International Journal of Advanced Community Medicine

E-ISSN: 2616-3594
P-ISSN: 2616-3586
www.comedjournal.com
IJACM 2025; 8(1): 99-105
Received: 17-10-2024
Accepted: 20-11-2024

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Health-promoting lifestyle profile and associated factors among medical staff working in a primary health care centers in AL-Rusafah 2022

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DOI: https://www.doi.org/10.33545/comed.2025.v8.i1.B.375

Abstract

Background: The lifestyle of an individual significantly influences health-promoting behaviors. The World Health Organization defines health promotion as a mechanism enabling people to increase control over and improve their health. This concept extends beyond disease management and cure, emphasizing personal, social, political, and institutional resources to enhance well-being. A health-promoting lifestyle is a multidimensional pattern of self-initiated behaviors aimed at maintaining or improving wellness, self-actualization, and fulfillment. This study aimed to evaluate the health-promoting lifestyle profile of medical staff working in primary health care centers of Al-Rusafa, Baghdad.

Methods: A cross-sectional study was conducted on 235 medical staff selected using a simple random sampling method from three Primary Health Care Districts in Al-Rusafa Health Directorate. All primary health care centers in these districts were included. Data collection tools included a demographic information form and the Health-Promoting Lifestyle Profile-II (HPLP-II) questionnaire. Statistical analysis was performed using descriptive and analytical statistics.

Results: Among the six components of HPLP-II, self-realization had the highest mean score (2.83± 0.61), whereas physical activity had the lowest (1.97±0.62). The overall HPLP-II score varied significantly by gender, marital status, profession, BMI, smoking status, and physical exercise. However, it showed no significant difference concerning working years, comorbidities, alcohol consumption, or annual health check-ups.

Conclusion: The majority of medical staff exhibited a moderate level of health-promoting lifestyle. The findings highlight the necessity for interventions aimed at improving lifestyle behaviors among medical staff, which could also support broader health promotion programs for the population.

Keywords: Health-promoting lifestyle profile, primary health care centers, medical staff

Introduction

The lifestyle of an individual plays a crucial role in shaping health-promoting behaviors. According to the World Health Organization (WHO), lifestyle-associated diseases account for 70-80% of deaths in developed countries and 40-50% in less developed countries [1]. WHO defines health promotion as "the mechanism for enabling people to increase control over as well as to improve their health", emphasizing personal, social, political, and institutional resources, along with physical capacities [2]. This concept extends beyond disease management, incorporating social and ecological interventions aimed at improving health and quality of life by addressing the root causes of poor health [2]. A health-promoting lifestyle refers to a multidimensional pattern of self-initiated actions and perceptions designed to maintain or enhance wellness, self-actualization, and fulfillment [3]. Ensuring the health and productivity of staff is vital for enhancing the efficiency of both public and private sectors [4]. Poor health can contribute to early retirement and reduced work capacity, often due to chronic diseases rooted in unhealthy lifestyles [5]. An unhealthy lifestyle may result in illness, absenteeism, and lower productivity, whereas healthier staff members are generally more productive and less likely to leave their jobs due to health issues [5]. Professional occupation significantly impacts health outcomes through direct effects such as physical working conditions (e.g., exposure to heat, noise, or workplace injuries) and indirect influences, including workload, inflexible work schedules, and workplace policies like smoking prohibitions [6]. One might expect that healthcare professionals, due to their education and experience, would adopt healthier lifestyles, yet the evidence remains inconclusive [6].

Studies indicate that certain healthcare workers, such as physicians and nurses, are more inclined toward adopting healthy behaviors, including regular physical activity, lower alcohol consumption, routine screening tests, and better nutrition [7]. Conversely, other studies suggest that many health workers neglect their own health due to a false sense of protection arising from medical knowledge, prioritization of patients' health over their own, time constraints, fatigue, and lack of motivation [8]. Moreover, limited exposure to lifestyle-promoting education during medical training further exacerbates this issue [8]. Healthcare professionals are often expected to be role models, influencing their patients' attitudes and motivation to adopt healthier lifestyles [9]. Their close exposure to chronically ill patients reinforces the importance of preventive health behaviors [9]. Improving lifestyle choices among healthcare workers is associated with better job satisfaction, success at work, and overall well-being. The Health-Promoting Lifestyle Profile (HPLP) comprises six key components: spiritual growth, nutrition, physical activity, interpersonal relations, health responsibility, and stress management [10]. The adoption of these behaviors is widely recognized as essential for disease prevention and long-term health maintenance [10]. Aim of the study to assess and evaluate all six components of the Health-Promoting Lifestyle Profile-II (HPLP-II) among medical staff working in primary health care centers in Al-Rusafa in 2022 and to examine the association between the mean HPLP-II score and various socio-demographic characteristics and studied factors.

