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Analysis of Factors Associated with Perceived Health Status Among Nursing Lecturers

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ABSTRACT

Background: Perceived health status is an important subjective indicator reflecting individuals' physical and psychological conditions and is closely associated with productivity in occupational settings. This study aimed to analyze factors associated with perceived health status among lecturers at the Faculty of Nursing, Universitas Padjadjaran.
Method: This analytic observational study used a cross-sectional design. A total of 68 lecturers were included using total sampling. Data were collected using structured questionnaires assessing perceived health status and associated factors, including behavioral, health service, environmental, and genetic factors. Data were analyzed using Chi-square tests and logistic regression, with a significance level of $p < 0.05$.
Result: Among 68 respondents, 86.8% reported a positive perceived health status. Behavioral factors ($p = 0.001$) and genetic factors ($p < 0.001$) were significantly associated with perceived health status, while health service and environmental factors were not significantly associated ($p > 0.05$). Multivariate analysis showed that behavioral factors ($p = 0.012$) and genetic factors ($p = 0.008$) remained significant predictors, with behavioral factors identified as the most dominant factor.
Conclusion: Behavioral factors and family history of disease significantly influence perceived health status among nursing lecturers. The novelty of this study lies in identifying these determinants in a specific lecturer population within nursing education. Faculty-based workplace health promotion programs focusing on healthy lifestyle behaviors, stress management, periodic health check-ups, and early detection of non-communicable disease risk factors are recommended to improve lecturers' well-being, academic productivity, and the quality of nursing education.

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INTRODUCTION

Health is a fundamental aspect closely related to individual productivity. Optimal physical, mental, spiritual, and social conditions are required for individuals to carry out daily activities, including work-related activities. The Law of the Republic of Indonesia Number 36 of 2009 defines health as a state of physical, mental, spiritual, and social well-being that enables every

individual to live productively in social and economic terms. This definition emphasizes that health is not merely understood as the absence of disease, but also as an individual's ability to function optimally in daily life.

Nevertheless, public understanding of health still tends to be oriented toward a curative approach rather than promotive and preventive approaches. Health is often perceived as an effort to seek treatment after illness has occurred, while disease prevention and health maintenance are not always prioritized. In fact, promotive and preventive approaches play an important role in reducing the risk of non-communicable diseases, maintaining quality of life, and sustaining work productivity. In the occupational context, individuals' perceptions of their health status are important because they may influence decisions to adopt healthy lifestyles, utilize health services, manage workload, and respond early to signs of health problems.

Perceived health status is not only determined by the presence or absence of disease, but is also influenced by physical, psychological, social, environmental, and behavioral conditions. Factors such as dietary patterns, quality of rest, physical activity, workload, emotional regulation, social support, access to health services, and genetic factors may shape an individual's perception of their health condition. Blum's model of health determinants explains that health status is influenced by four main factors: environment, behavior, health care services, and heredity. These four determinants interact with one another and may affect an individual's ability to maintain their level of health (Stanhope & Lancaster, 2016).

Perceptions of health also play an important role in shaping health behavior. Individuals who have a positive perception of their health tend to be better able to manage risks, take preventive actions, and maintain a healthy lifestyle. Conversely, low perceived health may be associated with decreased motivation, delays in seeking health care, and low adherence to preventive behaviors. In this regard, health self-efficacy has been reported as an important predictor of healthy lifestyle behaviors, because individuals' beliefs in their ability to maintain health may influence their daily behavioral choices (Açıkgöz Çepni & Kitiş, 2017). Therefore, perceived health status can be understood as the result of individuals' interpretation of their health condition, which subsequently influences health behavior and work productivity.

