Sociodemographic and occupational profile and quality of life of health agents responsible for combating dengue in two towns in Parana, Brazil

Avaliação do perfil sociodemográfico, laboral e a qualidade de vida dos agentes de saúde responsáveis pelo combate à dengue em duas cidades do estado do Paraná

Renato Nisihara[1] , Juliana Cukier Santos[1] , Giulia Moraes Kluster[1] ,
Gabriella Favero[1] , Amanda Bencke Silva[1] , Lorayne Souza[1]

ABSTRACT | **Background:** Community health agents (CHA) and endemics combat agents (ECA) play a decisive role in the prevention and control of dengue and are in direct contact with the population. **Objective:** To analyze the sociodemographic profile, activities and quality of life (QoL) of CHAs and ECAs in two towns in Parana, Brazil, in which dengue is respectively endemic (Paranavai) and epidemic (Paranagua). **Method:** Cross-sectional study which analyzed sociodemographic and occupational parameters and the QoL of CHAs and ECAs in July and August 2016. **Results:** Ninety-eight health agents were included, 40 from Paranagua and 58 from Paranavai. About 92.9% of the participants were female; their average age was 38.9 years old; 63.5% had completed secondary school; and 90% earned less than 3 times the equivalent of the minimum wage per month. The agents in Paranagua reported to feel they were better prepared for their job, although most considered training insufficient. Most participants reported to have already suffered verbal violence at work. Job dissatisfaction was higher among the Paranavai agents. QoL analysis showed that neither mental nor physical health was good, which might be explained by sociodemographic factors and professional exhaustion. **Conclusion:** Most participants were female, younger adults, with high educational level and low income. The training currently provided to combat dengue is insufficient, as most health agents felt insecure to convey information to the population. A part of the sample had already suffered violence at work. QoL was below the expected level, mainly due to work overload and low salary.
Keywords | dengue; quality of life; community health workers; health personnel.

RESUMO | **Introdução:** Os agentes comunitários de saúde (ACS) e os agentes de combate a endemias (ACE) estão envolvidos de maneira decisiva na prevenção e no combate à dengue, sendo os profissionais de saúde diretamente em contato com a população. **Objetivo:** Investigar o perfil sociodemográfico, as atividades e a qualidade de vida (QV) dos ACS e ACE em duas cidades do Paraná, uma endêmica (Paranavaí) e outra em surto epidêmico (Paranaguá). **Método:** Estudo transversal avaliando ACS e ACE nos aspectos sociodemográficos, laborais e a QV entre julho e agosto de 2016. **Resultados:** Foram incluídos 98 ACS, 40 em Paranaguá e 58 em Paranavaí, dos quais 92,9% são mulheres, com idade média de 38,9 anos; 63,5% têm ensino médio completo; e 90% recebem menos de 3 salários mínimos mensais. Os agentes de Paranaguá se sentem mais preparados para o desempenho da função, embora a maioria não ache tal treinamento suficiente. A maioria já foi agredida verbalmente no trabalho. Os mais insatisfeitos se encontram em Paranavaí. A análise da QV demonstrou que a saúde física/mental não é boa e pode ser influenciada por fatores sociodemográficos e esgotamento profissional. **Conclusões:** A maioria dos ACS e ACE é composta de mulheres, adultos jovens, com boa escolaridade e baixa renda. O atual treinamento para combate à dengue não é suficiente, pois os agentes se sentem inseguros para a transmissão de informações à população. Além disso, parte dos profissionais já foi agredida no desempenho da função. A QV está abaixo do esperado, o que é justificado principalmente pela carga de trabalho e pela baixa remuneração.
Palavras-chave | dengue; qualidade de vida; agentes comunitários de saúde; pessoal de saúde.

INTRODUCTION

According to an epidemiological report published by the Ministry of Health, 283,872 probable cases of dengue were reported in Brazil from January 2017 to February 2018, which corresponds to an incidence of 22.8 and 15.5 cases / 100,000 inhabitants in 2017 and 2018, respectively. Incidence of 16.8 cases / 100,000 was estimated for the first 7 weeks of 2018 in the state of Parana. These data characterize dengue as a national and regional epidemic, for which reason its combat demands particular attention to public policies[1,2]. All efforts notwithstanding, the Ministry of Health recorded 1,500,535 probable cases in 2016, 67,305 of which corresponded to Parana. Paranagua is a city on Parana coastal area close to Curitiba, the state capital. The dengue epidemic broke out in Paranagua in 2016, with an incidence of 13.11 cases / 100,000. Given this critical scenario, some endemics combat agents (ECA) were hired. Dengue is endemic in Paranavai, a city in the interior of the state, 506 km away from Curitiba. Community health agents (CHA) are responsible for the control of dengue in Paranavai, where the incidence of disease was of 1.55 cases / 100,000 in 2016; the last outbreak of dengue occurred in early 2013[3].

