Original Article

Life satisfaction for rural practice in both own and partner's home prefectures

Takashi Nakamura[1], Nobuko Makino[2], Yukiko Ishikawa[3], Karin Kojima[4], Sayaka Yamamoto[5], Tomomi Yamamoto[6], Yuki Arai[7], Arisa Watanabe[8], Kazumi Yoko[9], Tomoyo Yokotani[10], Yuko Shiraishi[11], Megumi Toeda[12], Atsuko Sadakane[13], Makiko Mieno[14], Shizukiyo Ishikawa[15]

[1] Center for Community Medicine, Jichi Medical University, 3311-1 Yakushiji, Shimotsuke, Tochigi, Japan
[2] Department of Public Health, Jichi Medical University, 3311-1 Yakushiji, Shimotsuke, Tochigi, Japan
[3] Division of General Medicine, Jichi Medical University, 3311-1 Yakushiji, Shimotsuke, Tochigi, Japan
[4] Department of Pediatrics, Jichi Medical University, 3311-1 Yakushiji, Shimotsuke, Tochigi, Japan
[5] Department of Clinical Laboratory Medicine, Jichi Medical University, 3311-1 Yakushiji, Shimotsuke, Tochigi, Japan
[6] General Medicine, Hokkaido PWFAC Obihiro Kosei Hospital, West 6 South 8-1, Obihiro, Hokkaido, Japan
[7] Gastroenterology, Nasu Red Cross Hospital, 1081-4 Nakadawara, Ohtawara, Tochigi, Japan
[8] University of California, San Diego, 9500 Gilman Dr, La Jolla, CA, US
[9] Gastroenterology, Niigata Prefectural Shibata Hospital, 1-2-8 Hon-cho, Shibata-shi, Niigata, Japan
[10] General Surgery, Dongo Hospital, 12-3 Hinodecho, Yamatotakada, Nara, Japan
[11] Okidozen Hospital, 2071-1 Mita, Okigun Nishinoshimacho, Shimane, Japan
[12] Ayagami clinic, 3352-1 Yamadashimo, Ayautagun Ayagawacho Kagawa, Japan
[13] Radiation Effects Research Foundation, 5-2 Hijiyamakoen, Hiroshima Minami-ku, Hiroshima, Japan
[14] Center of Information, Jichi Medical University, 3311-1 Yakushiji, Shimotsuke, Tochigi, Japan
[15] Medical Education Center, Jichi Medical University, 3311-1 Yakushiji, Shimotsuke, Tochigi, Japan

Abstract

Introduction：Physicians reported poor life satisfaction（LS）. Satisfaction with work–life balance also affects a physician's career. Medical students of Jichi Medical University（JMU）are bound by a contract to practice under rural settings for several years after graduation. Among these students, there are couples who are both graduates. Thus, support for those in charge of rural practice is expected. This study aimed to explore factors related to LS in one's own or partner's home prefectures.

Methods：A cross-sectional observation study was carried out, in which designated questionnaires were sent to 210 medical graduates（105 couples）from JMU between 2006 and 2010 who were engaged in rural practice. The main outcome was LS measured using the visual analog scale. LS of own or partner's home prefecture was compared in terms of concerns, and supporters.

Results：The response rate was 67%. The median of LS of own and partner's home prefecture was 70 and 74, respectively. The major concern was "difficulty in receiving support from parents"（40%）. The major supporter was "partner"（85%）. "trouble with human relations" was related to lower LS in either home prefecture. Concerns, such as "inconvenience," "community acceptance," and "relationship with *Kenjinkai*," were also related to lower LS in partner's home prefecture but not in one's own home prefecture. "Boss" acting as a good supporter was related to high LS in one's own home prefecture.

Conclusions：Good human relations are associated with LS in both own and partner's home prefectures. In partners' home prefectures, more factors are related to LS of physicians assigned to rural community. It may also be effective to involve the support of bosses.

