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RESEARCH

RELATIONSHIP BETWEEN EMPATHY AND QUALITY OF LIFE: A STUDY WITH PRIMARY HEALTH CARE PROFESSIONALS

RELAÇÃO ENTRE EMPATIA E QUALIDADE DE VIDA: UM ESTUDO COM PROFISSIONAIS DA ATENÇÃO PRIMÁRIA À SAÚDE

RELACIÓN ENTRE EMPATÍA Y CALIDAD DE VIDA: UN ESTUDIO CON PROFESIONALES DE ATENCIÓN PRIMARIA DE SALUD

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ABSTRACT

Objective: to understand the relationship between empathic behavior and quality of life of public health care workers at the primary level. **Material and method:** this is a cross-sectional, survey-type and quantitative study that investigated 111 primary health care professionals (dental surgeons, doctors and nurses) and 888 users. To assess empathy and quality of life, the instruments used were The World Health Organization Quality of Life Assessment – Bref and the Consultation and Relational Empathy, respectively. The dependent variable "global empathy" was created from the junction of questions, and the independent ones referred to demographic, work and quality of life characteristics. For the analysis, a dimensionality reduction and logistic regression test was performed. **Results:** it was verified that 32% of the professionals had partial global empathy. Individuals under 30 years old and between 41 and 50 years old were less empathic, while those over 50 years old were more empathic. Reduced satisfaction with working capacity increases the chances of partial global empathy (OR=1.81), as well as the extreme need or lack of medical treatment to lead your life (OR=1.80; OR=1.52), high opportunity for leisure (OR=1.30), high satisfaction of professionals regarding their own access to health services (OR=2.67) and significant frequency of negative feelings (OR=2.53; OR=1.24). **Conclusion:** the empathic behavior of the professionals is directly related to age and various dimensions of quality of life, being essential to invest in strategies that enhance the quality of life of workers, for direct qualification of the services they provide.

Keywords: Health Education; Oral Health; Health Personnel; Community-Institutional Relations.

RESUMO

Objetivo: *compreender a relação entre comportamento empático e qualidade de vida de trabalhadores da rede pública de atenção à saúde no âmbito primário.* ***Material e método:*** *trata-se de estudo transversal, tipo inquérito, quantitativo, que investigou 111 profissionais da atenção primária em saúde (cirurgiões-dentistas, médicos e enfermeiros) e 888 usuários. Para avaliar a empatia e qualidade de vida utilizaram-se os instrumentos The World Health Organization Quality of Life Assessment - Bref e o Consultation and Relational Empathy, respectivamente. A variável dependente empatia global foi criada a partir da junção de questões, e as independentes referiram-se as características demográficas, de trabalho e de qualidade de vida. Para a análise, realizou-se teste de redução de dimensionalidade e regressão logística.* ***Resultados:*** *verificou-se que 32% dos profissionais apresentaram empatia global parcial. Indivíduos com menos de 30 anos e entre 41 e 50 anos apresentaram-se menos empáticos, enquanto os com mais de 50 anos foram mais empáticos. A satisfação reduzida com a capacidade de trabalho amplia as chances de empatia global parcial (OR=1,81), assim como a necessidade extrema ou a ausência de tratamento médico para levar sua vida (OR=1,80; OR=1,52), a elevada oportunidade de lazer (OR=1,30), a alta satisfação do profissional quanto ao acesso próprio aos serviços de saúde (OR=2,67) e frequência significativa de sentimentos*

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negativos (OR=2,53; OR=1,24). ***Conclusão:*** *o comportamento empático dos profissionais apresenta relação direta com a idade e várias dimensões da qualidade vida, sendo fundamental o investimento em estratégias potencializadoras da qualidade de vida do trabalhador, para qualificação direta dos serviços por eles prestados.*

Palavras-chave: *Educação em Saúde; Saúde Bucal; Pessoal de Saúde; Relações Comunidade-Instituição.*

