

THE HEALTH-PROMOTING LIFESTYLE ASSESSMENT AMONG NURSING STUDENTS IN EAST KALIMANTAN

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ABSTRACT

Nurses as health professional have a significant role in primary health services in nurturing and also enabling the community to healthy behavior. Nurse students will become role models for healthy lifestyles and as leaders to enable people to live healthy lives. This is inversely proportional to the possibility of their unhealthy lifestyles since the study period. The purposes of this study were to assess the level of health-promoting lifestyle among nursing student and identify the differences in such lifestyle based on socio-demography. A cross-sectional descriptive study was conducted on 326 of nursing students in East Kalimantan. The data has been collected by instruments of Health-Promoting Lifestyle Profile II (HPLP II) level (i.e., health responsibility, spiritual, physical activities, interpersonal relationship, student nutrition, and stress management). Data was taken by digital self-administered questionnaire. Participants were recruited by convenience sampling. Descriptive and inferential statistics data analysis has been conducted. It was found that 76.4% were female, 37.7% were in second years study, 58.9% of students are from municipality areas. The mean score of 2.79 (good) of total HPLP II. The highest mean score was shown for interpersonal relationships by nurse students 3.25 (excellent) and the lowest was daily nutrition (2.43) and physical activity (2.47) as moderate level. Based on independence t-test analysis, there were differences statistically in physical activity between gender (p -value < 0.001), and also there was a difference statistically in health responsibility between students from municipality and regency (p -value < 0.05). In general, the HPLP indicators for nursing students are good, but improvement and promotion of healthy lifestyles is still needed. Further identification as strengthening to set up the cause of low nutrition and physical activity. Aspects that must be maintained are interpersonal relationships and spiritual growth.

Keywords: health-promoting lifestyle, nursing student, health behavior

ABSTRAK

Perawat sebagai tenaga kesehatan memiliki peran penting dalam pelayanan kesehatan primer dalam membina dan memampukan masyarakat untuk berperilaku sehat. Mahasiswa keperawatan dipersiapkan untuk menjadi teladan penerapan pola hidup sehat. Hal ini bertolak belakang dengan kemungkinan kebiasaan pola hidup tidak sehat yang dilakukan mahasiswa sejak masa studi. Penelitian ini bertujuan untuk menilai gaya hidup promosi kesehatan di kalangan mahasiswa keperawatan dan mengidentifikasi perbedaan gaya hidup tersebut berdasarkan sosio-demografi. Metode penelitian *cross-sectional* dilakukan pada 326 mahasiswa keperawatan di Kalimantan Timur. Data dikumpulkan dengan skala *Health-Promoting Lifestyle Profile II* (HPLP II) (tanggungjawab kesehatan, spiritual, aktivitas fisik, hubungan interpersonal, nutrisi, dan manajemen stres). Data diambil dengan kuesioner *online*. Pengambilan sampel secara *convenience sampling*, dan analisis data melalui uji statistik T-Test. Hasil: Diketahui sebanyak 76,4% adalah perempuan, 37,7% berada di tahun kedua studi, sebanyak 58,9% mahasiswa dari wilayah kotamadya. Rerata skor 2,79 (baik) untuk total HPLP II. Nilai rata-rata tertinggi dilaporkan untuk hubungan interpersonal 3,25 (sangat baik) dan terendah adalah nutrisi (2,43) dan aktivitas fisik (2,47) sebagai tingkat sedang. Berdasarkan analisis independent t-test terdapat perbedaan secara statistik aktivitas fisik antara jenis kelamin (p -value $< 0,001$), ada perbedaan secara statistik tanggung jawab kesehatan antara siswa dari kota dan kabupaten (p -value = 0,010). Adapun skor indikator HPLP baik, perlu untuk meningkatkan dan mempromosikan gaya hidup sehat. Identifikasi lebih lanjut diperlukan untuk mengetahui penyebab rendahnya gizi dan aktivitas fisik. Aspek yang harus dipertahankan adalah hubungan interpersonal dan perkembangan spiritual.