This issue becomes increasingly important among lecturers, as they are professionals with complex occupational demands. Lecturers are not only responsible for teaching, but also for conducting research, carrying out community service, supervising students, producing scientific publications, performing administrative duties, and contributing to institutional development. These demands are related to the implementation of the Tri Dharma of Higher Education and may lead to high workload, time pressure, role conflict, and work-related stress. Recent studies have shown that academic staff in higher education institutions face occupational health risks, including stress, fatigue, impaired mental well-being, and decreased quality of life. A systematic review emphasized that the mental health of academics requires serious attention because the higher education environment may generate specific work-related pressures (Ohadomere & Ogamba, 2019). Perceived stress has also been associated with burnout indicators among lecturers in higher education institutions (Teles et al., 2020). In addition, work-related stress, coping strategies, health, and well-being are interrelated issues among university academic staff (Shen & Slater, 2020).

Health problems among lecturers do not only affect individuals, but also the quality of higher education delivery. Lecturers who experience health problems may face decreased concentration, motivation, attendance, research productivity, quality of interaction with students, and teaching effectiveness. In the context of health education, including nursing, this condition becomes even more important because lecturers do not only deliver theoretical knowledge, but also serve as professional role models for students in implementing healthy behaviors, service ethics, and clinical practice. A decline in lecturers' health status may affect the continuity of the learning process, academic supervision, clinical learning, and the achievement of graduate competencies.

Therefore, lecturers' health status should be viewed as a strategic issue in higher education human resource management and in efforts to maintain educational quality.

Several studies have shown that the academic environment, administrative support, and institutional support play important roles in lecturers' well-being in higher education institutions (Larson et al., 2019). Work-related stress is also known to be associated with fatigue, well-being, and workers' health conditions (Hsu, 2019). In the context of health-related faculties, burnout and psychological well-being are important issues because they are related to the pressures of academic work (Chatani et al., 2017). Furthermore, health conditions and sleep quality are associated with quality of life and quality of work life among university lecturers (Sanchez et al., 2019).

In Indonesia, the number of higher education institutions and study programs is very large; therefore, the selection of a research site should be based on scientific considerations rather than merely accessibility. Universitas Padjadjaran was selected as the research setting because it is one of the major universities in Indonesia, with complex academic, research, community service, and academic human resource management activities. A university environment with high Tri Dharma demands provides a relevant context for examining lecturers' health status. In addition, the selection of the Nursing Study Program has a scientific basis because nursing education requires lecturers' involvement in theoretical learning, laboratory learning, clinical education, practical supervision, and the development of students' professional competencies. These characteristics make nursing lecturers face distinctive work demands compared with lecturers in several other study programs, particularly because they contribute to the education of future health professionals who will directly contribute to public health services.

The Faculty of Nursing at Universitas Padjadjaran also represents a relevant context because lecturers in the health field possess theoretical knowledge of healthy behaviors, disease prevention, and health services. However, health knowledge does not always guarantee that individuals have good health status or optimally practice healthy behaviors. Therefore, examining perceived health status among nursing lecturers is important to determine whether environmental, behavioral, health care service, and hereditary factors are associated with their health perceptions. This study may also provide input for the institution in developing workplace health promotion strategies, workload management, and efforts to improve lecturers' well-being.

Based on the above explanation, research on factors associated with perceived health status among lecturers is important to conduct. Although various studies have discussed the health, stress, and well-being of academic staff, studies specifically examining the relationship between environmental, behavioral, health care service, and hereditary factors and perceived health status among lecturers, particularly in nursing education settings, remain limited. Therefore, this study was conducted among lecturers of the Nursing Study Program at Universitas Padjadjaran to obtain a more comprehensive understanding of the determinants of perceived health status and their implications for the management of lecturers' health in higher education institutions.

METHOD

Research Design

This study was an analytical observational study with a cross-sectional design. This design was used to identify and analyze factors associated with perceived health status among lecturers at the Faculty of Nursing, Universitas Padjadjaran. The independent and dependent variables were measured at the same point in time. The study was conducted at the Faculty of Nursing, Universitas Padjadjaran, and data collection was carried out from January to March 2019. All data were collected within a single period without any follow-up.

