



# An Investigation into the Health-Promoting Lifestyle Practices of RNs

Study findings suggest that many nurses may not practice adequate self-care.

In February 2010, nurse leaders in Berks County, Pennsylvania, formed a grassroots nursing organization aimed at improving the health of individuals and communities by supporting evidence-based nursing practice. The organization, known as the Berks Regional Nursing Research Alliance, currently includes nurse leaders representing seven member institutions. Its major goals are to promote research and evidence-based practice and to foster collaboration among local health care institutions in the community, thus increasing the level of research expertise available to all. This article reports on findings from the alliance's first research project.

**Purpose.** The primary purpose of this study was to gather baseline data on the health-promoting lifestyle practices of RNs working in six major health care and educational institutions in a southeastern Pennsylvania community. Recognizing that all nursing actions begin with assessment, the team members agreed that describing who we are and where we are relative to health-promoting behaviors was essential to the planning of any new health-promoting interventions at the individual facilities. We also hoped that the gathered data would prove useful to future research and educational initiatives related to issues that affect the health of the RN workforce in our community and elsewhere.

## LITERATURE REVIEW

Although nurses' health, wellness, and self-care practices have received focused attention since the

mid-1970s, a literature review conducted in 2012 demonstrated an increasing interest in the lifestyle behaviors of nurses and their connection to quality of care and patient outcomes.

In 1976, with funding from the National Institutes of Health, physician Frank Speizer began a study examining the long-term health effects of oral contraceptive use in women. RNs were chosen as participants because the profession was (and is) predominately female, and because RNs were considered likely to report findings accurately because of their education and to be motivated to maintain participation during a long-term study.<sup>1</sup> This study became known as the Nurses' Health Study. In 2010, in affiliation with Harvard University, the study entered its current, third phase, recruiting new participants and widening its scope to the investigation of health issues "related to lifestyle, fertility/pregnancy, environment, and nursing exposures."<sup>2</sup>

Koloroutis and colleagues have identified self-care as being crucial to optimal patient-centered care.<sup>3</sup> Indeed, it is one of the three central caring relationships that make up the patient-centered, relationship-based care model, which underlies primary care nursing. In this model, optimal care can only be achieved when providers maintain patients and families as their central focus, when they have healthy relationships with colleagues, and when they engage in healthy self-care practices.<sup>3</sup>

In an unpublished study, Wilson examined the extent to which hospital nurses engaged in

## ABSTRACT

**Purpose:** The purpose of this study was to gather baseline data on the health-promoting lifestyle practices of RNs working in six major health care and educational institutions in a southeast Pennsylvania community.

**Methods:** A descriptive correlational study design was used. The 52-item Health-Promoting Lifestyle Profile II instrument was used to explore participants' self-reported health-promoting behaviors and measure the dimensions of health responsibility, physical activity, nutrition, interpersonal relations, spiritual growth, and stress management.

**Results:** Findings revealed that physical activity and stress management scores were low for the entire group of RNs. There were statistically significant differences between nurses 50 years of age and older and those 30 to 39 years of age for the subscales of health responsibility, nutrition, and stress management, suggesting that older nurses are more concerned about their health. There were also statistically significant differences between nurses 50 years of age and older and those 29 years of age and younger for the subscale of health responsibility. Sixty-seven percent of participants reported having too many competing priorities and had significantly lower subscale scores for spiritual growth, interpersonal relations, and stress management, as well as significantly lower total scores.

**Conclusion:** This study's findings provided baseline data that will be useful in planning health-promoting lifestyle interventions for participants specific to their institutions, and may help guide future research and educational initiatives related to numerous issues common to the RN workforce. The failure of many nurses to take adequate care of themselves needs to be better understood and addressed, by both individual nurses and their employers.

**Keywords:** health promotion, lifestyle intervention, nurses' health, nurse self-care

health-promoting self-care practices.<sup>4</sup> Such practices were linked to higher job satisfaction, greater self-responsibility, higher productivity, and better quality of care. Yet, while participants held strong beliefs that they should be role models for other nurses regarding healthy lifestyle choices, the findings showed that they didn't consistently practice such behaviors, especially exercise and stress reduction.

