of life is based on measurements with a variable subjectivity load, valid, reproducible and reliable assessment methods are required. Better assessment knowledge to measure quality of life will allow these tools to be incorporated into the comprehensive assessment of individuals, in the conduction of clinical trials and in health service research.(8)

Work overload and free time reduction among military personnel of the Mexican Army and Air Force are factors that negatively impact on the mental health state of such personnel. Stress owing to lack of rest impacts the efficiency of their activities, and also affects appropriate family interactions and other social behaviors.(9)

In 2019, the Ministry of National Defense published the "Directive of Mexican Army and Air Force to strengthen morale and discipline", aiming to increase morale and benefit military personnel so that they have more time to rest, integrate with their families and promote as well physical, mental and emotional recovery.(9) On the other hand, the National Defense Sector Program 2020-2024 aims to evaluate the morale of military personnel to find out their

satisfaction level as regards their work and daily life.

The number one priority of this program is to further genuine leadership at all levels of the hierarchy, prioritizing military discipline and giving priority to staff morale and the well-being of their families. Focusing on strengthening human resources in their physical, intellectual and mental aspects as well as increasing their quality of life as a priority and starting point that allows timely fulfilling the assigned missions and tasks.(10)

In order to obtain results and verify that the orders issued by superiors are being carried out, the Morale Survey was created by the High Command of the Ministry of National Defense of Mexico with the aim of identifying the quality of life of military personnel. An internal validation of the Military Population Morale Survey was required to define whether it is a reliable tool for assessing quality of life, for which reason it will be compared with the Quality of Life: Satisfaction and Pleasure Questionnaire (Q-LES-Q) to seek a meaningful relationship between the two assessment instruments.

MATERIAL AND METHODS

An observational, transversal and descriptive study. The population was N= 2519 military personnel working in the Military Central Hospital, and a representative sample of the population was taken: n=510 individuals for the Q-LES-Q questionnaire and n= 929 individuals for the Morale Survey. Both questionnaires were applied to military personnel of different gender, age and military rank. For the collection of data, the Questionnaire on Quality of Life: Satisfaction and Pleasure (Q-LES-Q) was applied, which assessed the degree of pleasure and satisfaction experienced by the subject in various areas of daily operation. It is a self-applied management tool,(11) which consists of 93 items, 91 of which explore the satisfaction and pleasure experienced in the following 8 areas: physical health status (13 items), mood (14 items), work (13 items), home activities (10 items), class/course tasks (10 items), leisure activities (6 items), social relations (11 items) and general activities (14 items). The remaining 2 items measure satisfaction with medication and overall satisfaction. Each item is answered on a 5-frequency-point Likert scale that oscillates between never and very often or always. The time frame was last week.

The Morale Survey assesses the level of satisfaction at work, it consists of 2 parts: a socio-demographic section, which includes name, gender, age group, military hierarchy and military grade, and another section with 13 items based on the following areas: knowledge of arrangements, benefits and entitlements (rewards, allowances, holidays, licenses or leaves of absence), quality of health services, quality of food services, maintenance of facilities and workplace environment (motivation, equality, relationships between subordinates and superiors). Each item is answered on a nominal dichotomous scale (yes/no) and has a free section to specify each answer.

Surveys were presented over the digital platform SurveyMonkey®,

where participants provided their digital consent. The personnel received the survey in their personal electronic devices.

The reliability of the Q-LES-Q questionnaire was a Cronbach's alpha coefficient of 0.871, while the reliability of the Morale Survey was 0.83. SPSS V27 was used for data analysis.

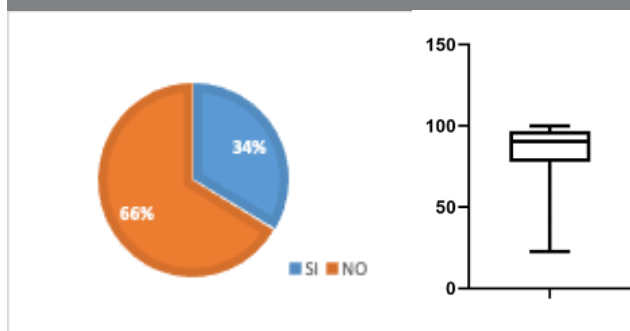
Descriptive and inferential statistical analyses with Kolmogorov-Smirnov statistical tests were applied to perform normality tests and percentile development for the identification of quartiles.