（Key words：life satisfaction, marriage, rural practice, human relations, home prefecture）

Corresponding author：Takashi Nakamura, 3311-1 Yakushiji, Shimotsuke, Tochigi 329-0498, Japan
Tel.：（0285）58-7498　Fax.：（0285）40-5160　E-mail：nakamurata@jichi.ac.jp
Received：27 September 2017, Accepted：7 December 2017

Introduction

Physicians are not always satisfied with their lives. Most medical students are concerned with work–life balance after graduation [1]. Work–life balance as well as work location and program structure have been rated as the most important factors for family medicine residency selection [2]. Work–life balance has been the main reason for graduates not willing to pursue surgery [3] or orthopedics [4]. Satisfaction with work–life balance of physicians from the US has worsened [5]. Female students intend to take more time off from their careers to concentrate on childcare and feel that having a child would affect their career more than that of males [6]. Females neglect their social and family lives more often than males because of work [7]. Most Japanese female surgeons think that males are treated more favorably than females at home ; at the same time, they emphasized the importance of the role of women in the family [8]. Female physicians have worse mental health than those of other professionals [9]. Most men agreed with the necessity for granting paternity leave, and reported that they would like to work part-time during the child-rearing years [10]. Female physicians were almost twice as likely as men to report burnout [11].

Generally, living in a rural area is often inconvenient. Some medical students are bound by a contract to engage in rural practice after graduation. Jichi Medical University (JMU), established in 1974, has adopted the contract-based training system for rural physicians [12]. According to the home prefecture recruiting scheme, JMU graduates sign a contract to work in their home prefecture for predetermined number of years [13]. Almost all JMU graduates have completed their contracts [14]. Even after the end of their obligation period, JMU graduates are more likely to work in rural areas than non-JMU graduates [12]. Even after marriage, JMU graduates need to fulfill their contract at their home prefecture. JMU graduates and the JMU graduate support committee work in cooperation to support each JMU graduate [1, 15-17]. Generally, JMU graduates are satisfied with their lives compared with other Japanese medical university graduates [15]. Most female JMU graduates have been facing difficulties in balancing professional obligations and family needs, especially parenting [16]. The most important values or desire of career choice was a good work–life balance [17]. Females tend to consider work–life balance when choosing professional specialty [18]. The reunion alumni from the same prefecture are called as *Kenjinkai*.

Effective support is needed for couples, where both partners are physicians working in respective home prefectures, to spend a fulfilling life. We conducted this study to clarify the life satisfaction (LS) level and related factors in the home prefectures of both partners.

Methods

The research design was a cross-sectional observational study. Of the couples who graduated from JMU from 2006 to 2010, 105 pairs (210 individuals) who worked in both home prefectures after graduation for the mutual contract were included as the study subjects. The subjects received unsigned, self-descriptive questionnaires.

The main outcome was the level of LS measured using the visual analog scale (VAS) from 0 to 100. Explanatory variables included own or partner's home prefecture ; concerns including "difficulty in receiving support from parents," "difficulty in receiving support from non-parents such as baby sitters," "inconvenience," "education of children," "community acceptance," "relation with *Kenjinkai*," "human relations ;" and supporters, including "partner," "boss," "parents," "parents-in-law," "colleagues," and "friends."

The level of LS was compared in each category of seven concern and six supporter items using linear regression analysis. Multivariate linear regression adjusted with all items was performed. A p value of <0.05 was considered statistically significant.

Results

Response rate was 67% (140/210). Of all the respondents, women accounted for 74 (53%). The median of LS for own and partner's home prefectures were 70 and 74, respectively. No significant difference ($p = 0.41$ Wilcoxon signed-rank test) was found.

