

THE LIFE SATISFACTION OF NURSES DURING THE COVID-19 PANDEMIC

STAYSFAKCJA Z ŻYCIA PIELEŃNIAREK W CZASIE PANDEMII COVID-19

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- C. Data analysis/statistics
dane – analiza i statystyki
- D. Data interpretation
interpretacja danych
- E. Preparation of manuscript
przygotowanie artykułu
- F. Literature analysis/search
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- G. Funds collection
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Summary

Background. Life satisfaction is an overall assessment of an individual's satisfaction with life relative to personal standards. People who feel satisfied with their lives can more easily overcome life's challenges, including those associated with the SARS-CoV-2 pandemic.

Material and methods. This study aimed to determine the level of life satisfaction (LLS) of Polish nurses. The Satisfaction with Life Scale (SWLS) by Diener, Emmons, Larsen, and Griffin adapted to Polish by Juczyński was used. The opinions of 239 nurses were statistically analyzed.

Results. The mean life satisfaction score of the studied nurses was 19.78±5.47 points. Low LLS was found in 33.05% of the studied nurses, average LLS in 41.00%, and high LLS in 25.94%. Life satisfaction was influenced by a nurse's place of residence and marital status. Survival of a SARS-CoV-2 infection had no significant effect on the nurses' life satisfaction.

Conclusions. The majority of nurses reported a low to average LLS and steps should be taken to change this situation. It can be hypothesized that higher LLS among nurses will translate into a better quality of patient care.

Keywords: Satisfaction with Life Scale, life satisfaction, pandemic, nurse, nursing

Streszczenie

Wprowadzenie. Satysfakcja z życia to ogólna ocena zadowolenia z życia konkretnej jednostki odnoszona do osobistych standardów. Osoby odczuwające satysfakcję z życia łatwiej pokonują trudności życiowe, również te związane z pandemią wirusa SARS-CoV-2.

Material i metody. Celem było określenie poziomu satysfakcji z życia polskich pielęgniarek. Wykorzystano Skalę Satysfakcji z Życia (SWLS – *The Satisfaction with Life Scale*) autorstwa Dienera, Emmonsa, Larsena i Griffina w polskiej adaptacji Juczyńskiego. Analizie statystycznej poddano opinie 239 pielęgniarek.

Wyniki. Średni wynik poczucia satysfakcji z życia dla ogółu badanych pielęgniarek wyniósł 19,78±5,47 punktów. Stwierdzono, iż niski poziom satysfakcji z życia osiągnęło 33,05% badanych pielęgniarek, przeciętny 41,00%, zaś wysoki 25,94% kobiet. Na poziom satysfakcji z życia miało wpływ miejsce zamieszkania i stan cywilny. Przebiec zakażenia wirusem SARS-CoV-2 nie miało istotnego wpływu na zadowolenie z życia pielęgniarek.

Wnioski. Pielęgniarki charakteryzuje przeciętna satysfakcja z życia, dlatego warto jest podjąć działania w kierunku zmiany tej sytuacji. Można przypuszczać, że wyższa satysfakcja z życia pielęgniarek wpłynie na wyższą jakość opieki nad pacjentem.

Słowa kluczowe: Skala Satysfakcji z Życia, satysfakcja z życia, pandemia, pielęgniarka, pielęgniarstwo

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Introduction

Defining life satisfaction poses many difficulties as the concept is ambiguous, multidimensional, and interdisciplinary [1-3]. There is a multitude of approaches to the issue of life satisfaction which highlights that this issue is important to researchers within various fields of knowledge [4]. Juczyński defines life satisfaction as the result of comparing one's situation with their personal standards. If the comparison is satisfactory then the resulting level of life satisfaction (LLS) will be higher [5]. This relationship in determining life satisfaction was applied by the authors of this paper.