Methods

This cross-sectional study with an analytical component was conducted in several Primary Health Care Centers (PHCCs) in the Al-Rusafa district of Baghdad from February 1st to August 1st, 2022. A simple random sampling technique was used to select three Primary Health Care Districts (Al-Adhamiya, Al-Sader 1, and Al-Rusafa). All PHCCs within these districts were included in the study.

Study Population and Sample Size

The study population comprised medical staff working in the selected PHCCs. Participation was voluntary, and individuals were informed about the study's purpose before enrollment. Medical staff with lifestyle-affecting diseases such as diabetes mellitus or musculoskeletal disorders, as well as those who declined participation, were excluded. Data collection involved daily visits to PHCCs, dedicating four hours per day, three days per week. A total of 235 participants were included in the study.

Data Collection Tools

Data were collected using a structured questionnaire consisting of two parts

Sociodemographic Characteristics: Included age, gender, marital status, years of work, occupation (physician, dentist, pharmacist), smoking habits, alcohol consumption, presence of chronic diseases, exercise habits, and annual health check-ups. Anthropometric measures (weight, height, and BMI) were recorded, classifying participants as normal, overweight, or obese.

Health-Promoting Lifestyle Profile-II (HPLP-II): A validated 52-item questionnaire assessing six domains: health responsibility, spiritual growth, physical activity, interpersonal relationships, nutrition, and stress management. Responses were rated on a four-point Likert scale (1=never, 4=regularly), with scores ranging from 52 to 208. A mean score of ≥2.5 was considered a positive response.

Pilot Study

A pilot study was conducted with 10 participants to assess the questionnaire's clarity, applicability, and reliability.

Ethical Considerations

Written informed consent was obtained, ensuring confidentiality through anonymous coding. Ethical approvals were granted by the Supervising Committee of the Arab Board of Medical Specializations and the Al-Rusafa Health Directorate.

Statistical Analysis

Data were analyzed using SPSS version 25. Descriptive statistics included mean, standard deviation, frequencies, and percentages. Independent t-tests and ANOVA were used for comparisons. A p-value of <0.05 was considered statistically significant.

Results

A total of 235 medical staff working at primary health care centers were recruited for this study. Participants' age ranged from 21 to 47 years with a mean of 32.13 and standard deviation (SD) of±6.69 years, and more than one third of the participants 84 (35.6%) were found in the age group of (30-34) years (Figure 4.1).