RESUMEN

Objetivo: *comprender la relación entre el comportamiento empático y la calidad de vida de los trabajadores de salud pública en el nivel primario.* ***Material y método:*** *estudio transversal, tipo encuesta, cuantitativo, que investigó a 111 profesionales de atención primaria de la salud (cirujanos dentales, médicos y enfermeros) y 888 usuarios. Para evaluar la empatía y la calidad de vida, se utilizaron los instrumentos The World Health Organization Qualityof Life Assessment – Bref y el Consultation and Relational Empathy, respectivamente. La variable dependiente empatía global se creó a partir de la unión de preguntas, y las independientes se refirieron a las características demográficas, laborales y de calidad de vida. Para el análisis se realizó una prueba de reducción de dimensionalidad y regresión logística.* ***Resultados:*** *se encontró que el 32% de los profesionales tenían empatía global parcial. Las personas menores de 30 años y entre 41 y 50 años eran menos empáticas, mientras que las mayores de 50 años eran más empáticas. La reducción de la satisfacción con la capacidad de trabajo aumenta las posibilidades de empatía global parcial (OR = 1,81), así como la extrema necesidad o falta de tratamiento médico para llevar la vida (OR = 1,80; OR = 1,52), alta oportunidad de ocio (OR = 1,30), alta satisfacción de los profesionales con respecto a su propio acceso a los servicios de salud (OR = 2,67) y frecuencia significativa de sentimientos negativos (OR = 2,53; OR = 1.24).* ***Conclusión:*** *el comportamiento empático de los profesionales está directamente relacionado con la edad y con varias dimensiones de la calidad de vida, siendo esencial invertir en estrategias que mejoren la calidad de vida de los trabajadores, para la calificación directa de los servicios que brindan.*

Palabras clave*: Educación en Salud; Salud Bucal; Personal de Salud; Relaciones Comunidad-Institución.*

INTRODUCTION

Empathy is a word derived from the Greek *empatheia* and generally refers to the appreciation of another person's feelings and perspectives. Currently, it is perceived as an individual socio-emotional ability and also as a multidimensional ability, since it involves cognitive, affective and behavioral magnitudes. Thus, empathy should not be interpreted as a natural aptitude, but as a skill to be acquired. As a skill, empathic behavior represents one of the central domains of emotional intelligence, social skills, and communication.[1]

In health, empathy is an indispensable diagnostic and therapeutic tool and involves: active listening, problem identification and related emotions, and body language expression. Authors also mention unfolding of the empathic capacity on the patient's sense of security, both in technical and humanized terms.[1-3]

In Brazil, the public health system, despite numerous qualitative advances suffered through policies aimed at the humanization of its actions and services (with valuation of the bond, the welcoming and active listening to the user), has not yet focused strongly on the factors that involve the empathy element of their workers. It is also important to consider that, although the guidelines for the formation of different professional categories emphasize the importance of emotional skills and competences, with emphasis on professionals sensitized and committed to the human being, there are few studies that specifically address this theme.[4]

Regarding quality of life, the concept formulated by the World Health Organization establishes: "An individual's perception of their position in life in the cultural context and value system in which they live and in relation to their goals, expectations, concerns and desires. This definition emphasizes the subjectivity and multidimensionality of the object, because, in addition to individual factors, there is a mixture with religious, ethical, professional and cultural factors. The quality of life of health professionals is a very relevant aspect, as they are routinely inserted in environments that promote emotional stimuli, work overload and hierarchy, interpersonal relationships and treatment of debilitating diseases, and these aspects can generate stress, negative factors and illnesses that tend to negatively impact your quality of life.[5,6]

Of importance to the present study is the influence that the quality of life of health professionals can exert on their empathic behavior, considering the work process in the Unified Health System (*Sistema Único de Saúde*, SUS). The hypothesis presented here is supported by the fact that the professionals who do not develop, or develop incipiently, empathic relationships with health users have low indicators of quality of life. In this sense, the aim of this paper is to understand the relationship between empathic behavior and quality of life of public primary care workers.

MATERIAL AND METHOD

This is a cross-sectional survey, using quantitative methodology, developed in the municipality of *Ponta Grossa, Paraná*, in 2017 and 2018. Currently, this municipality has 12 dental surgeons, 75 doctors and 75 nurses in the context of primary health care (PHC), considering the model named Family Health Strategy (FHS).