Several studies have investigated the relationship between nurses' workplace stress and factors that can affect job performance, such as workplace stress coping strategies, work environment, mental health, health-promoting lifestyle behaviors, compassion fatigue, and job satisfaction.<sup>5-7</sup> Coping with stress and learning how to effectively balance and manage home and work responsibilities have been noted as challenges for nurses across practice settings, reinforcing the imperative that nurses address their individual self-care needs in order to meet the demands of caring for others.

In a descriptive study of 61 recent graduate nurses employed at a midwestern university medical center, Melynk and colleagues found that higher levels of workplace stress were associated with higher levels of anxiety.<sup>6</sup> The nurses were invited to participate in a two-day workshop at the end of their three-month preceptored orientation. The workshop's purpose was to reinforce health-promoting lifestyle behaviors and attitudes, focusing specifically on energy management, proper nutrition, and physical activity. Melynk and

colleagues' work laid a foundation for further investigation of nurses' health-promoting behaviors and their impact on various outcome measures such as stress levels, mental health, workplace injury, workplace satisfaction, and job retention. Moreover, according to Harvard Health Publications, "studies suggest that people with anxiety disorders are more likely than others to seek out medical care—but for problems such as gastrointestinal distress, sleep disturbances, or heart trouble rather than for anxiety."<sup>8</sup> Such recognition is critical if nurses are to effectively address such barriers to their own optimal functioning and performance.

In another study, McElligott and colleagues examined the effects of a holistic program (called the Collaborative Care Model [CCM] program) and a self-care plan on health-promoting behaviors among 103 RNs employed at a northeastern medical center.<sup>9</sup> The health-promoting behaviors, originally identified by Pender and colleagues,<sup>10</sup> included health responsibility, "satisfying" interpersonal relations, proper nutrition, physical activity, spiritual growth, and stress management. McElligott and colleagues used the Health-Promoting Lifestyle Profile II (HPLPII) instrument to measure these behaviors, which correlate with the tool's six subscales.<sup>9</sup> The study found that, compared with controls, RNs who participated in the CCM program and developed a self-care plan reported significantly higher overall scores on the HPLPII, as well as higher scores for the interpersonal

relations, nutrition, and spiritual growth subscales. The findings add to a growing body of evidence demonstrating the benefits of workplace health-promotion programs for nurses.

An integrative literature review performed by Letvak included 18 different studies completed between 2006 and 2012 that examined the effects of various interventions and practices on nurses' health, safety, and well-being.<sup>11</sup> Based on trends identified across these studies—specifically, that health-promoting behaviors improved nurses' productivity and the quality of patient care while unhealthy behaviors contributed to increased absences and stress levels—Letvak stated that “the health of nurses can no longer be ignored.”

**Our study.** After reviewing the literature, the alliance research team determined that the most beneficial initial step would be to collect baseline data on the specific attitudes and behaviors of the study population, which was representative of our community of RNs. The HPLPII was identified and felt to be an appropriate instrument by which to gather baseline data.

names of eligible RNs was generated and those RNs were e-mailed invitations to participate in the survey. One community college declined as it lacked an institutional review board (IRB) process. All full- and part-time RNs (1,902 nurses) at the other six institutions (the community's major employers of RNs) were invited. The survey was available for one month after the initial invitation was sent, and data collection took place between November 5 and December 7, 2012. No incentives other than the opportunity to participate in a nursing research study were provided. Ethical considerations for study participants were considered and each institution's IRB reviewed and approved the investigation.

Through an introductory e-mail, participants were guided to a link on SurveyMonkey (an online platform), which contained both the HPLPII and a demographics questionnaire. We were only interested in aggregate data; therefore, no identifying measures were used and complete anonymity of each institution and participant was protected. A Research Bill of Rights was included in the invitational e-mail and participants could choose not to submit the question-

## Nurses of all ages and across all practice settings should increase their level of physical activity and manage stress more effectively in order to improve their overall health and well-being.