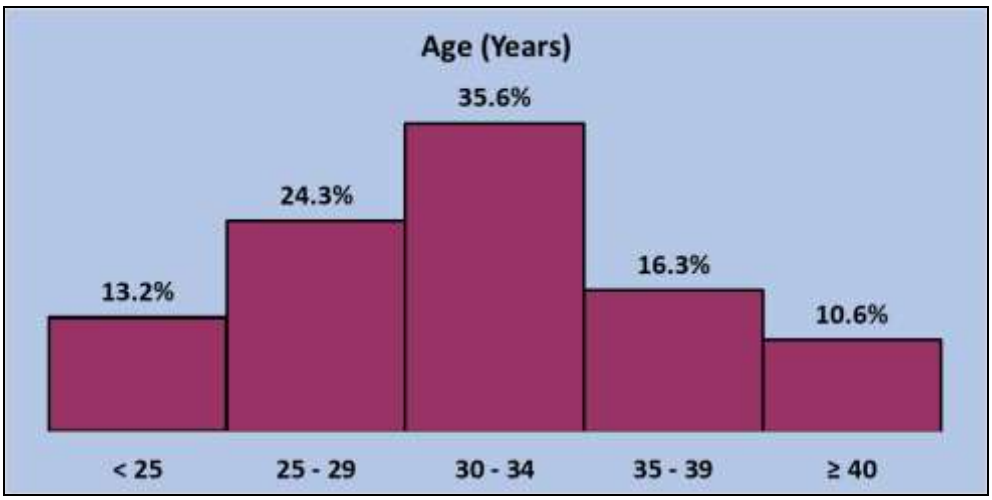

Fig 1: Distribution of the participants by age

The 235 study participants, 124 (52.8%) were females versus 111 (47.2%) males, 135 (57.4%), married. The study participants included 98 (41.7%) medical doctors, 85 (36.2%) dentists, and the other 52 (22.1%) were pharmacists. Concerning working years, the highest proportion of the studied participants 113 (48.1%) had (5-10) years. The calculated BMI had a mean of 24.73±3.40 kg/m^2, and 155 participants (66%) had normal weight. Chronic medical diseases were reported by 43 (18.3%) of the participants. Smokers and drinkers constituted 77 (32.8%) and 21 (8.9%) of the participants, respectively. Active exercise and annual checking through clinic visit or laboratory investigation were reported by 90 participants (38.3%) and 69 (29.4%) of the studied participants, respectively (Table 1).

Table 1: Baseline characteristics of the study group

Baseline Characteristics	No. (N=235)	Percentage (%)
Gender		
Male	111	47.2
Female	124	52.8
Marital Status		
Single	89	37.9
Married	135	57.4
Widowed or Divorced	11	4.7
Profession		
Medical Doctor	98	41.7
Dentist	85	36.2
Pharmacist	52	22.1
Working Years		
< 5	55	23.4
5-10	113	48.1
> 10	67	28.5
BMI		
Underweight	18	7.6
Normal	155	66.0
Overweight	56	23.8
Obese	6	2.6
Chronic Disease*		
No	192	81.7
Hypertension	24	10.2
Diabetes Mellitus	13	5.5
Asthma	11	4.7
Dyslipidemia	6	2.6
Osteoarthritis	4	1.7
Smoking		
Current Smoker	77	32.8
Ex-smoker	23	9.7
Non-smoker	135	57.5
Alcohol Drinking		
Yes	21	8.9
No	214	91.1
Physical Exercise		
Active	90	38.3
Sedentary	145	61.7
Annual Checking		
Yes	69	29.4
No	166	70.6

* Some participants had more than one chronic disease.

Results of the participants' responses about the six HPLP-II components were illustrated in (Table 2).

Table 2: Distribution of the participants' responses to the six components of HPLP-II