Kata Kunci: health-promoting lifestyle, mahasiswa keperawatan, perilaku sehat

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Introduction

The World Health Organization based on data described that the number of deaths from non-communicable diseases was 41 million out of 55 million deaths in the world, and 70 percent died before the age of 70 years, especially in low and middle-income countries.¹ The non-communicable disease (NCDs) has also been known as a chronic disease that occurs over a long period in a person.² In Indonesia, the mortality rate for NCDs reaches 73%, and the mortality rate under 70 years old is 26% (WHO, 2020). The data on previous studies,⁴ that non-communicable diseases have changed the age pattern of the community, which previously suffered by many elderly, now many are experiencing these cases in their productive age. The main risk factor for NCDs is unhealthy behavior or lifestyle. Behaviors that are risk factors for PTM include unhealthy eating patterns, less consumption of vegetables and fruit, and lack of physical activity.⁵

The health-promoting behaviors have certain considerable effects on prolonging and increasing the quality of life, also decreasing healthcare expenses, and increasing the prevention of disease skills.⁶ Health-promoting lifestyle consists of six dimensions: accessibility, and responsibility for health, physical activity level, nutrition, interpersonal relationships, state of spirituality, and management of stress. Research has shown that if individuals can exercise well and regularly, it will result in better health and lifestyle.⁷ The results of research on lifestyle among adolescents in a developing country show that urgently needed to reduce the growing burden of non-communicable diseases in Malaysia.^{8,9}

Healthy living behavior needs to start from an early age to create a pattern of habits in the lifestyle that will come. Various health problems and the risk of disability in adulthood can be avoided if risky behavior is prevented from adolescence. Conditions during adulthood will have difficulty in changing life behavior, so it is important to get used to doing healthy lifestyle behaviors at a young age.¹⁰ Based on data on the behavior of consuming high-sugar foods in East Kalimantan, Indonesia, which is 40.62%, while in one city in Samarinda the consumption rate is 44.54%. The behavior of consuming fatty foods in East Kalimantan shows a figure of 35.80%, while the highest is in Samarinda at 51.54%. Behavioral data on physical activity, which is classified as lacking, 52.56% in East Kalimantan, while in Samarinda, it is 41.07%. Based on the age classification, the most included in the category of lack of physical activity are 20-24 years (36.11%).¹¹ This is to previous studies that 34.7% of health students in Samarinda have more nutritional status with low levels of physical activity.¹²

The potential group of young people in Samarinda is the students, with the support of a high number of universities, including health and non-health institutions, as one of the provincial capitals.¹³ The group of students experienced a transitional change from a high school environment

to a college which affected their behavioral changes in their lifestyle.¹⁴ Some of the reasons for changing student lifestyles are the teaching and learning process that tends to be more independent, financial support, housing, high intake of high-calorie foods, low physical activity, and disturbed sleep patterns.⁷ This is also in line with previous research that students tend to consume high-sugar drinks which become a habit when they finish studying.¹² Several studies show that healthy lifestyle behavior in students can also be influenced by their scientific background.¹⁵ The more they are exposed to health information, the pattern of behavior and awareness of health is also higher.^{16,17} This is related to the health information received by students of the health profession program more than by students of the non-health profession program.¹⁸ The nursing students today will be prepared to become health providers in the future, however there are still some concerns about the understanding of health behavior and how prepared nurses to support health promotion in primary or tertiary health care.¹⁹

More in-depth analyses are required to get substantial and exact factual assumptions to supply comprehensive data to depict the health behavior level, such as the socioeconomic status of nurse students and health promoting-lifestyle in youth groups. Based on these descriptions, the purpose of this study was to identify the identification of students' healthy behavior based on aspects such as responsibility for health, their nutrition, physical activity level, spiritual development, interpersonal relationships, and stress management by students. In addition, this study also looks at the differences in aspects of healthy behavior based on student socio-demography. The purposes of this study were to assess the level of health-promoting lifestyle among nursing student and identify the differences in such lifestyle based on socio-demography.

Method

This quantitative study with a cross-sectional design was conducted in January-February of 2021. The sampling technique was convenience sampling on 326 nursing students who come from a vocational college in nursing in East Kalimantan. This non-probability sampling method is considered to be used in this study because it involves samples taken from a close part of the population and only sees a survey-based overview for the distribution of health behavior of nursing students.²⁰ Data was collected by distributing online self-administered questionnaires using the Google form to identify the Health-Promoting Lifestyle Profile II (HPLP II) based on 6 dimensions (52 question items).