Table 1. Concerns and supporters in own home prefecture and partner's home prefecture

	Own	Partner's
Concerns		
Support from parents	56 (40%)	56 (40%)
Support from other than parents	42 (30%)	36 (26%)
Inconvenience	40 (29%)	42 (30%)
Community acceptance	25 (18%)	18 (13%)
Relationship with Kenjinkai	23 (16%)	22 (16%)
Education for children	19 (14%)	20 (14%)
Human relations	12 (9%)	15 (11%)
Supporters		
Partner	119 (85%)	117 (84%)
Boss	74 (53%)	73 (52%)
Parents	72 (51%)	47 (34%)
Friends	38 (27%)	27 (19%)
Colleagues	34 (24%)	36 (26%)
Parents in law	16 (11%)	39 (28%)

Major concerns included "difficulty in receiving support from parents," "difficulty in receiving support from non-parents," and "inconvenience of life." Major supporters included "partner," "boss," and "parents." No significant

Table 2. Univariate analysis for life satisfaction by concerns and supporters

	Own	Partner's
	beta (95% CI)	beta (95% CI)
Concerns		
Support from parents	-7.0 (-14.8 - 0.9)	-7.8 (-15.6 - -0.1)
Support from other than parents	-5.4 (-13.7 - 3.0)	-5.7 (-14.3 - 2.9)
Inconvenience	-9.6 (-18.0 - -1.3)	-12.1 (-20.1 - -4.1)
Community acceptance	-13.0 (-22.8 - -3.2)	-26.7 (-36.8 - -16.7)
Relationship with Kenjinkai	-14.2 (-24.3 - -4.1)	-20.9 (-30.5 - -11.4)
Education for children	-1.3 (-12.4 - 9.7)	-7.3 (-17.9 - 3.3)
Human relations	-23.6 (-36.4 - -10.7)	-26.1 (-37.2 - -15.0)
Supporters		
Partner	-5.8 (-18.7 - 7.2)	-1.4 (-15.2 - 12.4)
Boss	10.1 (2.4 - 17.9)	6.4 (-1.4 - 14.3)
Parents	2.4 (-5.5 - 10.2)	2.8 (-5.3 - 10.9)
Friends	0.7 (-8.2 - 9.6)	2.2 (-7.4 - 11.8)
Colleagues	4.2 (-4.7 - 13.2)	2.7 (-5.9 - 11.4)
Parents in law	-12.4 (-24.1 - -0.8)	7.7 (-0.7 - 16.2)

Beta coefficient and 95% confidence level was calculated using linear regression model.

Table 3. Multivariate analysis for life satisfaction by concerns and supporters

	Own	Partner's
	beta (95% CI)	beta (95% CI)
Concerns		
Support from parents	-2.7 (-10.6 - 5.3)	-6.8 (-13.6 - 0.0)
Support from other than parents	-5.9 (-14.4 - 2.6)	-1.0 (-8.6 - 6.5)
Inconvenience	-5.6 (-13.8 - 2.5)	-10.5 (-17.9 - -3.1)
Community acceptance	-3.3 (-14.7 - 8.1)	-17.6 (-27.7 - -7.4)
Relationship with Kenjinkai	-5.9 (-17.8 - 6.1)	-15.0 (-23.9 - -6.1)
Education for children	4.2 (-7.0 - 15.5)	-0.3 (-9.7 - 9.1)
Human relations	-18.0 (-32.3 - -3.6)	-12.8 (-23.7 - -1.9)
Supporters		
Partner	-7.6 (-20.3 - 5.0)	-7.5 (-18.9 - 3.9)
Boss	8.7 (0.9 - 16.5)	2.8 (-4.0 - 9.6)
Parents	6.0 (-1.8 - 13.8)	1.3 (-6.0 - 8.5)
Friends	-0.9 (-9.8 - 8.0)	4.9 (-3.3 - 13.2)
Colleagues	3.9 (-4.9 - 12.7)	3.4 (-4.0 - 10.8)
Parents in law	-11.0 (-22.4 - 0.4)	6.7 (-0.5 - 14.0)

Beta coefficient and 95% confidence level was calculated using linear regression model adjusted with every item.

difference according to gender or home prefecture was found (Table 1).