When studying life satisfaction, a person's standards and values play an important role in the goals they pursue. The factors that determine the achievement of life satisfaction are made up of those independent of the person's control and those that depend on the person's activity. Factors out of the control of the person are divided into external, such as place of birth, and internal factors, like health status and temper. Life satisfaction is also influenced by health, job, family situation, friends, and wealth. However, it is also an overall assessment of an individual's life satisfaction relative to personal standards. The feeling of life satisfaction translates to greater productivity and a greater ability to overcome life's difficulties [6-10]. In the literature, life satisfaction is synonymous with terms such as "quality of life" and "life evaluation".

The LLS of nurses is related to job satisfaction which is influenced by both the work environment and individual characteristics of the person [11,12]. The SARS-CoV-2 pandemic undoubtedly influences all areas of human life and causes great anxiety, apprehension, and fear. In addition, medical personnel experience more difficulties as the pandemic cannot be assessed from a time perspective and it is impossible to predict the future outcome [13]. Therefore, nurses may experience emotional instability, a decreased desire to work, and increased irritability. The significant psychological burden and constant frustration of work can negatively affect a person's feeling of life satisfaction [14-16].

This study aimed to analyze the LLS of nurses and the influence of various sociodemographic factors.

Material and methods

The study was conducted from February to May 2021, in Polish nurses using a Computer-Assisted Web Interview (CAWI) survey technique to maintain appropriate safety measures in the era of the global pandemic. Participants were informed of the study's purpose and the confidentiality of the information obtained was guaranteed. The study questionnaire was developed using a digital platform. Prior to the survey, each participant was provided an introduction emphasizing the importance of the research problem and asked that each respondent complete the survey only once. The requests to complete the questionnaire were posted on Polish social media sites targeted for nurses such as "nurses and nurse practitioners — the nursing world", "nurses/nurse practitioners — the best profession", "nursing prescriptions — questions and answers". A total of 253 nurses participated in the study, of which, 239 responses were deemed complete and qualified for inclusion in the analysis.

A survey was conducted to obtain the data. The survey included questions on sociodemographic parameters, including education, marital status, length of service, place of work, place of residence, and history of infection with COVID-19. To assess the LLS, the Satisfaction with Life Scale (SWLS) by Diener, Emmons, Larsen, and Griffin in Polish adapted by Juczyński was used [5]. The study was approved by the Psychological Testing Centre of the Polish Psychological Association. The questionnaire consisted of five statements. The participants responded to each statement by assessing the extent to which the statement applied to their life. Responses were given using a seven-point Likert scale, where 1 corresponded to "I completely disagree" and 7 to "I completely agree". The scores were then added together and each person could earn an overall score ranging from 5 to 35 points. A higher score corresponded to a higher LLS. A standard ten (sten) score was used to determine the LLS. A sten score of 10 was used. Stens of 1-4 (questionnaire score 5-17 points) indicate a low LLS, stens of 5-6 (questionnaire score 18-23 points) indicate an average LLS, stens in the range of 7-10 (questionnaire score 24-35 points) indicate a high LLS.

Statistical analyses were carried out using Statistica v13 software. Cramer's V coefficient was used to assess the association between variables. Pearson's chi-square test of independence, Shapiro-Wilk test, Kruskal-Wallis test, Student's t-test, ANOVA analysis of variance, and post hoc multiple comparison tests were used in statistical inference procedures. Values where $p \leq 0.05$ were considered statistically significant.

All of the participants in this study were women working in the nursing profession. The majority of participants were residents of urban areas (66.95%), while the remaining 33.05% were rural residents. Respondents were most often married (64.29%) or single (26.05%). The remainder of the respondents were divorced or widowed

(9.66%).

