

Psychological Well-Being of Medical Residents of a Public University in Mexico

Bienestar psicológico en médicos residentes de una universidad pública en México

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ABSTRACT

Introduction: In Mexico there is a lack of knowledge about the importance of promotion of psychological well-being in Medical Education. Most of the research focuses on the pathologies developed during his journey as a student in relation to the adverse environments they face. **Objective:** To identify the level of psychological well-being in medical residents from first to fourth year of a public university in Mexico and the need for its inclusion in the formal curriculum in Medical Education. **Method:** Descriptive and cross sectional study. The Ryff Psychological Wellbeing Scale (SPWS) was used which was previously validated in the study population. 157 first to fourth year residents of the different specialties participated. **Results:** The scale was made up of four factors. It was found that 35.1% had low levels and 33.7% average levels of psychological well-being. **Conclusions:** Most of the residents showed levels of medium and low psychological well-being, which make reference to the relevant decision made by the corresponding authorities that include the promotion of psychological well-being within the formal curriculum of Medical Education.

Keywords

psychological well-being; medical residents; medical specialty; medical education.

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RESUMEN

Introducción: En México se carece de conocimiento sobre la importancia y la promoción del bienestar psicológico en la educación médica. La mayoría de las investigaciones centran su atención en las patologías desarrolladas durante el trayecto como estudiante en relación con los ambientes adversos a los que se enfrentan. **Objetivo:** Identificar el grado del bienestar psicológico en médicos residentes de primero a cuarto año en

una universidad pública en México y la necesidad de su inclusión dentro del currículo formal en la educación médica. **Método:** Estudio descriptivo de corte transversal. Se utilizó la Escala de Bienestar Psicológico de Ryff (SPWB), que previamente se validó en la población de estudio. Participaron 157 residentes de primero a cuarto año de las diferentes especialidades. **Resultados:** La escala quedó conformada por cuatro factores. Se encontró que el 35,1 % presentaba niveles bajos, y el 33,7 %, niveles medios de bienestar psicológico. **Conclusiones:** La mayor parte de los residentes mostraron niveles entre medio y bajo de bienestar psicológico, lo que hace alusión a la toma de decisiones pertinentes por parte de las autoridades correspondientes en las que se incluya la promoción del bienestar psicológico dentro del currículo formal en la educación médica.

Palabras clave

bienestar psicológico; médicos residentes; especialidad médica; educación médica.

Introduction

In Mexico, psychological well-being (PW) has been little studied during medical training. Most research tends to focus on pathologies such as depression, anxiety, stress, burnout and suicidal ideation (1-3), leaving a gap in knowledge about the importance of caring for PW of physicians (4).

During their training, doctors are exposed to long working hours and highly competitive environments; in addition, they face situations of abuse or harassment (5,6). This situation results in the deterioration of their PW, which facilitates the development of physical (7) and psychological (8-10) pathologies, and in a weakening of their ability to empathize with people (11,12).

It is increasingly relevant to study the PW. Starting from humanistic psychology, it articulates the concepts of Erikson's life-cycle theories (1959), Roger's fully functioning person (from 1961) and Maslo's self-realization (1968), mainly (13), to what today is known as *positive psychology*, which was given its name by Seligman in the late 1990s (14). Two approaches have been proposed for its study: hedonics and eudaimonics. The first is mainly related to happiness, satisfaction with life and positive or negative affectivity (subjective well-being); the

second is linked to the development of human potential (psychological well-being) (13).

PW includes both evaluative elements and reactions and emotional states that the person experiences throughout life (7). For the present study, PW is understood according to the multidimensional model proposed by Ryff in 1989, which is composed of six dimensions: (i) self-acceptance, which refers to the degree of satisfaction that a person has with himself or herself, being aware of his/her strengths and limitations; (ii) autonomy, which indicates the ability to maintain individuality and independence in decision-making; (iii) positive relations with others, which refer to the extent to which the person has stable and socially significant social networks; (iv) environmental mastery, which refers to the perception of an individual's control and influence over his/her environment; (v) purpose in life, which relates to the goals that the individual sets for himself or herself in life and which give meaning to it; and (vi) personal growth, which considers the effort to continue developing all personal potentialities and capabilities (15). This model has been used the most, since adequate reliability and validity indicators have been found (13).

