Quality Assessment of Couples Using Techniques of Assisted Reproduction

Grzegorz Bakalczuk[1], Anna Szpurka[1], Michał Filip[2], Anita Wdowiak[2], Magdalena Lewicka[1], Magdalena Sulima[1], Chris McGuigan[3], Artur Wdowiak[2]

[1] Department of Obstetrics, Gynaecology and Obstetric-Gynaecological Nursing, Faculty of Health Sciences, Medical University, Lublin, Poland

[2] Diagnostic Techniques Unit, Faculty of Health Sciences, Medical University, Poland

[3] Welsh School of Pharmacy, Cardiff University, United Kingdom

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Corresponding address:
dr n. med. Artur Wdowiak
Diagnostic Techniques Unit, Faculty of Nursing and Health Sciences, Medical University (Collegium Maximum)
Staszica 4-6
20-081 Lublin, Poland
Telephone: +48 81448 6892
Fax: +48 81448 6893
e-mail: wdowiakartur@gmail.com

Abstract

WHO has recognized infertility as a social issue, because more and more couples are affected by it. It has been estimated that between 10% and 25% of people in reproductive age is afflicted by this condition. Contemporary medicine offers those couples techniques of treatment, both pharmacological as well as surgical. In some indications, couples decide to use assisted reproduction techniques (ART), like intrauterine insemination and in vitro fertilization. Time of treatment is different in each case, but can last even a dozen or so years. Infertility may generate limitations concerned with handling basic life activities. Partners with fertility disorders are deprived of experiencing pregnancy and child birth, not being able to fulfill their roles as mother or father. Repeatedly, they spend most of their time on seeking proper help. The aim of this work was to assess the quality of life of coupls using in vitro fertilization techniques (IVF). The examination was performed on 80 patients by means of a diagnostic survey with own questionnaire and the Polish version of the FeriQoL International questionnaire. We have observed that the quality of examined people is higher in the group living in the city, and people with higher education are handling their partner relationship better and are in better health.

Key words:

reproduction, techniques of assisted reproduction, infertility, quality of life

Introduction

The definition of infertility coined by WHO is as follows: lack of possibility to get pregnant in 12 months, without using contraceptives and with regular sexual relations, about 3-4 times a week [1]. This problem afflicts a growing number of couples, which is why WHO has recognized infertility as a social issue. It has been estimated that between 10% and 25% of people in reproductive age is afflicted by this condition. Unfortunately, infertility problems are expected to grow further [2]. In the recent years, according to the Polish Central Statistical Office, demographic crisis among Poles is building up. It is also significant that, since 1980s, we have observed changes in life style and a new approach towards parenthood. Europe is dominated by the 2+1 family model. Such a model translates makes maintaining a positive demographic growth impossible. Women are postponing their decisions to get pregnant. According to the Central Statistical Office, the average age of women giving birth has increased by 2 years over the past 20 years. The situation is similar in other countries of Europe. About 86% of women get pregnant during their first year of having regular sexual relations. It is assumed that lack of conception is attributed to 40% of women and 40% of men. The rest of the cases may involve both partners at the same time [3]. We assess that about a million of couples has problems in conceiving a child. It is known that the fertility rate in Poland in 2011 was on the level of 1.297 and is lower than in the past years [2].

Contemporary gynecology offers those couples techniques of treatment, both pharmacological as well as surgical. In many cases, when the above-mentioned methods fail, or a contagious disease or genetic condition occurs, couples decide to utilize assisted reproduction techniques (ART), among which is IVF. Their purpose is to obtain pregnancy by means of skipping one or more stages of natural concepption. ART helps those couples in whom infertility is an issue for both man and woman.

In vitro fertilization concerns the fertilization of ova outside of the body and then transfer the embryos to the uterine cavity [4]. The first stage is the verification of partners (compatible with current recommendations) and prognostication the performed method. After qualifying the couple, the next step is the pharmacological stimulation of ovulation, which is finished by taking ova by means of retrieval [2]. Retrieval is usually conducted after 36 hours from giving human chorionic gonadotropin. At the same time, the partner of the female patient gives sperm, which undergoes preparation. It is a process during which seminal plasma is separated from leucocytes, bacteria and contaminations [5].