RESULTS

In the analysis of the Q-LES-Q questionnaire and the Moral Survey, the results showed a non-normal distribution ($p=0.001$ for both questionnaires). Of the 1517 individuals who answered the Q-LES-Q questionnaire, only 34% (510) answered all the items (Figure 1). When producing the mustache graph to observe the distribution of the percentages the following results were obtained: from an $n=510$, a median of 90.54%, a minimum value of 22.58%, a maximum value of 100% and a 25th percentile of 77.8 which is equivalent to 126 (24.70%) individuals in the above-mentioned sample (Figure 2).

Figure 1. Percentage of participants who fully answered the Q-LES-Q questionnaire.

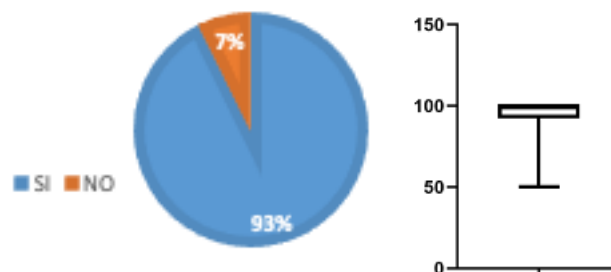
Figure 2. Percentages of the Q-LES-Q questionnaire.



On the other hand, in the analysis of the Morale Survey, out of the 1002 survey respondents, 93% (929) answered it in full (Figure 3). When producing the mustache graph to observe the distribution of the percentages the following results were obtained: from an $n=929$, a median of 100%, a minimum value of 50%, a maximum value of 100% and a 25th percentile of 92.31 which is equivalent to 239 (25.72%) individuals in the above-mentioned sample (Figure 4).

Figure 3. Percentage of participants who completed the Morale Survey.

Figure 4. Percentages of the Morale Survey.



A distribution was made by intervals expressed as a percentage of each of the surveys according to the degree of quality of life of the individuals, taking the values between the 25th percentile and the maximum value of each of the evaluation instruments used, this way, the sections obtained were defined "very low, low, moderate/intermediate, high and higher" according to the percentage obtained (Figures 5 and 6).

Figure 5. Interval distribution of the results of the Q-LES-Q questionnaire.

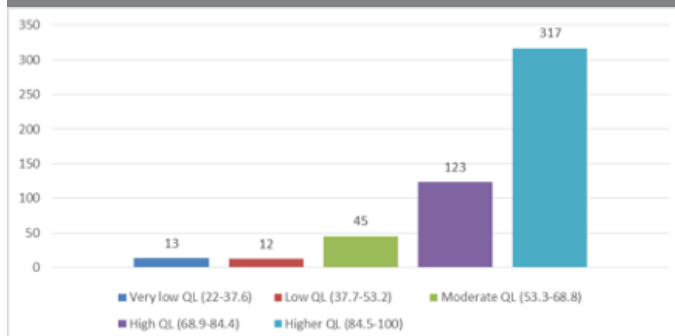
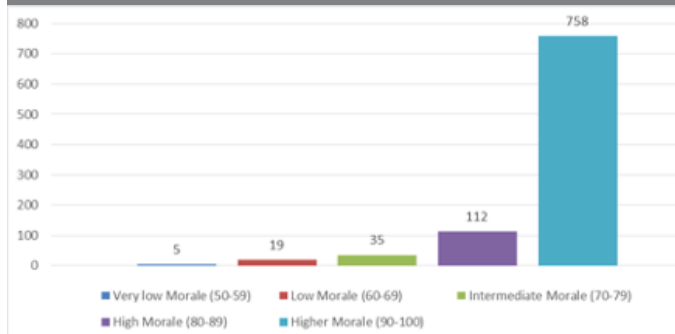


Figure 6. Interval distribution of the results of the Morale Survey.