Studies performed worldwide have found that PW is associated with low work burnout (16), and is also considered an important predictor of interpersonal relationships and optimal psychological functioning (17). In general, people with high levels of PW have been shown to cope better with the demands and challenges of the environment (18), are more productive and valued at work, endure pain better, take better care of their health, show more flexible thinking and accept different opinions (14); in addition, some research shows that PW has a role in both prevention and recovery from physical illness (7). Other studies have shown that an education based on psychological well-being improves students' learning and creativity (19), and helps them to be more motivated and perform better academically (20,21).

In the field of medical education, a negative correlation has been observed between well-being and anxiety (22). In addition, it has

been shown that it is possible to modify PW through intentional activities. An example of this are several studies carried out in different parts of the world in the last decade, which agree that after applying a mindfulness-based program in population of the health area, an improvement was observed in both PW and attitudes associated with patient-centered care, including empathy (23-25); a reduction in burnout, anxiety and other emotional problems of the students was also achieved (26,27). In this sense, other studies suggest that through this type of interventions, medical errors related to the doctor's lack of awareness about his/her own cognitive and affective processes could be reduced (28). All this indicates that with appropriate interventions aimed at medical residents, it is possible to improve PW levels and its consequences. In Mexico, no information was found on this subject in relation to medical residents.

Based on the available evidence, it is concluded that incorporating activities aimed at caring medical residents' PW into the curriculum, based on the promotion of positive thinking, emotions and behaviors and the development of individual strengths, will be very beneficial, not only on a personal level, which will be reflected in a decrease in stress, anxiety and depression, but also in better academic achievement, professional performance and greater empathy with patients.

Objective of the study

To identify the PW levels in first to fourth year medical residents of a public university in Mexico.

Material and methods

Descriptive, cross-sectional, not experimental study.

Participants

Students of different medical specialties from first to fourth year of a public university in Mexico in the 2017-2018 academic period, who agreed to participate voluntarily and who signed the informed consent.

Tools

Because the psychometric properties of the scale vary according to the sample studied, due to differences in sociocultural factors (29), the scale was adapted and validated to the study population using the factor analysis technique; as a result, 9 items were eliminated, and in the end it was composed of 30 items.

The Scale of Psychological Well-being (SPWB), developed by Ryff in 1989, was used in its Spanish adaptation by Dierendonck in 2006.

The factorial structure found consists of four subscales: (i) autonomy and personal growth ($\alpha = 0.915$), e.g., "I am concerned about how others evaluate the choices I have made in my life"; (ii) self-acceptance ($\alpha = 0.847$), e.g., "When I review my life story, I'm happy with how things have turned out"; (iii) positive relations with others ($\alpha = 0.80$), e.g., "I think most people have more friends than I do"; and (iv) environmental mastery ($\alpha = 0.65$), e.g. "I have been able to build a home and a way of life to my liking". Cronbach's α of the full scale was 0.915. It is self-administered, with a response format with scores ranging from 1 (strongly disagree) to 6 (strongly agree), with a possible range of 30 to 180. A sociodemographic data collection sheet was included.

Procedure

Data were collected during November 2017. Medical Units Receiving Residents (UMRR, by its Spanish acronym) were visited, and with the support of the authorities, all residents were invited to answer the instrument. They were told that there was not mandatory to answer

it, and those who decided to participate signed the informed consent. Students absent from the UMRR at the time of the evaluation were not taken into account; questionnaires that were not completely answered were excluded.

Data analysis

Data analysis was carried out with the IBM™ SPSS™ 20 statistical program. The Kolmogorov-Smirnov test was used to determine the normality of the sample data. Tertiles were calculated to establish the cut-off points and to identify the level of PW.

Ethical considerations

The confidentiality of the respondents was respected, thus complying with the Declaration of Helsinki. They received no compensation for participation in this study. The UMRR Research Committee gave its approval.

Results

Characteristics of the population

One hundred and fifty-seven residents participated out of a total of 238, who belonged to one area, and who were studying different specialties. 48.4% were women and 51.6% were men, aged between 24 and 44 (average = 29.05; SD = ±3.381). 73.9% were single; 80.03% mentioned that they had economic independence; 54.1% said that they lived alone, and 71.3% said no that they had no economic dependents; 84.1% come from different Mexican states; 38.2% are in the third year, and 26.6% are in family medicine (Table 1).