CHAs play a decisive role in the prevention and control of dengue ever since it became epidemic and a public health problem in Brazil. While this profession was created in the 1980s, it was officially established only in 1991. According to the National Policy of Primary Care[4], CHAs are charged of enrolling, orienting, visiting and developing health promotion activities with allocated families within their geographical area of coverage. CHAs play a crucial role in the access to healthcare, as they belong to the same community as the target population, which increases the latter's trust in them[5,6].

As concerns dengue, CHAs are responsible for implementing actions to interrupt the life cycle of the mosquito vector, divulgating information among the community, and helping in the planning of actions to combat disease[6]. Also ECAs — whose activities were established in 2006 via the Law no. 11,350[7] — participate in the combat against dengue. ECAs are charged of visiting establishments, applying larvicides and pesticides, and giving orientation on the prevention and treatment of infectious diseases. ECAs must work in an integrated manner with primary care teams within the context of the Family Health Strategy[5,6].

The relevance of CHAs and ECAs in the combat against dengue is undeniable. However, few studies investigated the working conditions or profile of these workers. Therefore, the aim of the present study was to establish the profile of CHAs and ECAs responsible for the combat against dengue, their quality of life (QoL) and perceived knowledge of disease. We also compared these parameters between two towns in Parana where dengue is epidemic and endemic, respectively.

METHOD

The present cross-sectional and analytic study was approved by the research ethics committee of Positivo University, CAAE nº 55508916.0.0000.0093, 2016.

Ninety-eight health agents who had worked in their job for 6 months at least agreed to participate in the study and signed an informed consent form in July and August 2016. Forty agents were ECAs from Paranagua and 58 CHAs from Paranavai.

All the participants responded two questionnaires. One questionnaire was designed by the investigators to investigate sociodemographic data and job activities. It comprised 20 questions on sex, age, educational level, income, length in the job, knowledge of disease, professional training and job satisfaction. The other questionnaire to assess QoL was the *Short Form 12 Health Survey* (SF-12) , translated and validated for use in Brazil since 2004[8]. SF-12 analyzes the respondents' perception of eight domains — physical functioning, physical role functioning, bodily pain, general health, vitality, social functioning, emotional role functional and mental health — which influence QoL for the past 4 weeks[9,10]. Responses are graded, and two scores are calculated, the physical (PCS) and mental (MCS) component summary, which range from 0 to 100; the higher the score, the better the QoL[11,12].

The data were tabulated with software Excel (Microsoft, USA). Normality of distribution was tested with the Kolmogorov-Smirnov test. The chi-square and Fisher's exact tests were used to compare dichotomous variables. Continuous variables were compared with the Mann-Whitney or the t-test as per need using software GraphPad Prism 5.0 (La Jolla, California, USA). The significance level was set to $p < 0.05$.

RESULTS

The sociodemographic characteristics of the sample are described in Table 1.

Most participants were female (92.9%) and young adults (20 to 49 years old); their average age was 38.9±4.22 years old. The high educational level of the participants called our attention: 64.3% of them had completed secondary school, and 34.4% were currently attending or had completed higher education. Income, however, was low: 90% of the participants earned less than 3 times the equivalent of the minimum wage per month.

Table 2 describes the main responses to the administered questionnaire.

Sixteen of the 40 health agents in Paranagua had been hired 1–2 years earlier, and 24/40 more than 2 years earlier. The results for Paravai were similar (31% and 69%, respectively; p=0.34). Overall, the Paranagua agents reported to feel they were better trained and prepared for the job, especially as a function of recent training. However, most participants did not consider their training to be sufficient. Another cause of concern is the fact that a considerable number of participants (45.9%) reported to have had suffered verbal violence, especially in Paranagua (62.5%). About 30% of the participants from both towns reported to have had dengue. Paranavai agents were more dissatisfied with their job (score 5.76, on average, on a satisfaction scale ranging from 0 to 10 compared to the Paranagua agents, mean score 7.02) and reported to be significantly less prepared for their

Table 1. Sociodemographic characteristics of health agents responsible for combating dengue in two towns in Parana, Brazil, 2017 (n=98).