Population and Sample

The population in this study consisted of all lecturers at the Faculty of Nursing, Universitas Padjadjaran, totaling 68 individuals. The sampling technique used was total sampling, in which all members of the population who met the study criteria were included as respondents. The inclusion criteria were lecturers of the Faculty of Nursing, Universitas Padjadjaran, active teaching status, and willingness to participate in the study. The exclusion criteria were lecturers who were undertaking study leave or were on leave during the data collection period. Based on these criteria, the final sample consisted of 68 respondents.

Research Variables

The dependent variable in this study was perceived health status. The independent variables included behavioral factors, health care service factors, environmental factors, and genetic factors. The covariates in this study included age, sex, educational level, length of employment, marital status, and current and previous medical history.

Research Instruments

Data were collected using a structured questionnaire consisting of several sections, namely respondent characteristics, behavioral factors, health care service factors, environmental factors, genetic factors, and perceived health status. All respondents completed the same questionnaire to ensure measurement consistency. The behavioral factor questionnaire was used to assess respondents' health behaviors, such as habits related to health maintenance. The environmental factor questionnaire was used to assess support and environmental conditions related to respondents' health. The health care service factor questionnaire was used to assess adherence to or utilization of health services. The genetic factor questionnaire was used to identify the presence or absence of a family history of disease. Meanwhile, the perceived health status questionnaire was used to assess respondents' subjective evaluation of their health condition.

The research instruments underwent validity and reliability testing before being used for data collection. Validity testing was conducted by correlating each item score with the total score for each variable. The test was conducted on 30 respondents; therefore, the r-table value at $\alpha = 0.05$ with degrees of freedom of $n-2$ was 0.361. An item was considered valid if the calculated r value was greater than the r-table value. The validity test results showed that all items in the behavioral factor, health care service factor, environmental factor, and perceived health status questionnaires had calculated r values greater than 0.361. Therefore, all items were declared valid and appropriate for use in the study. Meanwhile, the genetic factor instrument was not subjected to validity testing because it consisted of categorical questions regarding the presence or absence of a family history of disease.

Reliability testing was conducted using Cronbach's alpha. An instrument was considered reliable if the Cronbach's alpha value was greater than 0.70. The reliability test results showed that the behavioral factor questionnaire, consisting of 8 items, had a Cronbach's alpha value of 0.752; the health care service factor questionnaire, consisting of 5 items, had a Cronbach's alpha value of 0.760; the environmental factor questionnaire, consisting of 10 items, had a Cronbach's alpha value of 0.852; and the perceived health status questionnaire, consisting of 30 items, had a Cronbach's alpha value of 0.887. Based on these results, all instruments were declared reliable and appropriate for use in the study. Meanwhile, the genetic factor instrument was not subjected to reliability testing because it used categorical questions with definite responses regarding family history of disease.

Scoring and Data Categorization

Each respondent's answer was scored according to the guidelines of the research instrument. The scores for each item were summed to obtain a total score for each variable. The total scores were then categorized into categorical data based on criteria predetermined in the study. Perceived

health status was categorized into positive and negative health status. Behavioral factors were categorized into positive and negative behavior. Environmental factors were categorized into supportive and non-supportive environments. Health care service factors were categorized into adherent and non-adherent. Genetic factors were categorized based on the presence or absence of a family history of disease. This categorization was used to facilitate analysis of the relationship between the independent variables and perceived health status.

Ethical Considerations

This study obtained ethical exemption from the Research Ethics Committee of Universitas Padjadjaran, Bandung, with approval number 461/UN6.KEP/EC/2019 and registration number 0319030489. Before completing the questionnaire, respondents were provided with information regarding the study objectives, procedures, benefits, data confidentiality, and their right to refuse or withdraw from participation at any time. Respondents' participation was voluntary, and all data obtained were kept confidential and used solely for research purposes.