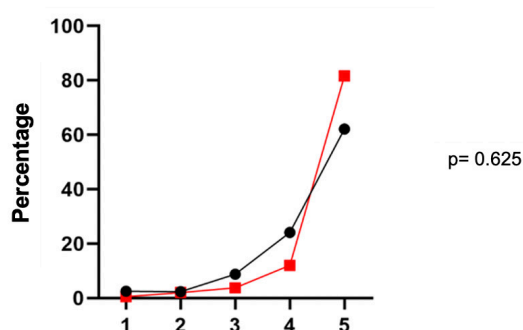
When testing the Wilcoxon sign ranges, two hypotheses were established:

H0: The results obtained from both surveys are the same in terms of assessing the quality of life.

H1: The results obtained from both surveys are different in terms of assessing the quality of life.

When analyzing the data obtained from the Wilcoxon sign ranges, a $p = 0.625$ was found, which means that the null hypothesis (H0) cannot be rejected because no significant differences were found, so we concluded that the results of both surveys are similar in both cases. (Figure 7).

Figure 7. Comparison of the two evaluation surveys.



DISCUSSION

After analyzing the results of the Morale Survey and obtaining a Cronbach's Alpha coefficient of 0.83, we assume that such survey is a reliable indicator of quality of life.

The results from this questionnaire produced a median with a value of 100%, a value that indicates that the individuals who participated in the study show a good quality of life with respect to aspects assessed in the morale questionnaire.

Of the 100% of the population that responded to the Morale Survey, only 25.72% of the total sample (239 individuals) is below the 25% percentile, these data are not an indicator of poor quality of life, since the value of this percentile is 92.31% of the 100% expected.

The Morale Survey has been made easier for military personnel to answer because of the lower number of items as compared with Q-LES-Q; this was observed in the analysis of results, as the vast majority completely answered the questionnaire, which was important to obtain similar results to Q-LES-Q in terms of the reliability of the survey to assess quality of life.

Results allow assuming that high morale is related to an increase in the quality of life in the military personnel working in the Military Central Hospital.

The results obtained by the Morale Survey and the Q-LES-Q questionnaire are very similar (median of 90.54%, a minimum value of 22.58%, a maximum value of 100% and a 25% percentile of 77.8), differences may be attributed to the fact that out of the individuals who participated in the study, only 34% answered the Q-LES-Q questionnaire in full, which could have affected the results because of a greater bias from the decrease in the sample.

ACKNOWLEDGMENTS

This research was developed as a project of "Research line on Mental Health of the Mexican Army and Air Force", funded by program "A022 investigación y desarrollo militar en coordinación con universidades públicas, instituciones públicas de educación superior y/o demás centros públicos de investigación superior" [A002 military research and development in coordination with public universities, public higher education institutions and/or public advanced research centers].

REFERENCES

1. Bonicatto S, Soria J. The quality of life instruments of the World Health Organization. User's Manual. La Plata: Tasting; 1998.
2. FERNANDEZ-BALLESTEROS R, ANTON AM. Calidad de vida en la vejez. INTERVENCIÓN PSICOSOCIAL. 1993;2(5).
3. Testa MA, Simonson DC. Assessment of quality-of-life outcomes. N Engl J Med. 1996 Mar 28;334(13):835-40. doi: <https://doi.org/10.1056/nejm199603283341306>
4. Gill TM, Feinstein AR. A critical appraisal of the quality of quality-of-life measurements. JAMA. 1994 Aug 24;272(8):619-26.
5. Arribas MCM. Diseño y validación de cuestionarios. Matronas profesión. 2004;5(17):23-9.
6. Jönsson B. Assessment of quality of life in chronic diseases. Acta Paediatr Scand Suppl. 1987;337:164-9. doi: <https://doi.org/10.1111/j.1651-2227.1987.tb17155.x>
7. Alonso J, Prieto L, Antó JM. The Spanish version of the Nottingham Health Profile: a review of adaptation and instrument characteristics. Qual Life Res. 1994 Dec;3(6):385-93. doi: <https://doi.org/10.1007/bf00435390>
8. Velarde-Jurado E, Avila-Figueroa C. [Evaluation of the quality of life]. Salud Publica Mex. 2002 Aug;44(4):349-61.
9. Secretariat of National Defense. Directive to strengthen morale and discipline in the Army and F.A.M. 2019.
10. Ministry of National Defense. National Defense Sector Program 2020- 2024. 2020.
11. Endicott J, Nee J, Harrison W, Blumenthal R. Quality of Life Enjoyment and Satisfaction Questionnaire: a new measure. Psychopharmacol Bull. 1993;29(2):321-6.