Variable	Paranagua n=40 (%)	Paranavai n=58 (%)	Total n=98 (%)
Sex			
Female	35 (87.5)	56 (96.5)	91 (92.9)
Male	5 (12.5)	2 (3.5)	7 (6.1)
Educational level			
Complete elementary school	1 (2.5)	1 (1.7)	2 (2.1)
Complete secondary school	25 (62.5)	38 (65.6)	63 (64.3)
Incomplete higher education	7 (17.5)	11 (18.9)	18 (18.8)
Complete higher education	7 (17.5)	8 (13.8)	15 (15.6)
Income (times equivalent to minim wage)			
Minimum wage	21 (52.5)	43 (74.2)	64 (65.3)
2–3	14 (35)	10 (17.2)	24 (24.5)
4-5	4 (10)	3 (5.2)	7 (7.1)
>5	1 (2.5)	2 (3.4)	3 (3.2)
Length in the job (years)			
<1	15 (37.5)	8 (13.8)	23 (23.2)
1 to 2	2 (5.0)	10 (17.2)	12 (12.2)
2 to 5	12 (30)	21 (36.2)	33 (34.0)
5 to 10	4 (10)	9 (15.5)	13 (13.1)
>10	7 (17.5)	10 (17.2)	17 (17.5)

job (p<0.0001) compared to the Paranagua agents. In turn, the Paranavai agents felt their work was significantly better accepted by the population (p=0.046).

The participants suggested other actions against dengue, including: improved waste collection and disposal, support from municipal agents and higher management levels to prevention campaigns, higher population participation, better training of agents, and more severe punishment to residents who do not take measures to avoid mosquito proliferation at home.

Eight SF-12 forms were excluded due to errors in the responses. Of the 90 valid forms, 35 were responded by Paranagua and 55 by Paranavai agents. The results are described in Table 3. Significant difference was not found in any comparison between the two groups. It is worth noticing that the scores on mental and physical health were only average (about 50) — the scale ranges from 0 to 100, and the higher the score, the better the QoL.

The p value was not significant in any comparison.

Half of the participants rated their state of health "good"; 71.9% of them reported not to have any difficulty to perform daily activities of moderate intensity, such as sweeping the house, changing the place of a table, playing ball or climbing stairs. More than 80% of the sample stated they had not missed any job or daily activity in the past 2 weeks due to physical limitations or emotional problems. However, pain interfered with the activities of 53% of the participants.

In regard to their perceived mental state, only 2 (2.2%) participants reported not to be entirely calm or quiet. No participant reported to feel continuous lack of energy. In turn, 51.5% of the sample reported to feel dejected and discouraged, and 34% stated that physical or emotional problems interfered with their social activities, such as visiting with friends and family.

DISCUSSION

The frequent appearance and reappearance of infectious diseases in general, and dengue in particular, are associated with neglect by scientific and health authorities, among many other factors. We might mention demographic, social, political, economic and environmental

Table 2. Responses given by agents responsible for combating dengue in two towns in Parana, Brazil, 2017 (n=98).

	Paranaguá (n=40) n (%) YES	Paranavaí (n=58) n (%) NO	p value*
Have you received training on dengue?	40 (100)	31 (53.4)	<0.0001
Is such training sufficient in your job?	17 (42.5)	11 (19.0)	0.049
Have you received some material to learn about the mosquito or disease?	8 (20)	20 (34.4)	0.18
Do you rate yourself prepared for your job?	36 (90)	16 (27.5)	<0.001
Is your work well accepted by the population?	22 (55)	43 (74.1)	0.048
Have you ever suffered *verbal* violence at work?	25 (62.5)	20 (34.5)	0.007
Have you ever suffered *physical* violence at work?	2 (5)	2 (3.5)	0.98
Do you know about the Zika and Chikungunya viruses?	21 (52.5)	12 (20.7)	0.0012
Do you know how many dengue cases were in your town in the past year?	35 (87.5)	18 (31.0)	<0.001
Have you already had dengue?	11 (27.5)	20 (34.5)	0.51

*χ^2 test to compare between towns; #unpaired t-test.

determinants, while the ones dependent of the performance of health services are interconnected, and need to be adequate to achieve success in the control of such diseases[13]. Health agents, particularly as a function of their closeness to the population, play a crucial role in this regard. Here we describe data relative to the sociodemographic profile of CHAs and ECAs from Paranavai (endemic dengue) and Paranagua (epidemic dengue). We sought to detect difficulties with which they have to cope in their work. The main findings of the present study are insecurity to convey information on diseases, and low salary. In regard to QoL, most participants reported to feel dejected and discouraged.