Data Collection Procedure

Data were collected from January to March 2019 at the Faculty of Nursing, Universitas Padjadjaran. The researcher first identified lecturers who met the inclusion and exclusion criteria. Prospective respondents were then given an explanation regarding the objectives, procedures, benefits, and confidentiality of the study data. Respondents who agreed to participate were asked to complete the questionnaire independently.

To minimize potential bias, the researcher provided the same instructions to all respondents before they completed the questionnaire. The instruments used were structured and standardized. The confidentiality of respondents' answers was ensured to reduce the possibility of social desirability bias or the tendency to provide answers perceived as socially acceptable. After the questionnaires were returned, the researcher checked the completeness of the responses before entering the data into statistical analysis software. There were no missing data because all questionnaires were completed and met the requirements for analysis.

Data Analysis

Data analysis was performed using SPSS version 20.0 with a significance level of $p < 0.05$. Univariate analysis was used to describe respondents' characteristics, including age, sex, educational level, length of employment, marital status, and current and previous medical history. Bivariate analysis was performed using the Chi-square test to examine the relationship between behavioral factors, health care service factors, environmental factors, genetic factors, and perceived health status. Multivariate analysis was conducted using logistic regression to identify the most dominant factor associated with perceived health status after controlling for potential confounding variables.

RESULTS AND DISCUSSION

Results

A total of 68 lecturers from the Faculty of Nursing, Universitas Padjadjaran were included in this study. All respondents met the inclusion and exclusion criteria and were fully analyzed. There were no respondents who refused to participate, and no missing data were identified in this study.

Table 1 Frequency Distribution of Respondent Characteristics Based on Age, Gender, Work Experience, Education, and Marital Status of Nursing Faculty Lecturers (n=68)

Age Group (years)	Frequency	Percentage (%)
26-35	13	19,1
36-45	24	35,3
46-55	24	35,3
56-65	7	10,3
Total	68	100,0

Gender	Frequency	Percentage (%)
Male	21	30,9
Female	47	61,9
Total	68	100,0

Work Experience (years)	Frequency	Percentage (%)
1-5	3	4,4
6-10	16	23,5
11-15	15	22,1
16-20	13	19,1
21-25	6	8,8
26-30	10	14,7
31-35	4	5,9
36-40	1	1,5
Total	68	100,0

Education Level	Frequency	Percentage (%)
Master's Degree (S2)	56	82,4
Doctoral Degree (S3)	12	17,6
Total	68	100,0

Marital Status	Frequency	Percentage (%)
Single	2	2,9
Married	65	95,6
Previously married	1	1,5
Total	68	100,0

Based on Table 1, the majority of respondents were in the age groups of 36–45 years and 46–55 years, each consisting of 24 individuals (35.3%). The mean age of respondents was 44 years, with the youngest being 29 years and the oldest 62 years. In terms of gender, most respondents were female, totaling 47 individuals (69.1%). The majority of respondents had 6-10 years of work experience (23.5%). Regarding education level, most respondents held a master's degree (82.4%). Additionally, the majority of respondents were married, accounting for 65 individuals (95.6%).

Table 2. Frequency Distribution of Respondents' Current and Past Diseases Among Lecturers at the Faculty of Nursing (n = 68)

Current Diseases	Frequency	Percentage (%)
None	42	61,8
Hypertension	9	13,2
Cholesterol	2	2,9
Gastritis	8	7,4
Diabetes	2	2,9
Allergy	1	1,5
Anemia	1	1,5
Gout	1	1,5
Asthma	1	1,5
Ear disorder	1	1,5
Total	68	100,0

Past Medical History	Frequency	Percentage (%)
None	43	63,2
Hypertension	7	10,3
Anemia	1	1,5
Gout	1	1,5
Asthma	3	4,4
Back injury	1	1,5
Chronic bronchitis	1	1,5
Gastritis	4	5,9
Typhoid	4	5,9
Cyst	1	1,5
Low back pain (LBP)	1	1,5
Total	68	100,0

Based on Table 2, the majority of respondents had no current illness (61.8%) and no history of previous illness (63.2%). The most commonly reported current conditions were hypertension (13.2%) and gastritis (11.8%). Similarly, for past medical history, hypertension (10.3%) and gastritis (5.9%) were the most frequently reported conditions.