The next stage of in vitro fertilization is embryo transfer. The transfer of suitably selected embryos is carried out in 2nd, 3rd or 5th times of the culture. The embryos are placed in the catheter and then transferred to the uterine cavity [5].

According to WHO, quality of life is "an individual's perception of his or her position in life in the context of culture and value system in which he or she lives and in relation to the tasks, expectations and standards set by environmental considerations." Time of treating infertility is quite diverse, but it can take up to several years. Infertility can result in limitations to the performance of the basic life activities. Infertile partners are deprived of the possibility of experiencing pregnancy, childbirth and also cannot fulfill their role as mother or father. Often, they spend most of their free time in the search for appropriate assistance in reproduction. Infertility treatment is expensive, often forcing the partners to allocate their savings for this purpose, or also opt for a loan, since most procedures are not covered by health insurance. Both the treatment and diagnosis of infertility affects quality of life and welfare of the partners. Often, it upsets the system of values, ethical and moral standards professed by the couple. Partners who do not have children are perceived by society as a less happy and less valuable [6]. Quality of life is inseparably associated with the health state of the patient, because illness or medical interventions have a huge impact on it [7].

Research aim

The aim of the study was to assess quality of life of couples using one of the methods of assisted

reproduction – IVF. We assessed whether there is a link between emotional, biological, social and partnership spheres and sociodemographic factors, such as age, sex, place of residence and education.

Material and methods

The study included 80 people who use IVF (women accounted for 76.3% of the total and men – 23.8%) from November 2015 to April 2016. We obtained consent from the people involved in the examination to participate in the study after earlier explanation of the purpose and course of study.

The research was carried out by voluntary and anonymous diagnostic survey using a proprietary questionnaire and the FeriQoL International questionnaire in Polish. Author's questionnaire consisted of 6 questions sociodemographic independently developed for this study (one question was an open question and 5 questions were closed). The FertiQoL questionnaire consists of 36 closed questions. The FertiQoL questionnaire consists of six subscales (emotional, biological, partnership, social, attitude to treatment, response to treatment), thus giving a total of three results. The main part of the questionnaire consists of emotional, biological, social and partnership subscales. Questions 4, 7, 8, 9, 16 and 23 are assigned to the emotional sphere and show the effect of negative emotions on the quality of life (jealousy, sorrow, sadness, depression). Questions 1, 2, 3, 12, 18 and 24 are assigned to the biological area and show the effect of fertility disorders on the physical, cognitive and behavior. Questions 6, 11, 15, 19, 20 and 21 belong to the sphere of partnership and shows the impact of fertility disorders on marriage or partnership. Questions 5, 10, 13, 14, 17 and 22 correspond to the social sphere and show how social relations were affected by the problems associated with fertility. Another part of the questionnaire relates to the treatment, which consists of a subscale approach to treatment and response to treatment. Questions T2, T5, T7, T8, T9 and T10 are questions about attitude towards treatment and show what the quality and availability of the treatment are and their impact on quality of life. Questions T1, T3, T4 and T6 constitute the subscale question of response to treatment and show the extent to which medical services affected the quality of life of the infertile. The results of the questions are reversed and summed within the range of 0-100. The higher the score in the subscales and total score, the better the quality of life is. The FertiQoL questionnaire also contains two additional questions labeled A and B. These questions pertain to the overall health status and satisfaction with life quality. They are not included in the total score or any of the subscales. Questions A and B constitute an additional information in the questionnaire.

The results were statistically analyzed.

Results

The study shows that emotional women received an average score of 54.78, while men – 46.93 (Fig. 1). There was no statistically significant difference between emotional and sex spheres ($Z = -1.310$; $p = 0.190$). The performed analysis has shown that, in the biological area, women received an average value of 59.29, while men – 58.99 (Fig. 1). There was no significant relationship between biological and sex spheres ($Z = -0.215$; $p = 0.830$).

The study has shown that women gained an average value of 51.41 in the sphere of partnership, while men – 54.89 (Fig. 1). The study shows that there is no statistically significant correlation between the spheres of partnership and sex ($Z = -0.806$; $p = 0.420$). In the social sphere, women received average value of 56.22, whilst men – 57.46 (Fig. 1). There was no statistically significant difference between the social and sex spheres ($Z = -0.181$, $p = 0.856$).