Two research questions guided our study:

1. What are the health-promoting lifestyle practices of RNs working in the defined community in licensed RN roles?
2. Are there relationships among the variables of age, education, nursing position, types of nursing specialty, and other demographic variables in the health-promoting lifestyle practices of RNs working in the defined community?

### METHODS

This study used a descriptive correlational design, which “examines the relationships that exist in a situation” that has already occurred or is currently occurring.<sup>12</sup> This design was deemed congruent with our research questions, as we sought simply to describe health-promoting lifestyles and identify relationships among the demographic variables. No manipulation or attempt to control a variable was made.

**Sample.** All nurses working in RN roles at the seven health care or educational institutions represented in the alliance were initially invited to participate. With the help of alliance members who served as contacts at the individual institutions, a list of

nurses even after they had begun to complete them. Each introductory e-mail and three reminder e-mails also included a copy of the recipient's consent to participate; and an explanation on the survey tool itself further indicated that completion and submission of the survey constituted such consent.

**Instrument.** The HPLPII is a widely used instrument that was initially developed to assess health promotion—those “self-initiated actions and perceptions that serve to maintain or enhance the level of wellness, self-actualization, and fulfillment of the individual.”<sup>13</sup> The original version consisted of a 48-item yes–no checklist designed for use as a clinical nursing tool. The revised and updated version was released in 1995.<sup>14</sup> It consists of a 52-item scale that uses a four-point ordinal response format ranging from 1 (never) to 4 (routinely) to measure the frequency of self-reported health-promoting behaviors. Its six subscales have eight to nine items each and measure six dimensions of health-promoting lifestyles: health responsibility, interpersonal relations, nutrition, physical activity, spiritual growth, and stress management.<sup>15</sup> This instrument enables researchers “to investigate patterns and determinants of [a] health-promoting lifestyle.”<sup>13</sup>

Psychometric evaluation of the tool has been extensive, both in the original sample of 712 adults<sup>14</sup> and in a myriad of subsequent studies reported in the literature. The total scale has been found to have high internal consistency, with a reported alpha coefficient of 0.94; the subscales have acceptable internal consistency, with alpha coefficients ranging from 0.79 to 0.87.<sup>15</sup> Test–retest stability has been reported as  $r = 0.89$ . Content, construct, convergent, and criterion-related validity have been established. Multiple language versions have also been tested.

A demographic instrument was also used in this study and included variables that served to describe the sample population. On that tool, we asked participants two additional questions: “Do you consider yourself healthy?” and “Do you feel you have too many competing priorities?”

**Data analysis** consisted of descriptive statistics, such as mean and standard deviation. Additional analyses were conducted to examine differences between study variables and responses to other demographic data questions. These included Pearson correlation coefficient, independent  $t$  test, and one-way analysis of variance (ANOVA) computations. For all statistical tests with  $P$  values, values less than 0.05 were considered to be significant. For the ANOVA tests, the overall  $P$  value for each analysis was reported and, when a significant result was found, post-hoc tests were performed using the Scheffé test or others, such as the Tukey test, the least significant difference test, and the Student–Newman–Keuls test. These results were reported in terms of whether one group’s results differed significantly from those of other groups. Because this study was exploratory in nature, we decided not to correct for multiple comparisons.

## FINDINGS

**Sample.** A total of 494 RNs answered the online survey, a response rate of 26%. Of these, 94.6% were female and 5% male, ranging in age from 21 to 68 years (mean, 44 years); 0.4% preferred not to answer. The number of years of practice as an RN ranged from less than one to 54 years (mean, 17.7 years). The number of hours per week worked varied from 0.4 to 40 hours (mean, 40 hours per week). The type of positions held by participants varied widely, with the highest number of RNs serving on acute medical–surgical units ( $n = 82$ ).

**Research question 1.** As measured by the HPLPII, the subscale scores for physical activity ( $n = 448$ ; mean, 17.67) and stress management ( $n = 455$ ; mean, 19.03) revealed lower mean scores for all participants as compared with the other subscale scores (see Table 1). Both subscales consisted of eight items, with a range of possible scores from 8 to 32.