To compose the study sample, we considered all the dental surgeons, doctors and nurses working in the FHS of the municipality (n=162). The choice of the professional categories was based on the criterion that these are the higher level professions that make up the FHS reference team.

The calculation of user sample size was determined using the Epi.Info 7.1.4 software, considering the estimated adult

population in the municipality studied (172,600 inhabitants), with a 5% accuracy, 95% confidence interval and design effect 1, for a prevalence of 80% of users who consider empathic care received from public health service professionals. This prevalence was used considering study parameters that involved several aspects related to professional empathy.[7] To the total calculated for each professional category (n=246) 20% was added, resulting in the final sample of 296 adult users by professional category and total number of 888 individuals.

The eligibility criteria of the professionals were the following: being part of the profession – doctor, nurse and dental surgeon; working in the FHS and being active in the profession. The exclusion criteria (sample losses) resulted from the refusal to participate, professionals who were on sick leave or vacation, professionals allocated to units with no link with FHS or retirement. And the eligibility criteria for the users were the following: being a user of the Brazilian public network of primary health care; having received care from the professionals under investigation; being 18 years old or older; and the professional of their reference having participated in the study.

The sample of users was stratified and equanimously selected, representative of all health professionals investigated, on alternate days and periods of operation, aiming to access the multiplicity of eyes and expand the expression of the sample.

Data collection was performed for both professionals and users through individualized interviews by researchers previously trained to gather the necessary information and receive questions, without influencing the answers. This stage took place in a private setting within the health units.

In order to obtain the information, two instruments validated for Brazil were used: the "The World Health Organization Quality of Life Assessment – Bref" (WHOQOL-BREF), applied to the professionals, and the "Consultation and Relational Empathy" (CARE), for the users. In addition, there was a simple sociodemographic questionnaire containing questions on gender, marital status, age, postgraduate education and working time.[8,9]

WHOQOL-BREF was the instrument of choice to measure the quality of life of the professionals under investigation in this study. It has 26 questions distributed in four domains: social, psychological, physical and environmental relationships. Each domain is made up of questions whose answer scores range from one to five.

CARE was elected to evaluate the empathic relationship of public health professionals. It is employed in the Humanities and Health Sciences and deserves attention because it depends on the external observation of empathic behavior, not self-report. It refers to a simple 10-item scale for empathic behavior. The evaluated dimensions are the following: behavioral, cognitive and affective. The questionnaire uses the patient's perception on the attitude of the health professional at the consultation.[10]

Initially, information from both questionnaires was gathered in a single bank. The quality of life variables were replicated for the answers of the empathy questionnaire analogous to the investigated professional, matching the answers of quality of life and empathy, according to professional.

In order to create the dependent variable "global empathy", the 10 answers were added. Bad, fair, and good response patterns were transformed into numbers ranging from one to three, one being the worst condition and three the best. Results that reached values equal to 30 framed the category "total global empathy", while values below 30 classified the category "partial global empathy".

To compose the independent variables, the demographic and work characteristics (age, gender, marital status, education, professional category, time and working regime) and the 26 quality of life variables of the WHOQOL-BREF instrument were considered. The five-point Likert scale response patterns have been maintained (one being the worst condition and five the best) in order to leverage data mining analysis to meet response patterns.[11]

Data mining was employed for data analysis in the present study. It consists of a set of techniques and tools used worldwide that allow the evaluation of databases of different proportions, employing evaluation algorithms.[11] The use of this modality minimizes the interference of researchers, allows accuracy and veracity of the results. Among the software options available to perform such exploration is the Waikato Environment for Knowledge Analysis (WEKA), elected for use in this study.[12]

The mining test employed was the dimensionality reduction, based on the Correlation-based Feature Selection (CFS) algorithm, using the 10 Fold cross-validation method.[13] The test allows for the identification of independent variables with great explanatory potential for the dependent variable, creating a model much more accurately than other tests frequently used in the literature. The algorithm eliminates all independent variables with low relation to the dependent variable and to each other, extinguishing any confounding relationship, allowing to validate the pure and strict relationships of the independent variables of the outcome variable.[13]

Then, the variables related to global empathy were evaluated from logistic regression to measure the magnitude of the associations. Logistic regression makes it possible to weight the chances of a given question happening based on the conformal condition of the dependent variable (based on a binary variable and a set of independent variables).[14] The model formed had explanatory capacity of 62.5%. The Data Mining software environment in Java – WEKA 3.7 was used to perform the tests applied in the study.