The HPLP II questionnaire was used to assess the health-promoting behavior²¹ by the indicators of health responsibility, nutrition, physical activity, interpersonal relationships, spiritual state, and stress management).²² The HPLP II questionnaire, it based on 4 points on the *Likert* scale options (min score of 1 and max score of 4) indicating 1 means never, 2 (sometimes), 3 (often), and 4 (routinely) was used to study the health-promoting behavior of an adolescent.^{6,23} HPLP II score

was further classified average score into four levels: poor (score of 1–1.73), moderate (score of 1.74–2.48), good (score of 2.49–3.23), and excellent (score of 3.24–4).¹⁰

The data on respondent characteristics include gender, level of study, region of origin, and the classification of universities (public or private). The data obtained were processed by editing, coding, tabulating, and bivariate analysis was performed to determine the difference in scores based on gender, regional origin and characteristics of the nursing school in East Kalimantan. The data were analyzed descriptively on the characteristics of the respondents and inferential statistical analysis using the Independent T-Test. The research has passed research ethics by the Faculty of Medicine, Universitas Mulawarman, with ethical registration number 32/KEPK-FK/IX/2020.

Results

Based on the study results, it is known that the female respondents in this study were 76.4%. 58.9% of students' residences are municipalities, with the highest level of study, namely students in the second year, which is 37.7%. In more detail, the student body mass index is 49.38% normal and 24.84% underweight or BMI less than 18.5. The results of the research that have been obtained characteristics of nursing student respondents are as follows:

Table 1. Distribution of nursing student characteristics

Characteristics	f (n= 326)	%
Gender		
Male	77	23.6
Female	249	76.4
Residence		
Regency	135	41.1
Municipality	191	58.9
Level of Study		
First-year	109	33.4
Second-year	123	37.7
Third-year	94	28.8
Classification of collage		
Public school/university	198	60.7
Private school/ university	128	39.3
Body mass index of nursing students		
Underweight level (<18.5)	81	24.84
Normal level (18.5-24.9)	161	49.38
Overweight level (25.0-29.9)	57	17.47
Obese level (>30.0)	27	8.28

Furthermore, table 2 describes in detail the components of the health-promoting lifestyle of nursing students based on six dimensions. It is known that on the health responsibility indicator, the highest routine behavior is shown in consultation and getting opinions on health conditions from health workers, which is 54%, while the missing aspect of students is checking the condition of the body at least every month for danger signs of 32.2%.

Table 2. The health-promoting lifestyle of nurse students based on sub-indicators