The study has shown that emotional respondents up to 33 years of age received an average value of 53.27, while people over 33 years of age received a value of 52.62 (Fig. 2). There was no statistically significant correlation between the emotional and age spheres ($Z = -0.208$; $p = 0.835$).

Our study has shown that respondents up to 33 years of age in the biological sphere received an average value of 58, while respondents over 33 years of age – 60.27 (Fig. 2). There was no significant relationship

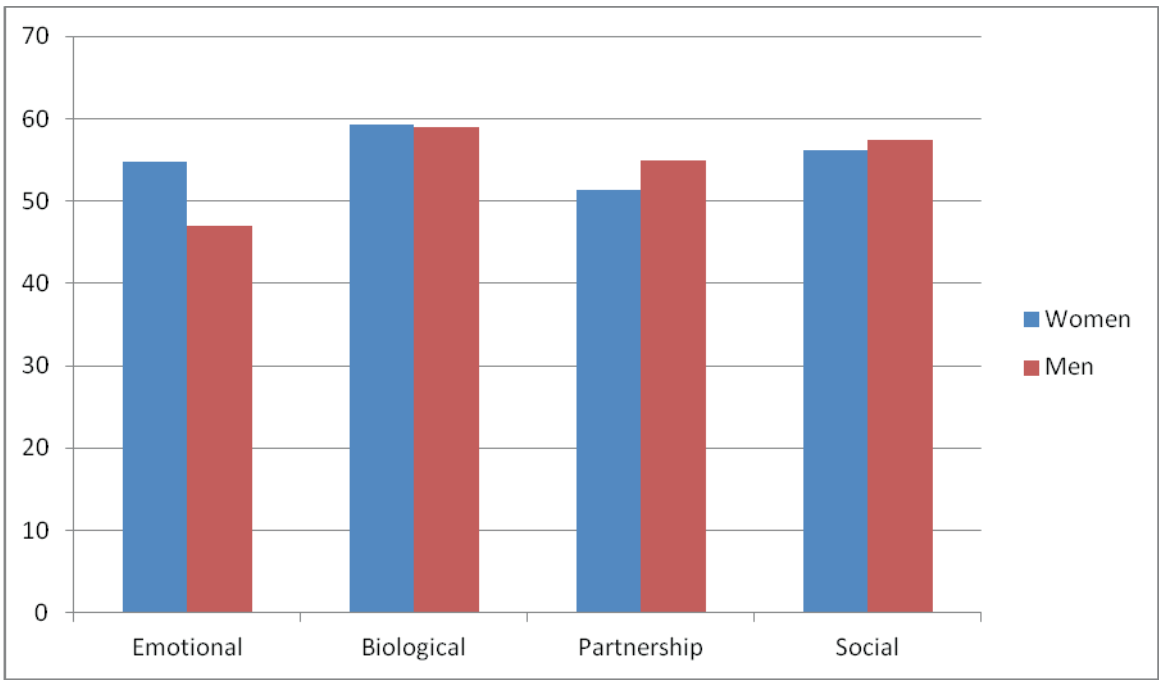

Fig. 1.
Analysis of the relationship between the emotional, biological, partnership, social and gender spheres