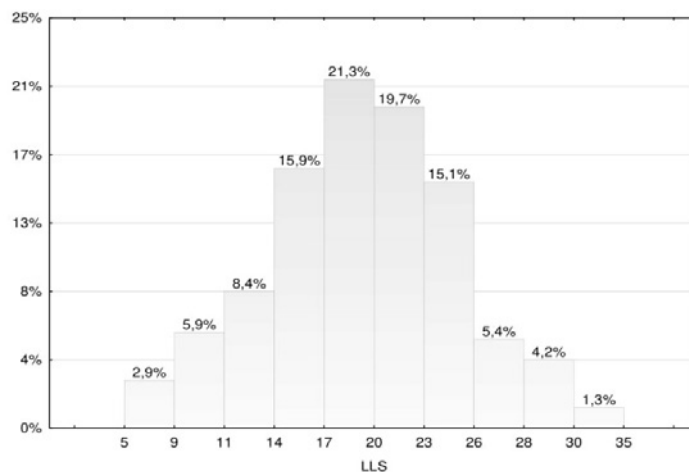
All respondents were licensed nurses, of which 44.12% had a master's degree in nursing, 44.96% had a bachelor's degree in nursing, and the remaining 10.92% of women had a secondary medical education. Women with a good mixture of service lengths participated in the study which was an advantage in achieving the purpose of this study. Those with shorter periods of employment, up to 10 years working, predominated (40.59% of respondents). Nurses working 11 to 20 years accounted for 17.99% of the study group. Women working 21 to 30 years made up 21.76% of the analyzed group, and the remaining 19.67% had over 30 years of experience in nursing. At the time of the study, most participants were practicing in conservative care departments (37.24%). The second largest group worked in the surgical wards 26.78%, and 13.81% worked in outpatient specialist care offices. The remainder of respondents marked "other" (22.18%) and entered workplaces such as nursing homes, emergency rooms, detention centers, sanatoriums, and endoscopy labs.

In the medical profession, it is crucial to examine life satisfaction in individuals with a history of COVID-19 infection. More than half of the women surveyed had been infected (52.3%). The factor that most significantly influenced the risk of a SARS-CoV-2 infection was the nurses' place of work ($\chi^2=12.72$; $df=3$; $p=0.0053$; $V=0.23$). Most infections occurred in surgical (62.5%) and conservative care (59.55%) wards. However, even amongst nurses working in outpatient specialist offices, one in three were diagnosed with COVID-19.

Summarizing the characteristics of the respondents, this study included nurses mostly living in urban areas, working for 10 years or less, earning a first or second level degree, working in conservative care units, and more than half of them having had COVID-19.

Results

The distribution of the LLS in surveyed nurses after transforming questionnaire scores according to the adaptation by Juczyński is presented in Figure 1 [5].



LLS - Level of Life Satisfaction

Figure 1. Distribution of the LLS in surveyed nurses

A sten score allowed the participants to be divided into three LLS, i.e., low, average, and high. A low LLS was observed in 33.05%, average in 41%, and high in 25.94% of surveyed nurses.

The influence of sociodemographic factors such as residence, marital status, education, length of service, place of employment, and history of infection with COVID-19 on the nurse's life satisfaction was examined (Table 1).

Table 1. Influence of sociodemographic factors on nurses' life satisfaction

Factor	Level of Life Satisfaction						p
	Low		Average		High		
	n	%	n	%	n	%	
Place of residence							
Urban area	58	36.25	69	43.13	33	20.63	0.0260
Rural area	21	26.58	29	36.71	29	36.71	
Marital status							
Married	44	28.76	58	37.91	51	33.33	0.0059
Single	27	43.55	26	41.94	9	14.52	
Divorced/Widowed	7	30.43	14	60.87	2	8.70	
Education							
Secondary medical education	10	38.46	7	26.92	9	34.62	0.3951
Bachelor's degree in nursing	32	29.91	50	46.73	25	23.36	
Master's degree in nursing	37	35.24	40	38.10	28	26.67	
Length of service							
0-10 years	30	30.93	48	49.48	19	19.59	0.2626
11-20 years	13	30.23	18	41.86	12	27.91	
21-30 years	17	32.69	17	32.69	18	34.62	
> 30 years	19	40.43	15	31.91	13	27.66	
Place of employment							
Surgical ward	22	34.38	28	43.75	14	21.88	0,8882
Conservative care department	28	31.46	39	43.82	22	24.72	
Outpatient specialist care office	11	33.33	13	39.39	9	27.27	
Other	18	33.96	18	33.96	17	32.08	
COVID-19							
Yes	36	28.80	53	42.20	36	28.80	0.3035
No	43	37.72	45	39.47	26	22.81	
Total	79	33.05	98	41.00	62	25.94	-

Notes: % per line.