	Health Promoting Lifestyle Indicators*	The intensity of behavior			
		Never (n, %)	Sometimes (n, %)	Often (n, %)	Routinely (n, %)
Health responsibility	Report any symptoms to health provider	46 (14.1)	151 (46.3)	89 (27.3)	40 (12.3)
	Read or watch health information to improving health	6 (1.8)	156 (47.9)	130 (39.9)	34 (10.4)
	Question to health professionals	48 (14.7)	176 (54.0)	85 (26.1)	17 (5.2)
	Get a second opinion in health care provider's advice	3 (0.9)	35 (10.7)	112 (34.4)	176 (54.0)
	Talk about health concerns with health professionals	20 (6.1)	135 (41.4)	113 (34.7)	58 (17.8)
	Body inspects at least monthly for danger symptoms.	105 (32.2)	153 (46.9)	49 (15.0)	19 (5.8)
	Ask for information from health provider about self-care	47 (14.4)	133 (40.8)	107 (32.8)	39 (12.0)
	Follow the educational programs on personal health care	11 (3.4)	134 (41.1)	133 (40.8)	48 (14.7)
	Active to seek guidance or counseling when necessary	89 (27.3)	123 (37.7)	80 (24.5)	34 (10.4)
Physical activity	Follow a planned workout program	56 (17.2)	142 (43.6)	82 (25.2)	46 (14.1)
	Exercise vigorously for 20, at least three times a week	33 (10.1)	155 (47.5)	73 (22.4)	65 (19.9)
	Participate in light to moderate physical activity	38 (11.7)	152 (46.6)	88 (27.0)	48 (14.7)
	Provide in self leisure-time	20 (6.1)	119 (36.5)	122 (37.4)	65 (19.9)
	Do stretching at least 3 times per week of activity	41 (12.6)	143 (43.9)	87 (26.7)	55 (16.9)
	Get exercise during the usual daily activities	24 (7.4)	112 (34.4)	115 (35.3)	75 (23.0)
	Check the pulse rate when exercising	50 (15.3)	133 (40.8)	100 (30.7)	43 (13.2)
	Achieve the target heart rate when exercising	89 (27.3)	148 (45.4)	63 (19.3)	26 (8.0)
Nutrition	Choose a diet low in fat, saturate fat, and cholesterol	119 (36.5)	116 (35.6)	69 (21.2)	22 (6.7)
	Limit use of sugars	35 (10.7)	134 (41.1)	98 (30.1)	59 (18.1)
	Eat 6-11 servings of carbohydrate wisely	97 (29.8)	163 (50.0)	59 (18.1)	7 (2.1)
	Eat 2-4 servings of fruit per day	34 (10.4)	195 (59.8)	71 (21.8)	26 (8.0)
	Eat 3-5 servings of vegetables varies per day	19 (5.8)	125 (38.3)	122 (37.4)	60 (18.4)
	Eat 2-3 servings of milk, yogurt or cheese each day	58 (17.8)	164 (50.3)	77 (23.6)	27 (8.3)
	Eat only 2-3 servings of protein group each day	7 (2.1)	104 (31.9)	122 (37.4)	93 (28.5)
	Read labels to identify nutrients	30 (9.2)	120 (36.8)	105 (32.2)	71 (21.8)
	Breakfast	28 (8.6)	135 (41.4)	81 (24.8)	82 (25.2)
Spiritual growth	Feel growing and changing in positive ways	3 (0.9)	86 (26.4)	157 (48.2)	80 (24.5)
	Believing that life has a definite purpose	3 (0.9)	30 (9.2)	105 (32.2)	188 (57.7)
	Looking forward to the future	4 (1.2)	19 (5.8)	108 (33.1)	195 (59.8)
	Feel satisfied and peace with yourself	7 (2.1)	48 (14.7)	107 (32.8)	164 (50.3)
	Work toward long-term goals in life	1 (0.3)	22 (6.7)	121 (37.1)	182 (55.8)
	Find each day interesting and challenging	3 (0.9)	67 (20.6)	132 (40.5)	124 (38.0)
	Always aware of the importance of life priorities	4 (1.2)	30 (9.2)	134 (41.1)	158 (48.5)
	Feel connected with some force greater than own self	30 (9.2)	107 (32.8)	121 (37.1)	68 (20.9)
	Expose to new experiences and challenges	9 (2.8)	80 (24.5)	131 (40.2)	106 (32.5)
Interpersonal relationship	Discuss problems and concerns with people	21 (6.4)	132 (40.5)	125 (38.3)	48 (14.7)
	Praise others for their achievements easily	0 (0.0)	11 (3.4)	116 (35.6)	199 (61.0)
	Maintain meaningful or fulfilling in social relationships	0 (0.0)	9 (2.8)	69 (21.2)	248 (76.1)
	Have the opportunity to spend time with friends	6 (1.8)	43 (13.2)	129 (39.6)	148 (45.4)
	Easy to show concern, love and warmth to others	5 (1.5)	61 (18.7)	116 (35.6)	144 (44.2)
	Touch and touched by people care	0 (0.0)	24 (7.4)	124 (38.0)	178 (54.6)
	Find ways to identify love needs	6 (1.8)	55 (16.9)	135 (41.4)	130 (39.9)
	Received support from a network of caring people	7 (2.1)	71 (21.8)	135 (41.4)	113 (34.7)
	Settle conflicts through compromise with other	8 (2.5)	62 (19.0)	148 (45.4)	108 (33.1)
Stress management	Get enough sleep each day	6 (1.8)	109 (33.4)	125 (38.3)	86 (26.4)
	Take some time for relaxation per day	16 (4.9)	103 (31.6)	124 (38.0)	83 (25.5)
	Always accept those things of life who cannot change	2 (0.6)	54 (16.6)	114 (35.0)	156 (47.9)
	Concentrate on pleasant thoughts at bedtime	13 (4.0)	82 (25.2)	121 (37.1)	110 (33.7)
	Use specific methods to control of stress	14 (4.3)	69 (21.2)	130 (39.9)	113 (34.7)
	Balance time between study and play	4 (1.2)	102 (31.3)	145 (44.5)	75 (23.0)
	Practice relaxation or meditation for 15-20 minutes daily	84 (25.8)	136 (41.7)	74 (22.7)	32 (9.8)
	Pace of self to prevent tiredness	25 (7.7)	104 (31.9)	131 (40.2)	66 (20.2)