All subjects received an explanation about the research objectives, their character of voluntariness and non-identification, as well as the form of data collection, analysis

and destination, so that, as soon as they agreed with their participation, they could sign the Free and Informed Consent Form and take part in the survey. The research was approved by the Research Ethics Committee of Human Beings Opinion Nº 2,146,155/2017, CAAE: 66782717.6.0000.5689.

RESULTS

The total sample of professionals was composed of 48 doctors, 52 nurses and 11 dentists. Losses were due to refusal to participate (n=21), professionals on sick leave or vacation (n=8), retirement health facilities and/or units disconnected from the FHS (n=8).

Most respondents were female (n=73.87%); married (n=60.36%), with a mean age of 38.7 years old (24±68), with a postgraduate *lato sensu* (79.27%), with experience of five years or less in the FHS (45.04%) and with exclusive dedication (83.78%).

In the results of the attribute selection analysis it was verified that the variables most strongly related to partial empathy were age (100%), need for medical treatment (100%), opportunity for leisure activity (90%), satisfaction with work ability (80%), satisfaction with access to health services (100%) and frequency of negative feelings (100%).

The descriptive analysis shows that 32% of the respondents had partial global empathy. We highlight the descriptive analysis of the independent variables that were related to global empathy (Table 1).

Table 1 - Descriptive analysis of the independent variables that were related to global empathy (N=888). *Ponta Grossa*, PR, Brazil, 2017-2018

Variable	Total N (%)	Empathy Total Global N (%)	Empathy Partial Global N (%)
Age			
Up to 30 years old	256	30.36	25.53
31 to 40 years old	291	30.04	38.65
41 to 50 years old	197	25.90	14.19
Over 50 years old	144	13.70	21.63
How much do you need any medical treatment to lead your daily life?			
Not at all	144	28.05	36.88
Very little	256	43.23	34.40
More or less	291	10.06	10.64
Quite	197	16.66	8.87
Extremely	144	2.00	9.21
To what extent do you have opportunities for leisure activity?			
Average	62	8.09	4.61
Very little	167	16.17	24.47
Very much	450	52.64	46.45

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Table 1 - Descriptive analysis of the independent variables that were related to global empathy (N=888). *Ponta Grossa*, PR, Brazil, 2017-2018

Variable	Total N (%)	Empathy Total Global N (%)	Empathy Partial Global N (%)
To what extent do you have opportunities for leisure activity?			
Completely	175	21.45	15.96
Not at all	34	1.65	8.51
How satisfied are you with your ability to work?			
Very satisfied	210	22.44	26.24
Satisfied	572	67.66	57.45
Neither satisfied nor dissatisfied	95	8.41	15.60
Dissatisfied	11	1.49	0.71
Very dissatisfied	0	0.00	0.00
How satisfied are you with your access to health services?			
Very satisfied	181	18.32	24.82
Satisfied	484	57.92	47.16
Neither satisfied nor dissatisfied	180	18.32	24.47
Dissatisfied	17	2.80	0.00
Very dissatisfied	26	2.64	3.55
How often do you have negative feelings such as moodiness, despair, anxiety, depression?			
Never	103	10.56	13.83
Sometimes	580	69.47	56.38
Frequently	115	9.08	21.28
Very frequently	78	9.40	7.45
Always	12	1.49	1.06

The following are the odds ratios of professionals presenting partial global empathy, according to independent variables (Table 2). Professionals aged between 41 and 50 years old have been found to be 1.5 times more likely to manifest partial empathy. The professionals who are extremely in need or do not need medical treatment to lead their lives are also more likely to have low empathy. In addition, the greater the respondents' opportunity for leisure, the lower the chances of total global empathy. This also occurs with the ability to work, the less satisfied in this regard, the less likely the professional is to be empathetic. Regarding the proper access to health services, the opposite occurs, the more satisfied, the lower the empathy. It was also found that the more frequent the negative feelings of the professional, the less empathy they will show to their patients.