**Research question 2.** There were no statistically significant correlations among the variables of age, education, nursing position, or type of nursing specialty

**Table 1.** Health-Promoting Lifestyle Practices as Measured by the Health-Promoting Lifestyle Profile II<sup>a</sup>

Scale	Items	n	Mean Score	SD
Total	52	382	137.45	22.94
Health responsibility	9	452	22.21	4.72
Physical activity	8	448	17.67	5.64
Nutrition	9	433	23.97	4.51
Spiritual growth	9	441	27.31	5.05
Interpersonal relations	9	445	27.31	4.61
Stress management	8	455	19.03	4.23

<sup>a</sup>Participants who missed one or more items on a given scale or subscale were excluded from data analysis, to ensure that incomplete responses didn’t alter the calculated means. Total  $n$  is smaller than  $n$  for any given subscale because relatively fewer participants answered all of the questions and completed all of the subscales.

and the HPLPII total and subscale scores. Pearson correlation coefficients were computed to answer this research question, since the study was exploratory in nature and the researchers were interested in exploring relationships among variables.

**Additional analyses.** Participants were asked to respond to the question “Do you consider yourself healthy?” using a four-point Likert scale (response options were 4 = strongly agree, 3 = agree, 2 = disagree, and 1 = strongly disagree). The researchers then combined the data into two groups, one for “strongly agree” and “agree” responses and one for “disagree” and “strongly disagree” responses, since there were only three “strongly disagree” responses. Of the 457 participants who responded to this question, a majority (391; 85.6%) considered themselves healthy. An independent  $t$  test was then done to determine the differences in the scores on the HPLPII between participants who agreed and those who disagreed. Participants who agreed that they were healthy had higher mean scores on all health-indicator subscales (see Table 2).

Participants were asked to respond to the question “Do you feel you have too many competing priorities?” using the same four-point Likert scale. The examples provided for competing priorities were nursing school, home life, soccer club, family, aging parents, and church. The researchers combined the data into two groups, one for “strongly agree” and “agree” responses and one for “disagree” and “strongly disagree” responses, since there were only 10 “strongly disagree” responses. Of the 457 participants who responded to this question, a majority (306; 66.9%) indicated that they had too many competing priorities. An independent  $t$  test was then done to determine the differences in the scores on the HPLPII

between participants who agreed and those who disagreed. Participants who agreed that they had too many competing priorities had lower mean scores on every subscale within the health-indicator instrument, although the differences for health responsibility, nutrition, and physical activity weren't statistically significant (see Table 3).

One-way ANOVA was computed to determine whether there were differences among participant age groups (29 years and younger, 30 to 39 years, 40 to 49 years, and 50 years and older) in the HPLPII results. There were no statistically significant differences for total mean scores or in the subscales of physical activity, spiritual growth, or interpersonal relations. The 50-years-and-older group had significantly higher mean scores for the subscales of health responsibility, nutrition, and stress management, compared with the 30-to-39-years group, as well as a significantly higher mean score for the subscale of health responsibility compared with the 29-years-and-younger group (see Table 4 at <http://links.lww.com/AJN/A73>).

One-way ANOVA was also computed to determine whether there were differences among nursing position groups (staff nurses, nurse managers, clinical educators, and faculty). There were no statistically significant differences in subscale scores for physical activity, nutrition, and stress management. Analysis of the post-hoc tests revealed several statistically significant differences. For example, for the subscale health responsibility, there were statistically significant differences ( $P < 0.001$ ) between staff nurses versus nurse managers and faculty; and for clinical educators versus faculty (see Table 5 at <http://links.lww.com/AJN/A73>). It should be noted that because sample sizes for the nurse manager, clinical educator, and faculty groups were small, interpretation requires caution.