Table 2 shows the comparison of LS between each group including concerns and supporters. According to univariate analysis, concerns including "inconvenience of life" [−9.6 (−18.0 to −1.3)] [β coefficient (95% confidence level)], "community acceptance" [−13.0 (−22.8 to −3.2)], "relation with *Kenjinkai*," [−14.2 (−24.3 to −4.1)], "human relations" [−23.6 (−36.4 to −10.7)], and supporters including "boss" [10.1 (2.4 to 17.9)], and "parents-in-law" [−12.4 (−24.1 to −0.8)] were related to one's own home prefecture. Concerns including "difficulty in receiving support from parents" [−7.8 (−15.6 to −0.1)], "inconvenience of life" [−12.1 (−20.1 to −4.1)], "community acceptance" [−26.7 (−36.8 to −16.7)], "relation with *Kenjinkai*" [−20.9 (−30.5 to −11.4)], and "human relations" [−26.1 (−37.2 to −15.0)] were related to the partner's home prefecture.

After multivariate adjustment (Table 3), concern regarding "human relations" was independently related to

lower LS in one's own home prefecture [−18.0 (−32.3 to −3.6)] and partner's home prefecture [−12.8 (−23.7 to −1.9)]. In one's own home prefecture, "boss" [8.7 (0.9–16.5)] as a good supporter was related to higher LS. In the partner's home prefecture, concerns regarding "difficulty in receiving support from parents" [−6.8 (−13.6 to 0.0)], "inconvenience" [−10.5 (−17.9 to −3.1)], "community acceptance" [−17.6 (−27.7 to −7.4)], and "relation with *Kenjinkai*" [−15.0 (−23.9 to −61)], were related to lower LS.

Discussion

Although this study includes limited research on factors related to LS in a small sample size, it is the first study that focused on the differences of LS levels and its related factors between one's own and partner's home prefectures.

Good human relations are related to LS in both one's own and partner's home prefectures. Supportive relationship with spouses and partners, parents, or other community members enables one to be readily available for his/her parents, which is one of the strategies for successfully achieving work–life balance [19]. Support from colleagues and adequate resources for patient care are also associated with LS in physicians [20]. LS is high for human relations with the residents [15]. Building good human relations is a fundamental factor for leading a satisfied life.

More concerns are related to LS in partner's home prefecture than in one's own home prefecture. In addition, relationship with neighborhood such as community or *Kenjinkai* affects a satisfied life, especially in unfamiliar communities like those in the partner's home prefecture. Social relatedness is associated with a physician's well-being [21]. Community acceptance is one of the significant factors that influences the perception of continuing rural practice [22]. Important factors associated with decisions regarding the locations of family physicians include family influences, work–life balance, and community influences [23]. Receiving support from parents is difficult when the physician is outside his own home prefecture. For young families, support from parents is often useful during illness. Climate, lifestyle, and language (regional dialect) vary in each prefecture. Although regional dialects of the Japanese language are similar, understanding them is often difficult, which is related to establishing relationships with residents.

Boss as a good supporter was related to high LS in one's own home prefecture. Young physicians need support for professional training. Furthermore, young families need guidance about how to live in a local community with a boss who is also a resident of the same community. The institutional support is needed for young doctors' enjoyment to their work [24]. The major pertinent mediating factors of satisfaction for hospital physicians include both physician factors (age and specialty) and job factors (job demands, job control, collegial support, income, and incentives) [25].

A concern for improving LS after graduation was about establishing good relationships, especially with the community *Kenjinkai* and their bosses. Another concern was about overcoming the inconvenience of rural life. Residents who had received prior education regarding work–life balance were more satisfied than those who did not receive it [7]. Poor work–life balance and poor health were associated with presenteeism [26]. The results of this study would serve as a reference in supporting a medical graduate contracted to work in a rural community. Social skills training for a medical student may be useful to build good human relationships after graduation. Appropriate consideration of bosses or colleagues in rural hospitals may also be useful.

The results can be also applicable to non-JMU graduates who have an obligation period after graduation. Since 2008, the regional quota system and prefecture scholarship program (*Chiikiwaku*) was adopted in various medical schools [27]. There are some variations in the system, but some have the same obligations for rural practice like those in JMU.

This study, however, had some limitations. A major limitation was the small sample size. Given the comparatively small number of participants, important facts may have been overlooked. Also, we did not consider age, income, position, workload, or work controllability of the participants. Furthermore, this was a cross-sectional observational study, and causality could not be mentioned. Further research is needed to overcome these limitations.