DISCUSSION

The empathy considered in this study refers to skills that involve understanding the patient's experiences, concerns,

and perspectives, combined with the professional's ability to communicate this understanding and the intention to help.[12] Thus, this construct was strongly related to age, satisfaction with work ability, need for medical treatment, opportunity for leisure activity, satisfaction with access to health services and frequency of negative feelings manifested by the surveyed professionals.

Table 2 - Odds ratios for partial global empathy, according to demographic and quality of life variables (N=888). *Ponta Grossa*, PR, Brazil, 2017-2018

Variable	*Oddis Ratio* (OR)
Age	
Up to 30 years old	1.00
31 to 40 years old	0.80
41 to 50 years old	1.50
Over 50 years old	0.68
How much do you need any medical treatment to lead your daily life?	
Not at all	1.52
Very little	0.56
More or less	1.00
Quite	0.80
Extremely	1.80
To what extent do you have opportunities for leisure activity?	
Not at all	0.74
Very little	0.80
Average	1.00
Very much	1.30
Completely	0.46
How satisfied are you with your ability to work?	
Very satisfied	1.00
Satisfied	1.05
Neither satisfied nor dissatisfied	1.81
Dissatisfied	2.35
How satisfied are you with your access to health services?	
Very dissatisfied	1.00
Neither satisfied nor dissatisfied	1.50
Satisfied	1.33
Very satisfied	2.67
How often do you have negative feelings such as moodiness, despair, anxiety, depression?	
Never	1.00
Sometimes	1.06
Frequently	2.53
Very frequently	1.24
Always	2.86

The professionals classified as less empathic were distributed in the age group of 41 to 50 years old, which can be explained by the fact that people in this age group tend to expose, more intensely: exhaustion of interpersonal relationships, job and salary dissatisfaction, overload in personal life and frustration with themselves, as they are usually leaving work as the foreground and often having salary incompatible with their needs, which would make them seek still other forms of income.[15-17] Other hypotheses would be that mid-career professionals may more often perceive stagnation of their duties, lack of autonomy and appreciation at work, also contributing to the reduction of their empathic capacity.

As noted in the present study, people over 50 years old were much more empathetic than younger people. Recent studies are consistent with these findings, since older people often value tasks that are considered relevant by them, such as their professional performance; or have a situation of better occupational welfare, relative to the valuation in the work by colleagues and supervisors.[18-20]

The modern literature shows that stress and burnout, also called Burnout syndrome, are also important causes of decreased empathy and compassion among health care professionals, and these factors are closely related to the loss of quality of life, to problems. physical and social conditions, impaired quality of work and ability, patient satisfaction, and heavy workload.[21,22]

In poor satisfaction with working capacity fact, was also associated with reduced empathy among the workers investigated. As stated above, the work environment of health care professionals demands great complexity in the provision of services, as well as displaying a heavy routine, leading these professionals to occupational risks, pain, depression and stress which may impact, which can impact on their quality of life, work capacity and empathy.[17,23,24]

Another variable strongly associated with empathy was the perception of the professionals regarding their need for medical treatment. Data showed that the extremity responses, i.e., professionals who need a lot of medical treatment and those who think they do not need medical treatment showed less empathy. The hypothesis to justify this situation can be attributed to the fact that subjects in very bad health conditions are so committed to solving their problems that they are unable to relate to patients in a more humane way, and there is a direct correlation between them. illness and empathy.[25] Conversely, professionals with effective health conditions may present great emotional distance from the universe of the disease, since they do not have or have not experienced illness; both conditions negatively impacting an empathic work process.