HPLP-II Items	Responses (N=235)			
	Never No. (%)	Sometimes No. (%)	Often No. (%)	Routinely No. (%)
Health Responsibility				
3. Report any unusual signs or symptoms to a physician or other health professional	34 (14.4)	126 (53.7)	37 (15.6)	38 (16.3)
9. Read or watch TV programs about improving health.	12 (5.3)	55 (23.4)	148 (62.9)	20 (8.4)
15. Question health professionals in order to understand their instructions.	51 (21.5)	122 (51.9)	53 (22.7)	9 (3.8)
21. Get a second opinion when I question my health care provider's advice.	12 (5.3)	166 (70.8)	49 (21.1)	7 (2.9)
27. Discuss my health concerns with health professionals.	43 (18.4)	100 (42.6)	77 (32.8)	15 (6.2)
33. Inspect my body at least monthly for physical changes/danger signs.	30 (12.9)	114 (48.3)	66 (28.2)	25 (10.5)
39. Ask for information from health professionals about how to take good care of myself.	15 (6.2)	148 (62.9)	53 (22.7)	19 (8.1)
45. Attend educational programs on personal health care.	26 (11.2)	47 (20.1)	132 (56.0)	30 (12.7)
51. Seek guidance or counseling when necessary.	45 (19.1)	108 (45.9)	68 (28.9)	14 (6.0)
Physical Activity				
4. Follow a planned exercise program.	84 (35.9)	69 (29.2)	67 (28.7)	15 (6.2)
10. Exercise vigorously for 20 or more minutes at least three times a week	31 (13.2)	137 (58.4)	47 (19.9)	20 (8.6)
16. Take part in light to moderate physical activity.	23 (9.8)	120 (51.0)	58 (24.6)	34 (14.6)
22. Take part in leisure-time (recreational) physical activities.	38 (16.0)	110 (46.9)	57 (24.4)	30 (12.7)
28. Do stretching exercises at least 3 times per week.	50 (21.3)	125 (53.1)	46 (19.4)	15 (6.2)
34. Get exercise during usual daily activities.	58 (24.6)	115 (48.8)	54 (23.0)	8 (3.6)
40. Check my pulse rate when exercising.	37 (15.7)	115 (49.0)	62 (26.3)	21 (8.9)
46. Reach my target heart rate when exercising.	63 (26.8)	67 (28.5)	55 (23.4)	50 (21.3)
Nutrition				
2. Choose a diet low in fat, saturate fat, and cholesterol.	13 (5.7)	132 (56.1)	61 (25.8)	29 (12.4)
8. Limit use of sugars and food containing sugar (sweets).	40 (17.2)	103 (43.8)	51 (21.8)	40 (17.2)
14. Eat 6-11 servings of bread, cereal, rice and pasta each day.	59 (25.1)	106 (45.2)	58 (24.6)	12 (5.0)
20. Eat 2-4 servings of fruit each day.	42 (17.9)	93 (39.7)	76 (32.3)	24 (10.0)
26. Eat 3-5 servings of vegetables each day.	34 (14.6)	105 (44.6)	65 (27.6)	31 (13.2)
32. Eat 2-3 servings of milk, yogurt or cheese each day.	20 (8.4)	131 (55.7)	43 (18.4)	41 (17.5)
38. Eat only 2-3 servings from the meat, poultry, fish, dried beans, eggs, and nuts group each day.	52 (22.0)	110 (46.7)	31 (13.4)	42 (17.9)
44. Read labels to identify nutrients, fats, sodium content in packaged food.	22 (9.6)	47 (20.1)	126 (53.8)	39 (16.5)
50. Eat breakfast	7 (2.9)	25 (10.8)	62 (26.3)	121 (51.4)
Self-Realization				
6. Feel I am growing and changing in positive ways.	18 (7.7)	142 (60.3)	50 (21.3)	25 (10.8)
12. Believe that my life has purpose.	10 (4.2)	44 (18.9)	64 (27.2)	117 (49.7)
18. Look forward to the future.	12 (5.1)	37 (15.6)	53 (22.6)	133 (56.7)
24. Feel content and at peace with myself.	7 (3.1)	27 (11.5)	94 (40.2)	106 (45.2)
30. Work toward long-term goals in my life.	14 (6.0)	30 (12.9)	73 (30.9)	118 (50.2)
36. Find each day interesting and challenging.	8 (3.3)	47 (19.9)	150 (63.6)	31 (13.2)
42. Am aware of what is important to me in life.	19 (7.9)	29 (12.2)	126 (53.6)	62 (26.3)
48. Feel connected with some force greater than myself.	41 (17.5)	77 (32.8)	89 (38.0)	28 (11.7)
52. Expose myself to new experiences and challenges.	32 (13.6)	116 (49.3)	57 (24.2)	30 (12.9)
Interpersonal Relationship				
1. Discuss my problems and concerns with people close to me.	83 (35.4)	58 (24.6)	50 (21.3)	44 (18.7)
7. Praise other people easily for their achievements.	94 (40.0)	63 (26.8)	55 (23.2)	24 (10.0)
13. Maintain meaningful and fulfilling relationships with others.	57 (24.2)	106 (45.0)	52 (22.2)	20 (8.6)
19. Spend time with close friends.	17 (7.4)	49 (20.8)	120 (51.0)	49 (20.8)
25. Find it easy to show concern, love and warmth to others.	33 (13.9)	102 (43.3)	61 (26.1)	39 (16.7)
31. Touch and am touched by people I care about.	48 (20.3)	110 (46.9)	51 (21.8)	26 (11.0)
37. Find ways to meet my needs for intimacy.	29 (12.4)	147 (62.4)	40 (17.2)	19 (7.9)
43. Get support from a network of caring people.	6 (2.6)	64 (27.0)	111 (47.4)	54 (23.0)
49. Settle conflicts with other through discussion and compromise.	19 (7.9)	56 (23.7)	121 (51.4)	40 (17.0)
Stress Management				
5. Get enough sleep.	63 (26.8)	115 (49.0)	44 (18.7)	13 (5.5)
11. Take some time for relaxation each day.	5 (2.2)	61 (25.8)	126 (53.8)	43 (18.2)
17. Accept those things in my life which I cannot change.	46 (19.6)	135 (57.4)	49 (21.1)	27 (11.5)
23. Concentrate on pleasant thoughts at bedtime.	38 (16.0)	72 (30.6)	96 (40.7)	30 (12.7)
29. Use specific methods to control my stress.	20 (8.4)	59 (25.1)	115 (48.8)	42 (17.7)
35. Balance time between work and play.	11 (4.8)	46 (19.4)	130 (55.5)	48 (20.3)
41. Practice relaxation or mediation for 15-20 minutes daily.	40 (17.0)	130 (55.3)	43 (18.4)	22 (9.3)
47. Pace myself to prevent tiredness.	37 (15.6)	102 (43.5)	61 (26.1)	35 (14.8)