Conclusions

Good human relations are associated with LS in both one's own and partner's home prefectures. In the partner's home prefecture, more factors are associated with LS for physicians assigned to work in a rural community. It may also be effective to involve the support of bosses. The results of this study can be viewed as a basis for the recommendation to improve physicians' LS. The development of an educational model to empower physicians who practice and live in local communities is expected.

Abbreviations

JMU, Jichi Medical University ; VAS, visual analog scale ; LS, life satisfaction

Authors' contributions

TN provided the idea and wrote the manuscript. TN, NM, YI, SI, KK, SY, TY, YA, AW, KY, TY, YS, MT, and AS equally participated in designing of the research and questionnaires. MM contributed in statistical analysis. Those listed as authors are qualified for authorship, and all who are qualified to be authors are listed as authors.

Competing interests

The authors declare that they have no competing interests.

Declarations

The manuscript has not been previously published and is not under consideration in any other journal.

Acknowledgments

The authors would like to thank Yuri Kumoi and Sumiko Kurokawa for their secretarial assistance.

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夫婦それぞれの出身地で地域医療に従事する自治医大卒業医師の生活満足度

中村　剛史[1]，牧野　伸子[2]，石川由紀子[3]，小島　華林[4]，山本さやか[5]，山本　智美[6]，新井　由季[7]，渡邉ありさ[8]，影向　一美[9]，横谷　倫世[10]，白石　裕子[11]，十枝めぐみ[12]，定金　敦子[13]，三重野牧子[14]，石川　鎮清[15]

[1] 自治医科大学地域医療学センター地域医療人材育成部門，栃木県下野市薬師寺3311-1
[2] 自治医科大学地域医療学センター公衆衛生学部門，栃木県下野市薬師寺3311-1
[3] 自治医科大学地域医療学センター総合診療部門，栃木県下野市薬師寺3311-1
[4] 自治医科大学小児科学，栃木県下野市薬師寺3311-1
[5] 自治医科大学臨床検査医学，栃木県下野市薬師寺3311-1
[6] 帯広厚生病院内科，北海道帯広市西6条南8-1
[7] 那須赤十字病院消化器内科，栃木県大田原市中田原1081番地4
[8] カリフォルニア大学サンディエゴ校，9500 Gilman Dr, La Jolla, CA, US
[9] 新潟県立新発田病院消化器内科，新潟県新発田市本町1丁目2-8
[10] 土庫病院外科，奈良県大和高田市日の出町12-3
[11] 隠岐島前病院，島根県隠岐郡西ノ島町美田2071-1
[12] 国民健康保険綾上診療所，香川県綾歌郡綾川町陶1720-1
[13] 放射線影響研究所，広島県広島市南区比治山公園5-2
[14] 自治医科大学情報センター，栃木県下野市薬師寺3311-1
[15] 自治医科大学医学教育センター，栃木県下野市薬師寺3311-1

要　約

自治医大の卒業生どうしで結婚しお互いの出身地で地域医療に従事する間の心配ごとやその相談相手と、生活満足度との関連を調査した。自治医大卒業後夫婦双方の出身地で勤務している210名を対象に、心配ごととその相談相手、および生活満足度をVisual analog scale（0-100）で尋ねた。回収率67％。生活満足度（中央値）は自分の出身地70、パートナーの出身地74であった。最多の心配ごとは両親の支援が得られにくいこと、最多の相談相手は配偶者であった。人間関係はいずれの出身地でも生活満足度に影響したが、自分の出身地ではさほど影響しない心配ごとでもパートナーの出身地では生活の満足度を低下させた。上司がよき相談相手であると生活の満足度が高かった。充実して地域医療に従事するためには、人間関係づくり、とりわけ上司への働きかけは有効な支援策になるかもしれない。
（キーワード：生活の満足度、結婚、地域医療、人間関係、出身地）

連絡先：中村　剛史，自治医科大学地域医療学センター地域医療人材育成部門，〒329-0498 栃木県下野市薬師寺3311-1　自治医科大学
E-mail：nakamurata@jichi.ac.jp
受付：2017年９月27日，受理：2017年12月７日