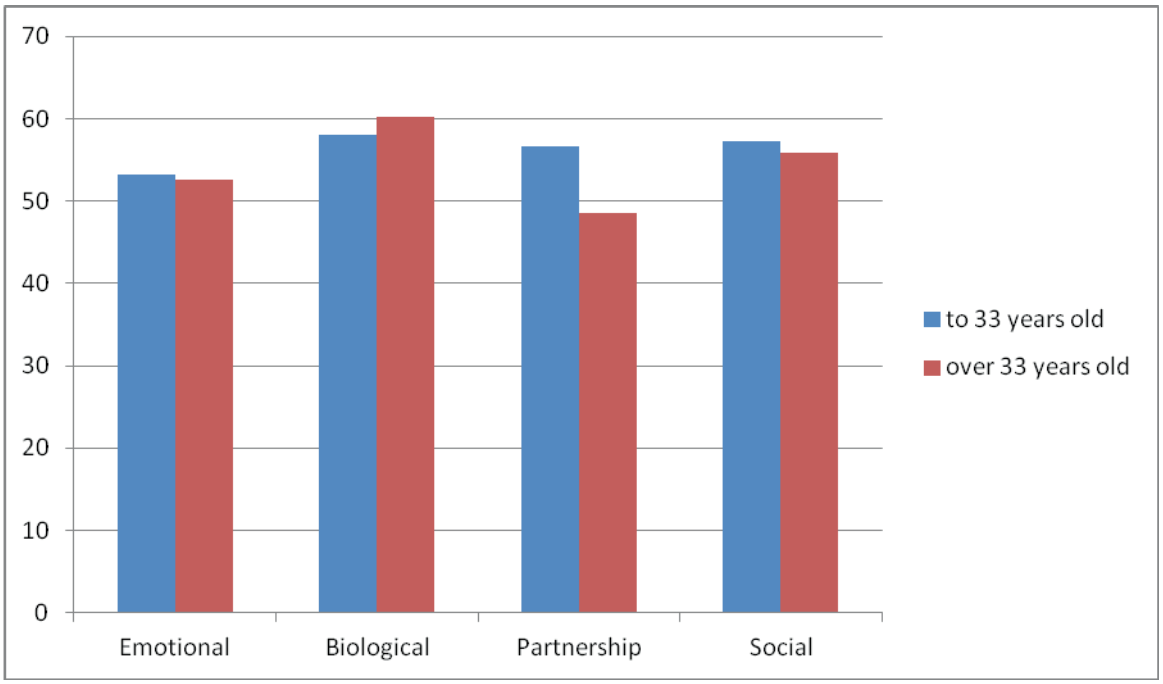

Fig. 2.
Analysis of the relationship between the emotional, biological, partnership, social spheres and the age of the respondents

between age and biological spheres ($Z = -0.556$; $p = 0.578$).

In the area of partnership, people up to 33 years of age received an average value of 56.56, while the subjects above 33 years of age – 55.91 (Fig. 2). There was no significant correlation between age and the sphere of partnership ($Z = -1.506$; $p = 0.132$).

The analysis has shown that the average value is 57.21 in the social sphere among the respondents up to 33, while among respondents over 33 years of age

– 55.91 (Fig. 2). There was no significant relationship between the social and age spheres (Z = –0.126; p = 0.900). The lowest value of standard deviation is 17.34 and is located in the sphere of partnership in people up to 33 years of age.

The study shows that the mean value is 57.48 in the emotional sphere among respondents living in the city, while among respondents living in rural areas this value was 43.43 (Fig. 3). This difference was statistically significant (Z = –2.601; p = 0.009).

In the biological sphere, subjects living in the city have obtained an average value of 65.59, while respondents living in the countryside – 45.99 (Fig. 3). This difference was statistically significant (Z = –3.416; p = 0.001).

Studies have shown that people living in the city scored an average value of 56.48 in the sphere of partnership, while those living in the countryside – 43.41 (Fig. 3). There was a significant correlation between the place of residence and the sphere of partnership (Z = –2.572; p = 0.010).

The analysis showed that people living in the city scored the mean value of 61.34 in the social sphere, while people living in rural areas – 46.47 (Fig. 3). The observed differences are statistically significant (Z = –2.661; p = 0.008).

The analysis has shown that people with vocational education scored an average value of 50.64 in the emotional sphere, while those with secondary school education – 43.18, and those with higher education – 58.33 (Fig. 4). The observed differences were statistically significant (Z = 6.414, p = 0.040).

The study has shown that people with vocational education scored an average value of 46.15 in the biological sphere, while respondents with secondary school education – 48.48, and those with higher education – 58.33 (Fig. 4). These differences were statistically significant. (Z = 15.059, p = 0.001).

In the sphere of partnership, respondents with vocational education received an average value of 39.84, with secondary school education – 44.32, and respondents with higher education – 59.68 (Fig. 4). There was a significant difference between the sphere of partnership and education (Z = 13.175, p = 0.001).