Table 3. Distribution of Perceived Health Status Among Lecturers at the Faculty of Nursing (n = 68)

Perceived Health Status	Frequency	Percentage (%)
Negative	9	13,2
Positive	59	86,8
Total	68	100,0

Based on Table 3, the majority of respondents had a positive perceived health status, totaling 59 individuals (86.8%), while 9 respondents (13.2%) had a negative perceived health status.

Table 4. Distribution of Health-Related Factors Among Lecturers at the Faculty of Nursing (n = 68)

Health-Related Factors	Category	Frequency	Percentage (%)
Behavioral factors	Negative	6	8,8
	Positive	62	91,2
Health service factors	Non-adherent	29	42,6
	adherent	39	57,4
Environmental factors	Not supportive	2	2,9
	supportive	66	97,1
Genetic factors	Tidak ada	49	72,1
	Ada	19	27,9

Based on Table 4, the majority of respondents had positive behavioral factors, totaling 62 individuals (91.2%). In terms of health service factors, most respondents were categorized as adherent, accounting for 39 individuals (57.4%). Environmental factors were predominantly supportive, with 66 respondents (97.1%). Meanwhile, the majority of respondents had no history of genetic-related diseases, totaling 49 individuals (72.1%)

Table 5. Association Between Behavioral, Health Service, Environmental, and Genetic Factors and Perceived Health Status Among Lecturers at the Faculty of Nursing (n = 68)

Perceived Health Status	Behavioral		X^2	*p*
	Negative	Positive		
Negative	4	5		
Positive	2	57	11,655	0,001
Total	6	62		
Perceived Health Status	Health Service		X^2	*p*
	Non-adherent	adherent		
Negative	4	5		
Positive	25	34	0,000	1,000
Total	29	39		
Perceived Health Status	Environmental		X^2	*p*
	Not Supportive	Supportive		
Negative	0	9		1,000
Positive	2	57	0,000	
Total	2	66		
Perceived Health Status	Genetic Factors		X^2	*p*
	No History	History		
Negatif	1	8		
Positive	48	11	15,808	0,000
Total	49	19		

Based on Table 5, a significant association was observed between behavioral factors and perceived health status ($\chi^2 = 11.655$; $p = 0.001$), where respondents with positive behavioral factors tended to report a more positive perceived health status. In addition, genetic factors were also significantly associated with perceived health status ($\chi^2 = 15.808$; $p < 0.001$), indicating that respondents without a genetic history of disease were more likely to have a positive health perception. In contrast, health service factors ($p = 1.000$) and environmental factors ($p = 1.000$)

were not significantly associated with perceived health status. No additional analyses, such as subgroup, interaction, or sensitivity analyses, were conducted in this study.

Discussion

Perceived Health Status Among Lecturers

The results of this study showed that the majority of lecturers had a positive perceived health status, accounting for 86.8% of respondents. This finding indicates that, subjectively, most lecturers perceived their health condition to be good. This condition may be related to the characteristics of the respondents, most of whom were in the middle productive age group, had a high level of education, particularly at the master's degree level, and had relatively long work experience. Individuals with a health education background tend to have better knowledge of the concepts of health and illness, as well as the ability to assess their own physical condition.