The sociodemographic profile of the analyzed population is similar to that found in studies conducted with health agents in other Brazilian towns, such as Guarapuava (Parana)[14] and São Paulo (São Paulo)[15]. Female sex, young adults and low income prevailed. However, in our study there was a larger number of participants attending or having completed higher education, different from the other studies, in which most participants had completed elementary or secondary school only[15-17]. This difference might be due to the time when the studies were performed. Access to higher education became easier in recent years, which might account for the higher educational level we found. In addition, some municipal governments began demanding complete secondary school from CHA and ECA candidates. It is worth observing that the House of Representatives is currently discussing Law Project no. 6,437/2016, which expands the scope of tasks of and demands complete secondary school from all CHAs in Brazil[18].

The predominance of female health agents might be due to the population preference, since they awaken feelings of affinity with housewives, in addition to conveying greater safety and better fitness for health care and household chores[19,20].

On comparative analysis, the Paranavai agents were found to be less satisfied and less prepared for their job. However, there is bias in this comparison, because the Paranagua agents had recently received specific training, as the epidemic had broken out in 2016, while in Paranavai the last outbreak had occurred in 2013[5]. A cause of concern is the fact that most participants from Paranavai reported not to feel prepared for their job, in contrast to the ones from Paranagua. However, here there is a contradiction, because although they stated to be better prepared for their job, most Paranagua agents rated their training insufficient, and observed they did not have sufficient knowledge about the two other viruses — Zika and Chikungunya — transmitted by the same mosquito. Again, this a cause of concern, as health agents are responsible for divulgating information on diseases and are very close to the population, especially the most vulnerable individuals. Such feeling of insecurity to convey information might probably be attenuated by training with the due periodicity. In addition, the appearance of other diseases caused by viruses — such as Zika, Chikungunya and yellow fever — makes permanent update necessary for health agents to feel they are duly skilled and appreciated.

Many participants from both towns reported to have had been victims of violence, particularly verbal violence, at work. The frequency of reports was higher among the

Table 3. Scores on *Short Form 12 Health Survey* of agents responsible for combating dengue in two towns in Parana, Brazil, 2017 (n=98).

	Mean—standard deviation	Minimum	Maximum
Mental health Paranavai n=55	48.1±10.45	18.5	63.7
Mental health Paranagua n=35	50.1±9.05	27.6	64.0
Total n=90	49.2±9.72	18.5	64.0
Physical health Paranava n=55	49.5±8.29	18.7	60.3
Physical health Paranagua n=35	50.4±6.64	30.6	63.1
Total n=90	49.7±7.65	18.7	63.1

Scores range from 0 to 100, the higher the score the better the quality of life

participants from Paranagua, where there was a current outbreak of dengue and stronger action was required from ECAs. As was previously observed, violence against health agents interferes with their ability to act in the community[16]. Chiaravalloti et al.[16] described difficulties in the action of CHAs within the scope od dengue programs, due to refusals to house visits or broader social problems, such as lack of sanitation, high rates of violence, and lack of access to some buildings. A study performed in Santa Maria (Rio Grande do Sul)[15] found that in addition to violence, health agents were exposed to other hazards, such as humidity, smoke, sunlight and garbage. Probably this set of factors directly interferes with the health and professional performance of health agents. Moreover, the fact that almost 30% of the participants had already had dengue deserves particular attention.