Analysis of data regarding years of practice as an RN revealed statistically significant differences among the subscales of health responsibility ( $P = 0.001$ ), nutrition ( $P = 0.009$ ), and stress management ( $P = 0.027$ ). But Pearson correlation coefficient calculations revealed no meaningful relationships (see Table 6 at <http://links.lww.com/AJN/A73>). Analysis of data regarding highest level of education revealed that, for the subscale spiritual growth, there was a statistically significant difference ( $P = 0.023$ ) for nurses with doctorates versus those with associate's or bachelor's degrees (see Table 7 at <http://links.lww.com/AJN/A73>).

## DISCUSSION

Findings relevant to research question 1 showed that participants had lower scores in the physical activity and stress management subscales than they did in other subscales or in the total HPLPII score. There were no significant correlations among the variables of age, education, nursing position, and type of nursing specialty. Further data analysis revealed more detail. With regard to total HPLPII scores, when we looked at results by nursing position, staff nurses had a significantly lower total mean score compared with nurse managers. Significant mean score differences were also found for the subscales of health responsibility (staff nurses versus nurse managers and faculty, and clinical educators versus faculty); spiritual growth (staff nurses versus faculty); and interpersonal relations (staff nurses versus faculty). Score differences were also found when we looked at HPLPII results by age groups. Participants ages 50 years and older had significantly higher mean scores in the subscales of health responsibility, nutrition, and stress management than those ages 30 to 39 years. And compared with participants ages 30 to 39 years, those ages 50 years

**Table 2.** Health-Promoting Lifestyle Profile II and 'Do You Consider Yourself Healthy?'<sup>a</sup>

Scale	Agree			Disagree			<i>t</i>	<i>P</i>
	<i>n</i>	Mean Score	SD	<i>n</i>	Mean Score	SD		
Total	325	140.9	21.4	51	116.9	20.5	7.476	< 0.001
Health responsibility	381	22.7	4.6	65	19.4	4.5	5.375	< 0.001
Physical activity	377	18.5	5.5	65	13.2	3.9	9.476	< 0.001
Nutrition	368	24.5	4.5	59	21.1	3.5	6.622	< 0.001
Spiritual growth	371	28.0	4.6	64	23.6	5.6	6.024	< 0.001
Interpersonal relations	376	27.9	4.4	63	24.3	4.7	5.921	< 0.001
Stress management	384	19.6	4.1	65	15.8	3.5	7.914	< 0.001

<sup>a</sup>Participants who missed one or more items on a given scale or subscale were excluded from data analysis, to ensure that incomplete responses didn't alter the calculated means. Total *n* is smaller than *n* for any given subscale because relatively fewer participants answered all of the questions and completed all of the subscales.



**Table 3.** Health-Promoting Lifestyle Profile II and ‘Do You Feel You Have Too Many Competing Priorities?’<sup>a</sup>

Scale	Agree			Disagree			t	P
	n	Mean Score	SD	n	Mean Score	SD		
Total	253	135.7	22.1	123	141.8	23.8	2.443	0.015
Health responsibility	299	22.2	4.7	147	22.5	4.7	0.650	0.516
Physical activity	296	17.4	5.4	146	18.4	6.1	1.809	0.071
Nutrition	285	23.8	4.5	142	24.4	4.6	1.228	0.220
Spiritual growth	292	26.9	5.0	143	28.2	4.9	2.309	0.021
Interpersonal relations	294	27.0	4.6	145	28.0	4.6	2.226	0.027
Stress management	299	18.1	3.9	150	20.9	4.1	6.874	< 0.001

<sup>a</sup>Participants who missed one or more items on a given scale or subscale were excluded from data analysis, to ensure that incomplete responses didn't alter the calculated means. Total n is smaller than n for any given subscale because relatively fewer participants answered all of the questions and completed all of the subscales.

and older had higher mean scores in all six subscales and for total HPLPII scores, suggesting that older nurses may be more concerned about their health.

Findings relevant to research question 2 showed that 66.9% of participants indicated that they had too many competing priorities. Compared with those who did not so indicate, these participants had significantly lower mean total scores on the HPLPII, as well as in the subscales of spiritual growth, interpersonal relations, and stress management. They also had lower mean scores in the other three subscales, although these differences weren't statistically significant. Taken together, this suggests that nurses who feel they have too many competing priorities may perform fewer health-promoting activities. There were no significant correlations or differences found when we looked at HPLPII results and education level, years in practice, years at current organization, and nursing specialty.