Table 1.
Socio-demographic characteristics of medical residents

Characteristics	n = 157	%
Sex		
Female	76	48.4
Male	81	51.6
Marital status		
Single	116	73.9
Married	29	18.5
Consensual union	12	7.6
Year of residence		
R1	78	49.7
R2	45	28.7
R3	30	19.1
R4	4	2.5
UMRR		
UMRR1	48	30.6
UMRR2	41	26.1
UMRR3	60	38.2
UMRR4	8	5.1
Place of origin		
Host city	25	15.9
Other states	132	84.1
Who does he/she live with		
Alone	85	54.1
Spouse	28	17.8
Companions	19	12.1
Parents	14	8.9
Other relatives	11	7
Economically dependent		
No	126	80.03
Yes	31	19.97
Economic dependents		
No	112	71.3
Yes	45	28.7

UMRR: Medical Unit Receiving Residents.

Factorial analysis

Factorial analysis of the SPWB scale made it possible to determine 4 factors that together explained 44.59% of the variance. It was necessary to eliminate 9 items that did not meet the required factorial load criteria. The factors were constituted as follows: (i) Autonomy and personal growth (items 4, 5, 8, 22, 25, 27, 29, 30, 33 and 36); (ii) Self-acceptance (items 1, 3, 7, 17, 18, 19, 24, 28, 31, 32, 35, 37 and 38); (iii) Positive relations with others (items 2, 9, 20, and 26); and (iv) Environmental mastery (items 11, 12 and 21).

Levels of psychological well-being

With respect to the global score shown by the scale, 37.06% had a medium level. As for the analysis by dimension: autonomy and

personal growth, 36.9% had a low level; in self-acceptance, 36.9% had a medium level; in positive relations with others, 36.9% had a low level, and 36.9% had a medium level; in environmental mastery, 44.6% had a low level (Table 2).

Table 2.
Levels of psychological well-being of medical residents

Dimension	Low (%)	Medium (%)	High (%)
Global score	29.9	37.06	29.9
Autonomy and personal growth	36.9	31.2	31.8
Self-acceptance	36.3	36.9	26.8
Positive relations with others	36.9	36.9	26.1
Environmental mastery	44.6	31.2	24.2

With regard to sex, 42% of men had low levels of PW, while 39.5% of women had a medium level. In terms of place of origin, 42.4% of those coming from outside the host city had low levels of PW; of those living in the host city, 40% had medium levels. As for marital status, 39.7% of the singles had low levels of PW (Table 3).

Table 3.
Levels of psychological well-being by sex, marital status and place of origin

Global PW	Sex (%)		Marital status (%)			Origin (%)	
	Female	Male	Married	Single	Consensual union	Host city	Other states
High	25	34.6	34.5	31	8.3	40	28
Medium	39.5	23.4	34.5	29.3	41.7	40	29.5
Low	35.5	42	31	39.7	50	20	42.4
Autonomy and personal growth							
High	34.2	30.9	44.8	30.2	25	44	30.3
Medium	34.2	28.4	24.1	34.5	16.7	32	31.1
Low	37.6	40.7	31	35.3	58.3	24	38.6
Self-acceptance							
High	28.9	27.2	34.5	27.6	16.7	40	25.8
Medium	40.8	37	24.1	41.4	50	40	38.6
Low	30.3	35.8	41.4	31	33.3	20	35.6
Positive relations with others							
High	27.6	25.9	41.4	22.4	33.3	32	25.8
Medium	36.8	37	31	40.5	25	40	36.4
Low	35.5	37	27.6	37.1	41.7	28	37.4
Environmental mastery							
High	27.6	21	27.6	24.1	16.7	28	23.5
Medium	26.3	39.5	37.9	31.9	33.3	28	34.1
Low	46.1	39.5	34.5	44	50	44	42.4

Levels of psychological well-being per year

In the overall score of the scale it was observed that second year residents (42.2%) and fourth year residents (50%) had the lowest levels (Table 4). In terms of autonomy and personal growth, third-year residents (40%) had a low level, and fourth-year residents (50%) had a medium level (Table 4).