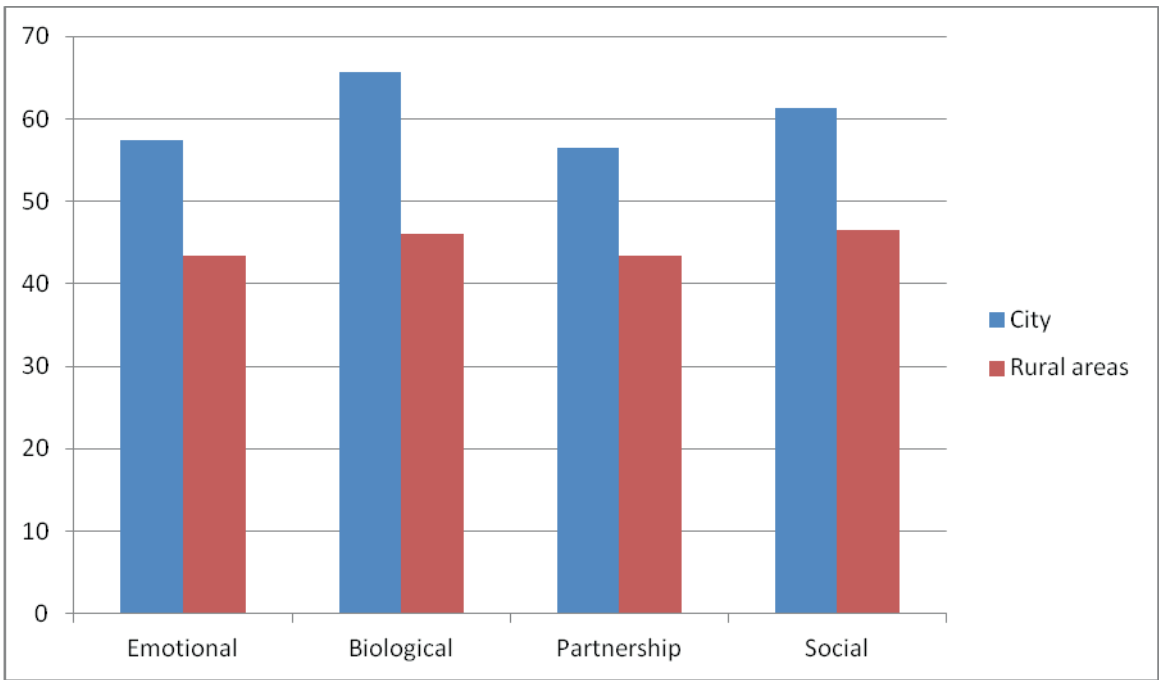

Fig. 3.
Analysis of life quality between emotional, biological, partnership, social spheres and place of residence

On the basis of the performed examination, we have determined that subjects with vocational education scored an average value of 48.08 in the social sphere, people with secondary school education – 43.94, while those with higher education – 65.09 (Fig. 4). The results were statistically significant ($Z = 15.657$, $p = 0.000$).

Discussion

The diagnosis of infertility is a difficult situation for the whole family, thus affecting family life, changing their plans and goals. This situation may lead to the deterioration of physical, emotional and economic aspects, which in turn intensifies frustration. The diagnosis of infertility is a huge surprise for couples and causes enormous psychological stress that can lead to feelings like guilt, fear and sadness [8]. In most cases, the deterioration of relations intensifies between the partners. Among women, the most common feeling is guilt, shame and anxiety. Women often have mood swings – from feelings of excitement and hope at the beginning of the menstrual cycle or medical procedure, and sadness with frustration at the moment of menstruation. Over time, the feelings of anxiety and helplessness intensify, and there is a tendency to cry without any reason. Women's self-esteem and their self-acceptance decreases drastically. Men feel that they are worse than other men with offspring. In the event of problems, men with fertility retreat into themselves or run away from problems by being involved in more professional work. Men often hide this fact from the rest of the family. In men, as in women, self-esteem is considerably lower.

International scientific reports may give us a first observation: trouble with getting pregnant will decrease life quality [9]. Polish study conducted by Głownińska et al. shows that mood disorders and emotional sphere appear even when women are aware that they can not get pregnant because of polycystic ovary syndrome. The risk of depression in women with PCOS may reach up to 51%. People affected by infertility, apart from using methods of assisted reproduction, should be subject to professional psychological care in order to stop the downward spiral of stress resulting from the lack of offspring. In our studies, no statistically significant correlation was observed between sex and mood disorders, this is probably due to the conditions of our culture. In the quoted Begum, the authors note that the woman is responsible for problem of infertility in the family,