The participants from both towns attributed low scores to SF-12 mental and physical domains, which indicates that their perceived state of health was not good. Almeida & Pais-Ribeiro[19] used the same questionnaire to analyze the perceived state of health of education and health professionals in Portugal. The scores they found are higher compared to ours (mental health=68.7; physical health=75.9) without significant difference between the groups. A study with CHAs in Guarapuava, Parana,[14] analyzed QoL by means of the *World Health Organization Quality of Life Instrument* (WHOQOL-BREF). The results showed that self-perceived health was rated good by 60.9% of the participants, the scores being higher than the ones obtained in the present study. As is known, sociodemographic factors, such as age, educational level and income, might influence QoL[19]. To these, one might add factors related to professional exhaustion, such as lack of time, work overload, conflict within staff or with the population, and lack of social support and autonomy in decision making[21-23]. Professional exhaustion might lead to job dissatisfaction and physical and mental tiredness, which have decisive influence on mental health[21]. Impaired mental health in turn decreases the QoL of workers and interferes with their work. All these aspects were evident in the responses to the administered questionnaire, thus corroborating the observation that the QoL of CHAs was not adequate. Trindade et al.[15] reported higher prevalence of common mental disorders (43.3%) and burnout syndrome (25%) among health agents by comparison to other health professionals, such as oncologists and nurses[15].

Our study evidences a need to improve the working conditions of and government and community support to CHAs and ECAs. Training with continuous updates might improve the understanding of disease and increase the self-esteem and confidence of this population of workers.

CONCLUSION

In our study, CHAs were mainly female and young adults, with high educational level and low income. The training currently given to combat dengue is not effective, as health agents feel insecure to convey information to the population. In addition, they are susceptible to diseases, and a part of them has already suffered violence at work. The participants' QoL was inadequate, mainly as a function of their working conditions and low salary.

REFERENCES

1. Brasil. Ministério da Saúde. Secretaria de Vigilância em Saúde. Boletim Epidemiológico 9: Monitoramento dos Casos de Dengue, Febre Chikungunya e Febre Pelo Vírus Zika até a Semana 7 de 2018 [Internet]. Brasília: Ministério da Saúde; 2018 [cited on Feb 20, 2018]. Available at: http://portalarquivos2.saude.gov.br/images/pdf/2018/marco/06/2018-008-Publicacao.pdf

2. Moura AS, Rocha RL. Endemias e Epidemias: Dengue, Leishmaniose, Febre Amarela, Influenza, Febre Maculosa e Leptospirose [Internet]. Belo Horizonte: Nescon/UFMG; 2012 [cited on Feb 20, 2018]. 78 p. Available at: https://www.nescon.medicina.ufmg.br/biblioteca/imagem/3285.pdf

3. Paraná. Secretaria de Estado da Saúde. Informe técnico 17 - período 2015/2016 - semana epidemiológica (SE) 31/2015 a 12/2016. Situação da dengue, Chikungunya e Zika vírus no Paraná - 2015/2016 [Internet]. Paraná: Secretaria de Estado da Saúde; 2016 [cited on Feb 10, 2018]. Available at: http://www.dengue.pr.gov.br/arquivos/File/DengueInformeTecnico17_2015_2016ateSE122016_ZIKA_CHIKUNGUNYA_2016_03_28.pdf

4. Brasil. Ministério da Saúde. Secretaria de Atenção à Saúde, Departamento de Atenção Básica. Política Nacional de Atenção Básica: Série E. Legislação em Saúde [Internet]. Brasília (DF); 2012 [cited on Feb 10, 2018]. 114 p. Available at: http://bvsms.saude.gov.br/bvs/publicacoes/politica_nacional_atencao_basica.pdf

5. Ferraz L, Aerts DRGC. O cotidiano de trabalho do agente comunitário de saúde no PSF em Porto Alegre. Ciênc Saúde Coletiva. 2005;10(2):347-55. http://dx.doi.org/10.1590/S1413-81232005000200012

6. Brasil. Ministério da Saúde. Secretaria de Vigilância em Saúde, Secretaria de Atenção à Saúde. O Agente Comunitário de Saúde no controle da dengue [Internet]. Brasília: Ministério da Saúde; 2009 [cited on Feb 10, 2018]. 36 p. Available at: http://bvsms.saude.gov.br/bvs/publicacoes/agente_comunitario_saude_controle_dengue.pdf

7. Brasil. Lei nº 11.350, de 5 de outubro de 2006. Lei 11.350/2006 (lei ordinária) 05/10/2006 [Internet]. Brasília; 2006 [cited on Feb 5, 2018]. Available at: http://www.planalto.gov.br/ccivil_03/_ato2004-2006/2006/lei/l11350.htm

8. Ware JE, Kosinski M, Keller SD. SF-12: How to Score the SF-12 Physical and Mental Health Summary Scales. 2ª ed. Boston: The Health Institute, New England Medical Center; 1995.