Perceived health status is a subjective indicator that does not always reflect objective health conditions. In this study, although most respondents reported a positive perception of their health, several health problems, such as hypertension, gastritis, diabetes, hypercholesterolemia, asthma, and gout, were still identified. This indicates that lecturers may perceive themselves as healthy as long as they are still able to perform academic activities and social functions. Previous studies have shown that lecturers' health perceptions are strongly influenced by the academic work context. Perceived stress among university lecturers is known to be associated with various academic work demands, such as teaching, administrative activities, weekend work, scientific productivity, and limited time for physical activity and family life (Soares et al., 2020). Lecturers' health conditions are also associated with their quality of life and quality of work life (Sanchez et al., 2019). In addition, perceived health problems and work environment issues among academic populations may affect subjective productivity (Lohela-Karlsson et al., 2018). Thus, lecturers' perceived health status is not only influenced by the presence or absence of disease, but also by work demands, academic pressure, working conditions, and individuals' ability to continue fulfilling their roles.

This phenomenon is important in the context of occupational health among lecturers, because an overly positive perception of health may lead to delays in the early detection and management of risk factors for non-communicable diseases. Lecturers, particularly nursing lecturers, may have adequate health knowledge; however, such knowledge does not always guarantee accurate self-assessment or timely utilization of preventive health services. Therefore, perceived health status should be understood as a subjective evaluation that needs to be complemented by objective health examinations, particularly to detect and manage the risk of chronic diseases among lecturers.

Behavioral Factors and Perceived Health Status

The analysis showed a significant association between behavioral factors and perceived health status. This finding indicates that individual behavior plays an important role in shaping perceptions of health conditions. Lecturers with positive health behaviors were more likely to report positive perceived health status. These health behaviors may include dietary patterns, physical activity, rest or sleep habits, and the ability to manage work-related stress. In the context of lecturers, academic workload, administrative demands, and responsibilities related to the Tri Dharma of Higher Education may influence daily lifestyle patterns, including time for rest, exercise, and maintaining a healthy diet.

This finding is consistent with previous studies conducted among academic populations and educators. Healthy lifestyle behaviors, such as physical activity, dietary habits, sleep quality, and stress management, have been shown to contribute to health and well-being in higher education settings (Kilani et al., 2020). Among university employees, physical activity has been reported to be associated with psychological well-being, suggesting that healthy behavior may serve as a supportive factor for health in academic work environments (Qi et al., 2019). In addition, a study

among university lecturers found that high academic workload, weekend work, teaching and administrative activities, and low levels of physical activity were associated with increased perceived stress (Soares et al., 2020). These findings indicate that lecturers' health behaviors do not occur in isolation, but are influenced by the structure and demands of academic work.

However, the findings of this study should be interpreted with caution. Although most lecturers in this study demonstrated positive health behaviors, the presence of health problems such as hypertension, gastritis, diabetes, and hypercholesterolemia indicates that positive behaviors do not necessarily eliminate the risk of health problems. This condition may occur because lecturers' health is not only influenced by behavior, but also by other factors, such as age, family history of disease, workload, stress, and utilization of health services. Therefore, the findings support Blum's theory of health determinants, which states that behavior is one of the major determinants of health, while its influence continues to interact with environmental factors, health care services, and heredity.

Based on these findings, behavior-based interventions represent a rational strategy to improve both perceived health status and actual health conditions among lecturers. Higher education institutions can promote workplace health programs, such as healthy lifestyle education, increased physical activity, stress management, regular health examinations, and workload arrangements that allow lecturers to maintain a balance between work responsibilities and personal health.

Genetic Factors and Perceived Health Status

The results of this study showed a significant association between genetic factors and perceived health status. Respondents without a family history of disease tended to report more positive perceived health status than those with a family history of disease. This finding indicates that family history may influence how individuals assess their health condition, as genetic factors are often perceived as indicators of susceptibility to certain diseases.

This finding is consistent with Blum's concept of health determinants, which identifies heredity as one of the factors influencing health status, along with behavior, environment, and health care services. However, genetic factors do not operate independently. In the context of this study, not all respondents with a family history of disease reported negative perceived health status. This suggests that genetic risk may interact with health behaviors, the work environment, and the utilization of health services. A family history of disease may increase perceived risk of illness, but its effect on perceived health status may vary depending on health knowledge, personal illness experience, and individuals' ability to manage risk factors.