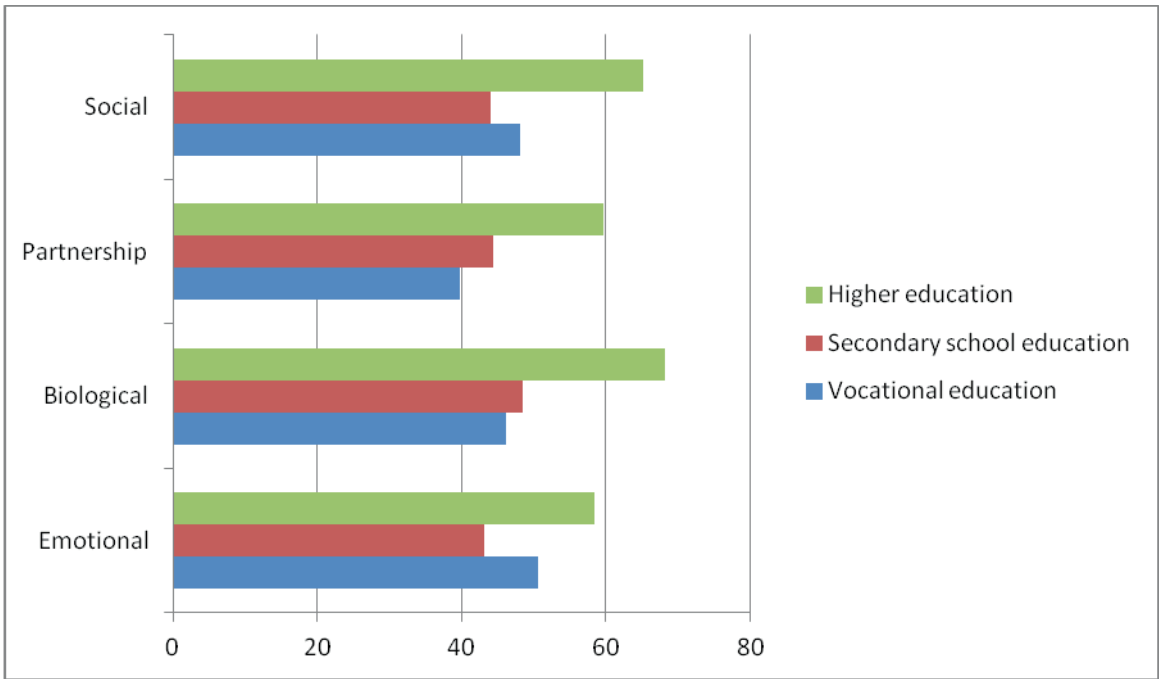

Fig. 4.
Analysis of life quality between emotional, biological, partnership and social spheres, and the education of the respondents

women also have greater psychological disorders and emotional e.g. depression [10]. Studies conducted by Shani et al. show how huge the problem of infertility is. The authors of this study reported results which show that as many as 9.4% of women undergoing in vitro had a suicide incident [11]. The same researchers strongly emphasize that people who have trouble getting pregnant should receive specialized assistance focused on dealing with negative emotions.

Apart from the typical psychological and psychiatric disorders, life quality disorders also affect the sexual zone. Infertile women consider their dysfunction a kind of weakness, which has a direct impact on satisfaction with sex, decreasing it drastically [12]. The high impact of infertility on daily life is caused by our society, which somehow forces couples to have children, and sometimes, in the absence of children, somehow stigmatizes childless couples.

Unfortunately, despite the unprecedented increase in the efficiency of assisted reproduction methods, proper psychological support for the infertile has not been developed. There are still no national standards of holistic care for people using assisted reproduction methods [11].

Despite higher life quality in the city, couples living in rural areas are more successful in treating infertility. This is due to a higher age of treated women in cities and environmental factors [13].

There is no doubt that, along with the improvement of the overall life quality of the infertile, the effectiveness of treatment will follow, since health, life quality and fertility are linked to each other [14].

The level of stress, anxiety and general discomfort associated with the treatment of infertility, however, can be reduced by changing the perception of infertility by society and with its support [15]. As the culture and social behavior change all the time, they can have a positive impact on the future.

Conclusions

1. The quality of life in the emotional, biological, social and partnership spheres is affected by place of residence.
2. The quality of life of respondents is higher for residents in urban areas rather than rural areas.
3. The quality of life in the biological and partnership area is influenced by education. People with higher education handle partner relationships better and enjoy better health than others.

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