Place of residence was one factor that was most strongly associated with life satisfaction scores ($V=0.17$), and this correlation was statistically significant ($\chi^2=7.3$; $df=2$; $p=0.026$). Urban area residents most often perceived their LLS as average (43.13%) while residents of rural areas were mostly average to high (36.71%). When analyzing the low LLS of nurses with respect to living in urban and rural environments, it was more often observed in nurses living in the city (36.25%). This percentage was 10 percentage points higher than the corresponding value obtained for women living in rural areas. The largest difference (16 percentage points) was seen in the category of high LLS. An assessment of high LLS was reported by 36.71% of nurses living in rural areas.

Marital status, similar to place of residence, was a significant factor in life satisfaction scores ($\chi^2=14.5$; $df=4$; $p=0.0059$; $V=0.17$). Married nurses were most likely to report an average LLS (37.91% of all married women), and one in three nurses rated their LLS as high. Single women tended to report a low LLS (43.55% of all single women) and only 14.52% rated it high. The divorced and widowed group had the fewest women rating their LLS as high (8.7% of the total group). These women most frequently had an average LLS (60.87%).

Education did not have a statistically significant effect on a nurse's life satisfaction ($\chi^2=4.08$; $df=4$; $p=0.3951$; $V=0.09$), but it did result in a high variability in responses. The greatest variation was seen in nurses with a secondary medical education. These individuals were most likely to report a low LLS (38.46% of the total with this education). However, they were also the group with the highest percentage of women declaring a high LLS (34.62%). In the group of nurses with a bachelor's degree, almost half of them (46.73%) rated their LLS as average.

Another factor that was considered in this study was the length of service. This factor also had no statistically significant effect on LLS ($\chi^2 = 7.68$; $df = 6$; $p = 0.2626$; $V = 0.13$). Among respondents, the highest percentage of women showing a low LLS was the group of nurses with the longest length of service, over 30 years (40.43% of the total in this group). However, nurses with the shortest length of service, i.e., up to 10 years, most often declared their LLS to be average (49.48%). Nurses with work experience from 21 to 30 years were most likely to rate their LLS as high, and this group had the highest percentage of high LLS at 34.62%. This was more than 8 percentage points above the value for the entire study population.

Place of employment had the smallest impact in terms of LLS ($V = 0.07$). Nurses employed in facilities other than surgical, conservative, or outpatient specialist care were more likely to rate their LLS as high (32.08%). The percentage of women rating LLS as low was the same as those rating it as average. The correlation was not statistically significant ($\chi^2 = 2.32$; $df = 6$; $p = 0.8882$).

A history of infection with COVID-19 was marginally associated with LLS. The correlation was not statistically significant ($\chi^2 = 2.38$; $df = 2$; $p = 0.3035$; $V = 0.1$). This study showed nurses who did not have COVID-19 were more likely to report a low LLS (37.72%) than those who had the disease (28.8%). LLS was rated high by 28.8% of nurses surveyed who had COVID-19 and this percentage was 6 points higher than in the group of women without a history of infection.

History of infection with COVID-19 was not a factor that significantly affected feelings of satisfaction with one's life ($t = -1.3$; $df = 237$; $p = 0.1954$). However, it can be concluded that nurses who did not suffer from COVID-19 manifested a lower LLS ($M = 19.3$) than those who had suffered from the disease ($M = 20.22$) (Figure 2).