Although the literature is scarce on this object, a study also conducted with health professionals shows that those who have undergone or undergo any medical treatment or disease regularly

show improvement in empathy, precisely by creating a bridge between the professional and the sick patient, subsidized by sharing the illness, which may explain the positive relationship between empathy and environment responses in the present study.[26]

The opportunity for leisure activities was also considered a relevant factor of empathy among the investigated and the results revealed that professionals who perform many leisure activities are less likely to develop empathic behavior with their patients, compared to professionals with average leisure activity. Excessive access to leisure can often be seen as a form of emotional escape, with a view to removing obstacles from daily work among health professionals, thus providing less involvement with their patients. The absence and low frequency of leisure opportunities, also seen in the results of the present study, showed the opposite. This low opportunity of the investigated professionals to leisure may reflect their excessive dedication to work, justified by their high empathy. For the patient, this commitment to work is undoubtedly productive, pleasant and strengthening bonds; however, it is harmful for the health of the professional, with significant damage to their quality of life.

This result warns of the need to have a professional sense of resilience, balance and awareness of the preventive functions of leisure activities, acting leisure activity as a buffer for stress and improving the quality of life.[27]

The satisfaction of the professionals with their access to health services was also associated with empathy, negatively, and the feeling of more professional satisfaction is linked to reduced empathy with their patients. Despite the lack in the literature of studies that address this theme, this result can be explained in view of the hypothesis that the better the access and the experience lived in a given establishment or service, the other reality is not understood and their experience is reflected on the others. The successful experience usually brings with it a perception of collective mirroring, competence and social belonging, in which case it may negatively influence empathy for the other because they do not experience their reality and, in the case of health services, do not experience the same difficulties and possible access disorders.

Finally, the existence and high frequency of negative feelings, such as moodiness, despair, anxiety and depression among health professionals, were related to their reduced empathic behavior. Although empathy is one of the core values in the health field, given factors of imbalance in personal well-being, health and quality of life, professionals may also express exhaustion in dealing with the feelings of others, of feeling empathy, joy or concern, as the results of the present study suggest.[21,22]

Compassion fatigue is a recent theme and is strongly intertwined in the literature with empathy. These feelings are essential for quality, humanized and individualized health care, as they allow for adjustments to be made to the needs of others and have beneficial effects for both patient and practitioner.[20,21] As previously pointed out, periodic exposure to distressing situations, illness, suffering and death makes health professionals vulnerable to professional stress, but it can also lead to so-called compassion fatigue, especially as these situations require empathic behavior by the health worker. professional.[21]

In this sense, the results of the present study attract the attention of managers of public health units to prevent compassion fatigue among their workers, aiming at maintaining and improving their empathic capacity and altruism. Strategies such as support for the work process, good teamwork, psychological well-being, social connection, among others, can act as protectors and regulators of feelings of empathy among health professionals.

Regarding the dependent variable of "global empathy", professionals with partial "global empathy" were considered to be all subjects who exhibited at least one negative assessment among the 10 investigated items, thus preventing the recognition of associations for individuals who had many or all negative reviews. The use of this strategy sought to highlight the evaluation of the global scenario, since empathy is not formed by just one or the other factor, but by a set. And when the practitioner is unable to fully possess this skill set, his empathic behavior is impaired.

Moreover, it is noteworthy that the WEKA program employed for analysis does not report, for each variable included in the model, the confidence interval and *p* values. Since the dimensionality reduction analysis predicted logistic regression, it eliminates all variables with possible confounding factors caused by the sample size and correlation between the elected variables. It should also be considered that the test uses the default values of 95% confidence interval and a p value <0.05.[12] Moreover, another limitation during regression analysis, intrinsic to the program chosen for analysis, is the impossibility of choosing, by the researcher, the class of independent variables, when the question has more than two answer options, to be the standard of comparability. (OR=1.00) with the other classes.

CONCLUSION

It was concluded that the empathic behavior of primary health care professionals is directly related to age and various dimensions of quality of life, namely: satisfaction with work ability, need for medical treatment to develop daily activities, opportunity for leisure activities, satisfaction with access to health services and frequency of negative feelings.

Thus, for the service offered by the primary health team to be of excellence, as required by the different guiding instruments of the Unified Health System, it is essential to invest in strategies that enhance the quality of life of the worker, especially in the dimensions described.

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