Table 4.
Levels of psychological well-being by year of residence

Dimension	Year	Low (%)	Medium (%)	High (%)
Global score	1	28.2	37.2	34.6
	2	35.6	42.2	22.2
	3	36.7	33.3	30
	4	50	25	25
Autonomy and personal growth	1	35.9	35.9	28.2
	2	37.8	26.7	35.6
	3	40	23.3	36.7
	4	25	50	25
Self-acceptance	1	33.3	35.9	30.08
	2	35.6	46.7	17.8
	3	46.7	26.7	26.7
	4	25	25	50
Positive relations with others	1	37.2	35.9	26.9
	2	40	33.3	26.7
	3	30	46.7	23.3
	4	50	25	25
Environmental mastery	1	38.5	37.2	24.4
	2	53.3	24.4	22.2
	3	46.7	23.3	30
	4	50	50	0

Discussion

The objective of the study was to identify the levels of PW of medical residents of a public university in Mexico and the need to include this aspect in the formal curriculum of medical education. From the paradigm of positive psychology on PW, the situation prevailing among medical residents in this study was evidenced, highlighting the importance of incorporating into the formal curriculum of the medical specialties permanent activities aimed at promoting PW, taking as an example universities from other countries where it has already been proven to be effective in reducing the risk of developing depression, stress, anxiety and burnout, focusing on recognizing students' strengths and achievements, which will help them to develop a more rewarding work during their training stage and in their later professional life (30).

Under this line, the results showed that most of the population studied has medium to low levels of PW, after considering the global scores. In the analysis of the sociodemographic variables, men had the lowest levels, while those living in consensual union and those who came from outside the host city had the lowest levels, similar

to what was found in a study carried out in Chile, in students of health careers (19). It should be noted that the scale was validated with the study population and that better adjustments were found with only 4 dimensions and not with 6, as in the original Ryff scale, similar to the validation made in Mexican university students in 2017 (31).

With regard to the analysis of the self-acceptance dimension, it was observed that first and second year residents had medium levels, third year residents had the lowest levels, while fourth year residents had the highest levels. This does not coincide with the theory, since it mentions that throughout their professional training, many doctors see a deterioration in their perception of their talents and potential (11), and although from the first to the third year such a situation was observed, in last year residents this changed, and most showed high levels of self-acceptance, which was possibly due to the size of the sample of these residents.

Autonomy and personal growth were merged as one dimension. After adaptation to the study population, a trend towards low levels was observed in first, second and third year residents, while most of fourth year residents had medium levels. This situation could be due to the fact that decision-making regarding academics and patients is usually in the hands of treating physicians or senior residents.

In terms of the dimension of positive relations with others, it was again observed that first and second year residents had low levels, and third year residents had medium levels; most fourth year residents had again low levels. In accordance with what has already been mentioned about the adverse context in which the residents find themselves (5,6), and taking into consideration that most of the population in this study comes from different Mexican states, most of which had low levels, it can be inferred that being far from their families and friends, added to the working hours that prevent residents from sharing with them, could explain this result, since personal relationships could be affected.

Finally, in the dimension of environmental mastery, it was observed that most first- to third-

year residents had low levels, while fourth-year residents were divided in half between medium and low levels. These findings are an essential part of the study, as they confirm that medical residents do not have the tools to cope with the adverse environments in which they carry out their daily activities as students and as doctors, so they are absorbed by their context, without being able to regain control. This could be related to the results of research showing the development of pathologies such as depression, anxiety, stress and burnout during the training period (2,3-6) which suggests that there is a lack of psychological strategies to prevent them as an obligation of medical education.

A strength of the present study is that the scale was adapted to the population following strict psychometric criteria. The tools cannot be used without proper psychometric validation, as this leads to distorted and inaccurate scores, by not taking into account the psychosocial factors that induce variability in the population studied (29,32). On the other hand, this causes problems when comparing the data obtained with those of the present study, since in most cases the authors do not offer the validation work that they carried out with their scales. More work using strict psychometric procedures is required in order to compare their results with those obtained in this research.

Conclusions

More than half of the residents had medium to low levels on the psychological well-being scale, both in the overall score and in each of its dimensions. This highlights the importance of making relevant adjustments to the formal curriculum of medical education, taking up again the contributions offered by positive psychology, since this has shown an improvement in psychological well-being, and therefore a decrease in depression, anxiety and stress symptoms. In other words, it is pertinent to begin to include psychological well-being as one more competence to be developed during medical

education. It is important to do more research in this population.

Limitations of the study

The conditions of schedules and activities of the participants did not make it easy for them to attend the sessions in which the information was collected, so they were excluded from the study.

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Notes

Conflicts of Interest: We declare no conflict of interest.