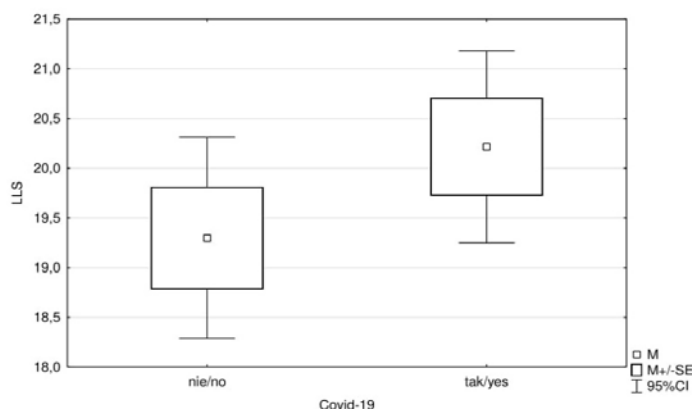


Figure 2. LLS and history of infection with COVID-19

Notes: M – Mean; SE – Standard Error; CI – Confidence Interval; LLS – Level of Life Satisfaction

The basic parameters and empirical distributions of the LLS in the studied nurses in regards to sociodemographic factors and the confidence intervals for the mean level of LLS are presented in Table 2.

Table 2. Significance of the influence of sociodemographic factors on a nurse's life satisfaction

Factor	n	Level of Life Satisfaction				Test statistic	p
		M	SD	Me	95%CI		
Place of residence							
Urban area	160	19.04	5.40	19.0	18.19-19.88	t=3.03	0.0027
Rural area	79	21.28	5.32	22.0	20.09-22.47		
Marital status							
Married	153	20.87	5.30	21.0	20.02-21.72	F=9.46	0.0001*
Single	62	17.48	5.49	18.0	16.09-18.88		
Divorced/Widowed	23	18.83	4.63	20.0	16.82-20.83		

Education							
Secondary medical education	26	20.92	4.91	20.0	18.94-22.90	F=0.64	0.5288
Bachelor's degree in nursing	107	19.60	5.01	20.0	18.64-20.56		
Master's degree in nursing	105	19.69	6.05	20.0	18.52-20.86		
Length of service							
0-10 years	97	19.13	5.24	20.0	18.08-20.19	F=0.89	0.4460
11-20 years	43	19.84	6.29	21.0	17.90-21.77		
21-30 years	52	20.56	5.48	21.0	19.03-22.08		
> 30 years	47	20.19	5.12	19.0	18.69-21.69		
Place of employment							
Surgical ward	64	19.25	5.36	20.0	17.91-20.59	H=0.50	0.9192
Conservative care department	89	19.85	5.29	20.0	18.74-20.97		
Outpatient specialist care office	33	19.79	5.28	20.0	17.91-21.66		
Other	53	20.28	6.06	20.0	18.61-21.95		
COVID-19							
Yes	125	20.22	5.46	21.0	19.25-21.18	t=-1.30	0.1954
No	114	19.30	5.45	20.0	18.29-20.31		
Total	239	19.78	5.47	20.0	19.08-20.47	-	-

Notes: M — arithmetic mean; SD — standard deviation; Me — median; CI — confidence interval for the mean; F — ANOVA test result; t — Student's t-test result; H — Kruskal-Wallis test result.

* post hoc HSD (Tukey) p=0.0012 single vs married.

The mean score for feelings of life satisfaction in the nurses studied was 19.78 ± 5.47 points. The results of the parametric tests (Table 2) confirmed the general conclusions drawn from the analysis of the impact sociodemographic factors have on LLS (Table 1). The arithmetic mean values obtained ranged from 18 to 23 questionnaire points, indicating an average life satisfaction. The exception is the group of nurse-midwives, for whom the mean life satisfaction was the lowest at 17.48. This group achieved a significantly lower mean score than the married group ($p=0.0012$).

Summarizing the analyses, it was found that a low LLS was most common among nurses residing in the city, were single, had a secondary medical education, worked in the profession for more than 30 years, and did not have COVID-19. An average LLS was seen most commonly in residents of urban areas, divorced or widowed, obtained a bachelor's degree, and had less than 10 years of work experience. The nurses with the highest LLS lived in rural areas, were usually married, had a secondary level of education, with a length of service of 21 to 30 years, and had survived a SARS-CoV-2 infection.

Discussion

In our study, the mean score for the sense of satisfaction in all nurses was 19.78. Our results were similar to the findings of other authors using the SWLS scale.