Several previous studies support this interpretation. A family history of premature heart disease has been associated with an increased risk of cardiovascular disease and may serve as an important component in health risk identification efforts (Moonesinghe et al., 2019). In addition, family history and family members' experiences in dealing with chronic diseases may shape individuals' understanding of disease risk, causes, consequences, and their ability to control disease through self-care behaviors, such as dietary patterns, physical activity, and other health behaviors (Cunningham et al., 2020). Thus, the presence of a family history of disease may influence health perceptions, but this influence depends on how individuals understand their health risks and respond to them through daily health behaviors.

In the context of lecturers, this finding is important because lecturers face high academic work demands and often continue to perform their professional roles despite having health risk factors. Studies among academic populations have shown that the health of lecturers and academic staff is associated with work-related pressure, work environment, productivity, and quality of life (Lohela-Karlsson et al., 2018; Sanchez et al., 2019; Soares et al., 2020). Therefore, among lecturers with a family history of disease, preventive efforts should not only focus on increasing awareness of genetic risks, but also on strengthening healthy behaviors, conducting regular health

examinations, and managing workload. This finding emphasizes that genetic factors should be understood as risk determinants that interact with behavior and working conditions, rather than as a single factor that determines lecturers' health status.

Non-Significant Factors: Health Services and Environment

The results of this study showed that health care service factors and environmental factors were not significantly associated with perceived health status among lecturers. This finding may be explained by the relatively homogeneous characteristics of the respondents, particularly because all respondents came from the same faculty and worked in a similar academic environment. In addition, most respondents may have had relatively good access to health care services and worked in a sufficiently supportive environment. These relatively uniform conditions may have limited the variation in respondents' answers, resulting in no statistically significant association between health care service factors, environmental factors, and perceived health status.

Although environmental factors were not significant in this study, the work environment remains important in the context of lecturers' health. The academic environment may influence lecturers' well-being through workload, institutional support, work relationships, fairness in task distribution, and daily working conditions. Previous research has shown that departmental conditions and organizational practices are associated with faculty satisfaction regarding workload and perceptions of equity in academic settings (O'Meara et al., 2019). In addition, work environment problems among academic populations have been found to be associated with reduced subjective productivity, particularly when these problems occur alongside health complaints (Lohela-Karlsson et al., 2018). A systematic review also indicated that the higher education work environment may serve as a source of pressure that affects the mental health of academics (Urbina-Garcia, 2020).

The non-significant association between environmental factors and perceived health status in this study may indicate that lecturers' health perceptions were more strongly influenced by internal factors, such as health behaviors, illness experiences, and family history of disease, than by relatively uniform environmental factors. In other words, the work environment remains a determinant of health, but its effect may not be statistically detected when respondents have nearly similar environmental experiences. This is consistent with Blum's health determinants model, which emphasizes that environment, behavior, health care services, and heredity interact with one another in influencing health status.

Health care service factors also did not show a significant association with perceived health status. This finding may be explained by the possibility that lecturers had relatively adequate access to health care services, either through public health facilities, health insurance, or available health care networks. When access to health care services is relatively equal, this factor may not become a major differentiating factor in respondents' health perceptions. Under such conditions, perceived health status may be more strongly influenced by daily behaviors, the ability to manage health risks, and personal health conditions than by access to health care services itself.

Therefore, the findings of this study do not imply that health care services and the work environment are unimportant for lecturers' health. Rather, they indicate that in a population with relatively homogeneous access to health care services and working conditions, behavioral and genetic factors may appear more dominant in shaping perceived health status. Accordingly, efforts to improve lecturers' health should still consider the strengthening of a healthy work environment, institutional support, regular health examinations, and the promotion of healthy lifestyle behaviors within the faculty

Implications

This study has practical implications for the development of health policies in higher education settings, particularly among nursing lecturers. The finding that behavioral and genetic factors were associated with perceived health status indicates that nursing lecturers should be

considered a priority group in university occupational health programs. This is important because nursing lecturers do not only serve as educators, but also as members of the health professional community and as role models for healthy behavior among students.