*The description of the instrument of Health-Promoting Lifestyle Profile II indicators

Furthermore, on indicators of physical activity, only 14.1% participated in a regular physical activity program and only 19.9% of nursing students exercise vigorously for 20 at least three times a week. Based on the results of the study, it is also known that the consumption of vegetables and fruit in students is still low, only 8% regularly consume 2-4 servings of fruit every day. The

spiritual growth of nursing students has a positive self-concept related to the future (59.8%) and life goals (57.7%). In general, nursing students have good friendships as evidenced by 45.4% regularly spending time with friends.

Students also have maintained meaningful and fulfilling social relationships in daily life, namely 76.1% and always praise others for their achievements easily as many as 61% build good social relationships. In the concept of stress management, there are 47.9% of students who routinely accept those things in life that they cannot change, and 44.5% of students who often balance learning and playing time, plus 34.7% of students have specific methods to control stress routinely. The following is a description of statistical analysis in identifying differences in aspects of health-promoting lifestyle based on gender, college classification, and regional origin.

Table 3. The score of lifestyle dimension among respondents by gender

Lifestyle Dimensions	Male (n=77) Mean (SD)	Female (n=249) Mean (SD)	P-value	All subject Mean (SD)
Health responsibility	2.55 (0.59)	2.47 (0.51)	0.250	2.49 (0.53)
Physical activity	2.72 (0.59)	2.39 (0.62)	<0.001	2.47 (0.63)
Daily nutrition	2.43 (0.46)	2.43 (0.44)	0.895	2.43 (0.45)
Spiritual development	3.27 (0.50)	3.20 (0.47)	0.281	3.22 (0.48)
Interpersonal relationships	3.25 (0.47)	3.25 (0.42)	0.983	3.25 (0.43)
Management of stress	2.92 (0.53)	2.84 (0.45)	0.178	2.86 (0.47)
Overall HPLP	2.86 (0.43)	2.77 (0.38)	0.081	2.79 (0.39)

In table 3, it is known that the mean value that has differences based on gender is the indicator of physical activity (p-value < 0.001), the physical activity of male students is higher (2.72) than female students (2.39). In the other five aspects, there are no statistical differences and tend to have mean values that are not much different.

Table 4. The core of lifestyle dimension among respondents by collage type classification

Lifestyle Dimensions	Public (n=198) Mean (SD)	Private (n=128) Mean (SD)	P-value	All subject Mean (SD)
Health responsibility	2.52 (0.49)	2.44 (0.59)	0.222	2.49 (0.53)
Physical activity	2.48 (0.63)	2.46 (0.63)	0.784	2.47 (0.63)
Daily nutrition	2.44 (0.44)	2.41 (0.46)	0.639	2.43 (0.45)
Spiritual development	3.20 (0.46)	3.24 (0.50)	0.438	3.22 (0.48)
Interpersonal relationships	3.26 (0.37)	3.23 (0.51)	0.495	3.25 (0.43)
Management of stress	2.87 (0.46)	2.84 (0.49)	0.583	2.86 (0.47)
Overall HPLP	2.80 (0.37)	2.77 (0.43)	0.619	2.79 (0.39)

In the description of the lifestyle dimensions of nursing students based on the collage type classification in table 4, it is known that there is no difference in all dimensions of student health-promoting lifestyle based on the type of campus between public and private campuses (p-value > 0.05).