In a group of Polish adults, high satisfaction with life is reported by 78% of the study population. Average satisfaction was expressed by 17% of the respondents and dissatisfaction by 4% [17]. In contrast, the results obtained in our study were slightly higher than those of a group of peri-menopausal women surveyed in 2014, where the average life satisfaction was 17.4 points [18].

The most similar results were obtained by comparing the data obtained in studies conducted in a similar occupational group. In a study of nurses from the Masovian, Kuyavian-Pomeranian, and Lublin provinces, the average life satisfaction (on the SWLS scale) was found to be 19.6 points [12]. Thus, it can be inferred that nurses' life satisfaction has changed little over the past eleven years.

The majority of studied nurses considered their LLS as average (41%) followed by a low LLS (33.05%). A minority of nurses (25.94%) rated their LLS as high. The scores obtained were comparable to those of other studies, although slight differences can be observed.

A 2014 survey of women aged 45-55 years (268 women), found the majority of study participants (47.01%) had a low LLS and 32.46% had an average LLS. On the other hand, the smallest group of peri-menopausal women (20.52%), as in this study, had a high LLS [18].

Analysis of a more recent study (2018) conducted in nursing staff using the SWLS scale showed that the largest group of respondents (35.45%) had an average LLS [19]. Which is similar to our results.

The results of our study indicate that the LLS depends on the place of residence and marital status of women, no significant effect was observed in regards to education, length of service, and place of employment. Several differences were observed between the statistical correlations obtained in our results and previous studies.

In studies of perimenopausal women, education has been shown to affect one's satisfaction with life, where higher LLS were found in women who achieved a higher education than in those with a secondary education and primary or vocational education [18]. Perhaps the older age of the female subjects influenced the differences seen in these two studies.

In the analysis of the study involving nursing staff from three provinces, no significant correlations were found between the place of residence (urban vs rural), gender, length of service, place of work, and education on the mean LLS. On the other hand, a relationship was observed in people living in the city and those who were widowed or married in which they report a mean LLS that was higher [12].

The authors of a 2018 study of nurses, found the highest LLS was achieved by those who were single (22.8 ± 4.95) and married (21.2 ± 5.26). Nurses who obtained a master's degree (24.7 ± 3.67) enjoyed a significantly higher LLS than nurses who had lower professional qualifications — graduated from a medical high school or secondary vocational school (19.1 ± 5.98) [19].

Diener et al. reported that demographic factors such as age, gender, and income correlated with life satisfaction but the correlation was described as weak [20]. The observed differences in the studied factors affecting life satisfaction indicate a need for further detailed research.

For many years, there has been growing concern about nurses' feelings of life satisfaction and their jobs as it can affect a patient's perceived quality of care. Life satisfaction surveys help identify the attitudes and moods among nursing staff. They can uncover areas where problems are most common and show factors that are most satisfying to nurses [21,22]. Other studies have found that employees who are satisfied with their jobs and with their lives are more positive and open to undertaking training and developmental activities [23].

The authors of this article believe that research in this field should be continued to help clarify the differences in results and interpretations seen in the current literature.

Conclusions

Based on the analyses performed, the mean score in life satisfaction for all nurses studied was 19.78 points. At the same time, the average score in feelings of life satisfaction in this professional group is comparable to that of residents of Poland.

During the SARS-CoV-2 pandemic, nurses' life satisfaction was influenced by place of residence and marital status. The feelings of life satisfaction in married women were higher than that of single women. In addition, nurses living in rural areas showed higher LLS with their lives. Living in the city during the lockdown, restricted people's freedom and activities to a greater extent which may have resulted in lower LLS among people living in urban areas. There was no significant effect of education, length of service, or place of employment on LLS. Survival of a SARS-CoV-2 infection also had no significant influence on a nurse's life satisfaction.

Recommendations

The correlations obtained in some areas differ from the reports of other authors conducting research using the SWLS scale. The observed differences in the results indicate the need for further, detailed research on the factors affecting life satisfaction. Nurses most often show an average LLS, and are the least often to report a high LLS and as such it is appropriate to address this situation. We hypothesize that a higher life satisfaction in nurses will result in a better quality of patient care, and proving this correlation is a promising idea for future research.

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