According to the results of the six HPLP-II components, the highest mean score belonged to self-realization (2.83±0.61) while the lowest mean score belonged to physical activity (1.97±0.62). The mean overall HPLP-II score was 2.41±0.52 (Table 3).

Table 3: Distribution of the studied participants by HPLP-II scores

HPLP-II Dimensions	D M Mean ±SD	Range
Health responsibility	2.27± 0.51	1.36-3.
Physical activity	1.98± 0.67	1.25-3.54
Nutrition	2.34± 0.49	1-3.67
Self-realization	2.83± 0.61	1.5-4
Interpersonal relationship	2.52± 0.57	1.37-4
Stress management	2.31± 0.48	1.25-3.63
Overall HPLP-II Score	2.41± 0.52	1.25-3.64

The distribution of participant medical staff by mean HPLP-II score and certain socio-demographic characteristics showed that there was a statistically significant difference in the mean HPLP-II score in regard with gender, marital status, profession, BMI, smoking, and physical exercise. The mean HPLP-II score was significantly higher among male participants (2.49, P=0.001), married participants (2.51, P= 0.011), medical doctors (2.67, P=0.001), and those who had normal weight (2.71, P=0.004). Further, the mean HPLP-II was significantly higher among nonsmoker participants (2.65, P= 0.001) and the participants with active physical exercise (2.79, P=0.009). No significant difference ($p \geq 0.05$) was found between the mean HPLP-II and the other socio-demographic factors (Table 4).

Table 4: Distribution of the participants by HPLP-II scores and baseline characteristics

Baseline Characteristics	HPLP-II Score, Mean ± SD	P-Value
Age (Years)		
< 25	2.23±0.46	**0**.443
25-29	2.25±0.51	
30-34	2.24±0.48	
35-39	2.23±0.54	
≥ 40	2.27±0.41	
Gender		
Male	2.49±0.38	0.001
Female	2.05±0.43	
Marital Status		
Single	2.22±0.41	0.011
Married	2.51±0.37	
Widowed or Divorced	2.17±0.51	
Profession		
Medical Doctor	2.67±0.42	0.001
Dentist	2.29±0.45	
Pharmacist	2.15±0.37	
Working Years		
< 5	2.40±0.48	0.063
5-10	2.23±0.45	
> 10	2.34±0.51	
BMI		
Underweight	2.40±0.49	0.004
Normal	2.71±0.51	
Overweight	1.95±0.43	
Obese	1.97±0.56	
Chronic Disease		
Yes	2.23±0.59	0.998
No	2.23±0.53	
Smoking		
Current Smoker	1.93±0.55	0.001
Ex-smoker	2.14±0.39	
Non-smoker	2.65±0.34	
Alcohol Drinking		
Yes	2.15±0.51	0.084
No	2.24±0.47	
Physical Exercise		
Active	2.79±0.36	0.009
Sedentary	2.12±0.54	
Annual Checking		
Yes	2.44±0.52	0.097
No	2.37±0.48	