Table 5. The score of lifestyle dimension among respondents by residence

Lifestyle Dimensions	Regency (n=134)	Municipality (n=192)	P-value	All subject Mean (SD)
	Mean (SD)	Mean (SD)		
Health responsibility	2.40 (0.52)	2.55 (0.53)	0.010	2.49 (0.53)
Physical activity	2.44 (0.56)	2.49 (0.67)	0.496	2.47 (0.63)
Daily nutrition	2.39 (0.44)	2.46 (0.45)	0.179	2.43 (0.45)
Spiritual development	3.26 (0.43)	3.19 (0.51)	0.204	3.22 (0.48)
Interpersonal relationships	3.25 (0.43)	3.25 (0.44)	0.961	3.25 (0.43)
Management of stress	2.86 (0.44)	2.85 (0.49)	0.915	2.86 (0.47)
Overall HPLP	2.77 (0.36)	2.80 (0.41)	0.453	2.79 (0.39)

The table above shows that there are differences in the dimensions of health responsibility between students from the regency and municipality areas (p-value 0.010), considering the average score of nursing students from the municipality has higher health responsibility (2.55) compared to students who live in the regency area (2.40).

Discussion

Healthy living habits have certain considerable effects on prolonging and improving quality of life and also decreasing high health costs or increasing prevention of disease skills.⁶ Research has shown that if individuals can exercise well and regularly, it will result in better health and lifestyle.⁷ In this study, nursing students tend to have a high concept of a health-promoting lifestyle, this condition is supported by high exposure to health information and easy access to adequate health literacy, and the skills of young people in finding information in this digital era.²⁴ Based on the results of a previous study, adolescent health literacy can be influenced by accessibility to the health information provided, and how they can choose the correct health information and apply it in their lives.^{25,26} During the current pandemic, the use of social media and activities using smartphones and screens time is increasing.^{27,28} The misuse of digital-based social media can increase the risk of problems for adolescents in a more serious direction in health and social aspects.²⁹ The link access to information through online media, adolescent skills in processing and interpretation of health messages into one of the foundations on which to improve the functional health literacy of adolescents.^{30,31} In such a situation, the level of health literacy can facilitate the implementation of a healthy lifestyle or health-promoting lifestyle among people, and also can support increasing public awareness³² in designing appropriate health interventions for young adults.²²

In the results of this study, it is known that the high dimension of a health-promoting lifestyle is in interpersonal relationships between nursing students. There is no difference based on gender or college classification. Based on previous research^{33,34} that one of the dimensions that stands out among students is a good personal relationship. This is indicated by the fact that there are eastern cultural factors that still maintain family and kinship relations. It was also added to a

study conducted on nursing students in China that interpersonal skills are one of the skills that must be possessed by health workers to apply practical knowledge in the future to the community or patients.¹⁹ Based on the student's regional origin variable, it is known that the level of health responsibility of students from urban areas has a higher capacity than students from districts.

Several studies have proven that the ease of access to health services in urban areas is easier than in rural areas, besides that awareness and demands for healthy living in urban areas are higher so that urban students are more accustomed to a healthy lifestyle.^{35,36} This is also contrary to several studies conducted in urban and rural areas on people's health status and lifestyle, it is known that people in rural areas have healthier lifestyles such as physical activity and the availability of healthy food, but this is a challenge that is access to better health services. Difficult so that further studies are needed to compare the quality of life of students from rural and urban areas.³⁷ The focus of this study is also the difference in the level of physical activity of male students who are higher than female students. This is in line with previous research that men have a good level of consistency in daily physical activity while female students have a lower level of physical activity, resulting in a higher risk of non-communicable diseases.^{38,39}

The nutritional dimension based on the results of this study also shows that nursing students do not have a high awareness of consuming healthy food as the main menu of the day. Based on previous studies, it has been proven that the consumption of high-fat foods can increase the chances of adolescents experiencing NCD in the future, especially in heart health and cholesterol levels in the blood.^{40,41} The results of this study are also supported by previous studies that students who have low nutritional levels are influenced by several factors, namely students tend to choose foods that are delicious, practical, and filling quickly, this condition is usually not following the concept of balanced nutrition in fulfilling students' daily nutrition.⁴²

Conclusion

Overall, the health-promoting lifestyle profile of nursing students is in a good category. The dimension that has the highest qualification is the interpersonal relationship dimension in the excellent category, and the lowest dimension is the behavior of fulfilling nutrition in the moderate category. There are statistical differences in the dimensions of physical activity between male and female nursing students, as well as personal health responsibility between nursing students from urban and district areas. The health-promoting lifestyle indicator score needs to be increased to the maximum scale for the next health providers, especially on specific aspects, such as awareness of balanced nutrition and physical activity. In the aspect of interpersonal and spiritual relationships, nursing students in East Kalimantan are expected to maintain.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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