9. Silveira MF, Almeida JC, Freire RS, Haikal DS, Martins AEBL. Propriedades psicométricas do instrumento de avaliação da qualidade de vida: 12-item health survey (SF-12). Ciênc Saúde Coletiva. 2013;18(7):1923-31. http://dx.doi.org/10.1590/S1413-81232013000700007

10. Ware J Jr, Kosinski M, Keller SD. A 12-Item Short-Form Health Survey: Construction of scales and preliminary tests of reliability and validity. Med Care. 1996;34(3):220-33.

11. Camelier AA. Avaliação da qualidade de vida relacionada à saúde em pacientes com DPOC: estudo de base populacional com o SF-12 na cidade de São Paulo-SP [PhD dissertation]. São Paulo: Universidade Federal do Estado de São Paulo; 2004.

12. Gandek B, Ware JE, Aaronson NK, Apolone G, Bjorner JB, Brazier JE, et al. Cross-Validation of Item Selection and Scoring for the SF-12 Health Survey in Nine Countries: Results from the IQOLA Project. J Clin Epidemiol. 1998;51(11):1171-8.

13. Pustiglione M. Medicina do Trabalho e doenças emergentes, reemergentes e negligenciadas: a conduta no caso das febres da dengue, do Chikungunya e do Zika vírus. Rev Bras Med Trab. 2016;14(1):1-12.

14. Kluthcovsky ACGC, Takayanagui AMM, dos Santos CB, Kluthcovsky FA. Avaliação da qualidade de vida geral de agentes comunitários de saúde: a contribuição relativa das variáveis sociodemográficas e dos domínios da qualidade de vida. Rev Psiq Rio G Sul. 2007;29(2):176-83. http://dx.doi.org/10.1590/S0101-81082007000200009

15. Trindade LL, Gonzales RMB, Beck CLC, Lautert L. Cargas de trabalho entre os agentes comunitários de saúde. Rev Gaúcha Enferm. 2007;28(4):473-9.

16. Chiaravalloti Neto F, Baglini V, Cesarino MB, Favaro EA, Mondini A, Ferreira AC, et al. O Programa de Controle do Dengue em São José do Rio Preto, São Paulo, Brasil: dificuldades para a atuação dos agentes e adesão da população. Cad Saúde Pública. 2007;23(7):1656-64. http://dx.doi.org/10.1590/S0102-311X2007000700017

17. Da Silva ATC, Menezes PR. Esgotamento profissional e transtornos mentais comuns em agentes comunitários de saúde. Rev Saúde Pública. 2008;42(5):921-9. http://dx.doi.org/10.1590/S0034-89102008000500019

18. Brasil. Projeto de Lei nº 6437/2016 [Internet]. Brasília; 2016 [cited on Feb 12, 2018]. Available at: http://www.camara.gov.br/proposicoesWeb/prop_mostrarintegra?codteor=1505914

19. Almeida MC, Pais-Ribeiro JL. Comportamentos saudáveis e percepção do estado de saúde em profissionais da saúde e do ensino. In: Núcleo de Investigação em Saúde e Qualidade de Vida, editor. Saúde e qualidade de vida: uma meta a atingir. Porto: Escola Superior de Enfermagem do Porto; 2011. p.81-7.

20. Bezerra AFB, Espírito Santo ACG, Batista Filho M. Concepções e práticas do agente comunitário na atenção à saúde do idoso. Rev Saúde Pública. 2005;39(5):809-15. http://dx.doi.org/10.1590/S0034-89102005000500017

21. Sprangers MA, de Regt EB, Andries F, van Agt HM, Bijl RV, de Boer JB, et al. Which chronic conditions are associated with better or poorer quality of life? J Clin Epidemiol. 2000;53(9):895-907.

22. Suurmeijer TP, Reuvekamp MF, Aldenkamp BP. Social functioning, psychological functioning, and Quality of Life in epilepsy. Epilepsia. 2001;42(9):1160-8.

23. Arnold R, Ranchor AV, Sanderman R, Kempen GI, Ormel J, Suurmeijer TP. The relative contribution of domains of quality of life to overall quality of life for different chronic diseases. Qual Life Res. 2004;13(5):883-96. https://doi.org/10.1023/B:QURE.0000025599.74923.f2

Correspondence address: Renato Nisihara – Departamento de Medicina, Universidade Positivo – Rua Pedro Viriato Parigot de Souza, 5.300 – CEP: 80320-300 – Curitiba (PR), Brazil – E-mail: renatonisihara@up.edu.br