The findings from this study related to physical activity and stress management are consistent with findings from the Nurses' Health Study.<sup>16</sup> Both support the idea that nurses of all ages and across all practice settings should increase their level of physical activity and manage stress more effectively in order to improve their overall health and well-being. And the American Nurses Association (ANA) defines a healthy nurse as “one who actively focuses on creating and maintaining a balance and synergy of physical, intellectual, emotional, social, spiritual, personal and professional well-being.”<sup>17</sup> Yet, as Battaglini cautioned readers of *American Nurse Today* recently, “At the end of a long shift taking care of others, we sometimes fail to take the best care of ourselves.”<sup>18</sup>

This study is a timely addition to the growing body of research investigating RNs' health and well-being. It's also in sync with initiatives such as the ANA's

HealthyNurse Health Risk Appraisal and Web Wellness Portal ([www.anahra.org](http://www.anahra.org)),<sup>19</sup> which are beginning to address the need for nurses to take better care of themselves so they can better care for others.

**Limitations.** The study's cross-sectional design meant that the data collected were gathered at one point in time; data gathered at another time might yield different results. Because participants were solicited from a limited geographical area and were a convenience sample, the results may have limited generalizability. The low overall response rate to the survey invitation might also be viewed as a limitation when considering the generalizability of the findings.

## Nurses who feel they have too many competing priorities may perform fewer health-promoting activities.

### IMPLICATIONS AND CONCLUSIONS

As this was the first study conducted as a collaborative effort by alliance members and the institutions they represent, it marks a first step toward improving the health of the local RN workforce. The study provided baseline data on the health-promoting lifestyle practices of RNs working in six local institutions. Aggregate data were distributed to each of these institutions, so that they would have current evidence on which to base future initiatives. Many alliance members have begun to discuss the findings with nurse leaders and other administrators at their facilities and to help develop institutional plans for

promoting RNs' health. Indeed, after we disseminated the study findings, one institution began an initiative to explore its employees' knowledge about their existing wellness benefits, as well as other benefits that they may have forgotten or overlooked. This study's findings may also serve as a stepping stone to future research and educational initiatives outside our local community.

In 2011 the Long-Range Policy Committee of the American Hospital Association (AHA) issued the report *A Call to Action: Creating a Culture of Health*.<sup>20</sup> Citing as one basis the national public health goals established by Healthy People 2020, the report recommended that hospitals become leaders in creating a culture of health within their facilities and in their communities. Our findings should demonstrate to the six institutions represented by study participants that now is the time to do just that.

The failure of many nurses to take adequate care of themselves needs to be better understood and addressed by both individual nurses and their employers. Encouraging nurses to make healthy lifestyle changes is best approached by fostering internal motivation and increasing external incentives at the personal and organizational levels. For example, an individual's strong desire for better health can act as an internal motivation, leading her or him to take specific actions such as quitting smoking or going to the gym more often; and an organization's offer of health insurance rebates for nonsmokers or free gym memberships can serve as external motivations. If nurses perceive improving their self-care as high priority and view our findings as a basis for action, this will aid in creating that culture of health.

The AHA further recommended that institutions focus on the sustainability of employee health-promotion initiatives, stating that "for program effectiveness, hospitals must motivate employees over time, effectively communicate, and constantly reinforce wellness as a leadership priority."<sup>20</sup> It's been demonstrated that nurses' health affects nurses' workplace productivity and job retention,<sup>21</sup> which have direct financial implications and offer institutions a clear incentive for making needed changes. In short, this study's findings underscore the importance of the AHA's call to action, and indicate that nurses' health and well-being should become long-term priorities, both for health care institutions and their surrounding communities. ▼

For 98 additional continuing nursing education activities related to professional issues, go to [www.nursingcenter.com/ce](http://www.nursingcenter.com/ce).

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