Discussion

Health is a global concern, and empirical evidence suggests that empowering individuals to adopt health-promoting behaviors is more effective than solely managing diseases [11]. Lifestyle encompasses daily habits that influence mental and physical health, including diet, physical activity, sleep, and substance use. An unhealthy lifestyle is a primary risk factor for chronic diseases and mortality [12]. The HPLP-II questionnaire, developed by Walker *et al*., is widely used to assess health-promoting behaviors [10]. In this study, 235 medical staff working in primary health care centers were assessed. The mean age was 32.13±6.69 years, with the

majority aged 30-34 years. More than half were females and married. Less than half were medical doctors, about one-third were dentists, and the remaining were pharmacists. The mean BMI was 24.73±3.40 kg/m², with two-thirds having a normal BMI. Compared to Al-Momani *et al*. (2021), whose sample had a mean age of 21.9±1.0 years and a BMI of 24.9±6.4 kg/m², variations in sample size, education, and socioeconomic factors contributed to differences in findings [13]. Similar studies by Azami *et al*. (2021) and Alzahrani *et al*. (2019) reported mean BMIs of 22.32±3.36 kg/m² and 25.1±5.2 kg/m², respectively, with different age distributions and sample compositions [14, 15]. Regarding HPLP-II components, self-realization had the highest mean score (2.83±0.61), while physical activity had the lowest (1.97±0.62). The overall HPLP-II mean score was 2.41±0.52. Compared to Al-Momani *et al*. (2021), where the total mean score was 3.39±0.49 with spiritual growth being the highest (3.75±0.69) and health responsibility the lowest (3.23±0.66), the present study found lower scores overall [13]. Similarly, Azami *et al*. (2021) reported a mean HPLP-II score of 2.25, with interpersonal relationships ranking highest (2.60±0.52) and physical activity the lowest (1.97±0.62) [14]. The findings in Alzahrani *et al*. (2019) differed, as their total mean HPLP-II score was 123.8±19.8, with spiritual growth scoring highest (25.5±4.9) and physical activity lowest (16.7±5.3) [15]. These variations may be attributed to differences in study design, cultural influences, and health awareness among participants. Significant associations were found between the mean HPLP-II score and gender, marital status, profession, BMI, smoking, and physical exercise ($P<0.05$). Male participants, married individuals, medical doctors, those with normal BMI, non-smokers, and physically active individuals had significantly higher scores. However, no significant association was observed with age, years of work, chronic diseases, alcohol consumption, or annual health check-ups ($p\geq0.05$). This aligns with Al-Momani *et al*. (2021), where males had higher physical activity scores, while females had higher health responsibility scores ($P<0.001$) [13]. Azami *et al*. (2021) also found higher HPLP-II scores among married participants ($P=0.025$), males ($P=0.0001$), and non-smokers ($p\leq 0.0001$) but no association with age or BMI ($p>0.05$) [14]. In contrast, Alzahrani *et al*. (2019) reported significantly higher stress management and physical activity scores among males but no significant difference in total HPLP-II scores across gender, marital status, or residency [15]. Discrepancies in findings may stem from variations in study design, sample sizes, and participant characteristics. Education and training play a crucial role in promoting awareness of healthy behaviors, and younger individuals are generally more engaged in physical activities. Gender differences also influence lifestyle behaviors, with males more likely to engage in physical activity, while females may prioritize family and social responsibilities over exercise [16]. Lifestyle choices significantly impact health and well-being. According to WHO, 60% of an individual's health status is determined by behavior and lifestyle [17]. A health-promoting lifestyle is essential for maintaining well-being, reducing disease risk, and improving productivity. Since medical staff influence public health, assessing their lifestyle behaviors is crucial to fostering healthier communities [13]. Given the low HPLP-II scores observed, targeted interventions to promote healthy behaviors, particularly physical activity, are necessary. Findings from similar studies emphasize the need for structured health promotion programs in medical settings, supporting healthier lifestyle choices among healthcare workers [3].

Conclusion

Most of the studied medical staff had moderate HPLP-II. The highest mean scores of HPLP-II domains were for self-realization and the lowest mean scores were for physical activity. The mean HPLP-II score was significantly different in consideration to gender, marital status, profession, BMI, smoking, and physical exercise.

Conflict of Interest

Not available.

Financial Support

Not available.

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How to Cite This Article
Shaker AE, Habib HA, Abed AS. Health-promoting lifestyle profile and associated factors among medical staff working in a primary health care centers in AL-Rusafah 2022. International Journal of Advanced Community Medicine. 2025; 8(1): 99-105.