In line with health workforce policies that emphasize promotive and preventive efforts, higher education institutions need to develop workplace health promotion programs that focus on behavioral change. These programs may include regular physical activity, nutrition and healthy lifestyle education, work-related stress management, periodic health examinations, and screening for risk factors of non-communicable diseases, particularly among lecturers with a family history of disease. Such efforts may help maintain lecturers' health, improve academic productivity, support the quality of teaching and clinical supervision, and strengthen the role of nursing lecturers as professional models in practicing healthy lifestyles.

Research Contribution

This study provides empirical contributions to occupational health research in higher education, particularly in identifying determinants of perceived health status among lecturers. The findings support health determinant theories by demonstrating that behavioral and genetic factors significantly influence perceived health status in academic populations. Furthermore, this study enriches the literature on the importance of promotive approaches in improving the health of educators as part of strengthening higher education systems.

Limitations

This study has several limitations that should be considered when interpreting the findings. First, the cross-sectional design did not allow the researchers to draw causal conclusions because the independent and dependent variables were measured at the same point in time. Therefore, the findings only indicate associations between variables. Second, the use of self-administered questionnaires may have introduced subjective bias and social desirability bias, as respondents may have provided answers that they perceived to be more socially acceptable. Third, this study was conducted in only one faculty with a relatively small sample size; therefore, the findings may not be generalizable to all lecturers in other faculties or universities. This limitation occurred because the study focused on lecturers at the Faculty of Nursing, Universitas Padjadjaran, which was selected due to its specific characteristics. Nursing lecturers are not only educators but also members of the health professional community who play important roles in academic education and clinical learning. Thus, this setting was considered relevant for obtaining an initial overview of factors associated with perceived health status among nursing lecturers. Nevertheless, the findings should be interpreted with caution, and further studies involving broader populations are recommended to ensure more comprehensive generalizability of the results.

Suggestions

Future research is recommended to:

1. Use longitudinal designs to explore causal relationships between variables
2. Include additional psychosocial variables such as work stress, workload, and work-life balance
3. Involve lecturers from multiple faculties or universities to improve external validity
4. Combine subjective data with objective clinical assessments to enhance measurement accuracy

CONCLUSION

This study showed that most lecturers at the Faculty of Nursing, Universitas Padjadjaran had positive perceived health status. Among the factors analyzed, behavioral and genetic factors were found to be significantly associated with perceived health status, whereas health care service and environmental factors did not show significant associations. These findings indicate that, among nursing lecturers, perceptions of health status were more strongly influenced by internal

factors, particularly daily health behaviors and family history of disease, than by relatively homogeneous external factors such as access to health care services and the work environment.

Overall, the findings of this study emphasize the importance of promotive and preventive approaches in maintaining the health of nursing lecturers. In the field of nursing, lecturers' health is particularly important because lecturers do not only serve as educators, but also as clinical supervisors and role models for healthy behavior among students. Therefore, nursing faculties and higher education institutions are encouraged to develop workplace health promotion programs that focus on behavioral change, such as regular physical activity, nutrition education, work-related stress management, periodic health examinations, and screening for risk factors of non-communicable diseases, particularly among lecturers with a family history of disease. Future studies are recommended to use longitudinal designs or mixed methods and to include objective health indicators so that the findings can provide a stronger basis for developing occupational health policies for lecturers in the field of nursing.

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AUTHOR CONTRIBUTION STATEMENT

MI was responsible for the overall research process, including the conceptualization and design of the study, data collection, data analysis and interpretation, manuscript preparation, and final revision of the manuscript for publication.

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