

Is a Healthy Lifestyle Related to Stress, Parenting Confidence, and Health Symptoms among New Fathers?

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Des habitudes de vie saines sont généralement reconnues comme un facteur important dans la prévention de la maladie et de l'invalidité. Dans la présente étude, on a cherché à découvrir si, en regard de la transition vers le rôle de père, un lien pouvait être établi entre, d'une part, un mode de vie sain et, d'autre part, le degré de stress perçu par le sujet, la confiance ressentie à l'égard de ce rôle, et les indices de santé physique. Les données recueillies auprès de 87 pères ont été étudiées dans le but d'établir un rapport entre le mode de vie, évalué selon six sous-échelles tirées du Profil d'un mode de vie sain (HPLP), et les éléments ci-mentionnés. En règle générale, on a pu constater qu'un mode de vie sain, en particulier en ce qui concerne les échelles de réalisation de soi et de gestion du stress du HPLP, était lié à un moindre degré de stress, une plus grande confiance en soi en tant que père, et un nombre moins élevé de symptômes physiques; plus les scores étaient élevés sur le plan de l'exercice physique et de la recherche de soutien interpersonnel et plus l'assurance en tant que parent était élevée. De plus, on a pu constater qu'il existait un lien entre un score élevé sur l'échelle mesurant le degré d'approbation sociale et un moindre degré de stress. Les auteures concluent que l'adoption de comportements sains pourrait constituer un atout personnel important en matière de préservation de la santé et de promotion du bien-être chez les nouveaux pères.

A healthy lifestyle is widely recognized as important in preventing disease and disability. This study examined whether in the transition to fatherhood a healthy lifestyle was related to perceived stress, parenting confidence, and physical health symptoms. Survey data from 87 fathers were examined for relationships between lifestyle, measured by 6 subscales of the Health Promoting Lifestyle Profile (HPLP), and perceived stress, parenting confidence, and health symptoms. In general, a healthier lifestyle, especially HPLP self-actualization and stress-management subscales, was related to less perceived stress, more parenting confidence, and fewer health symptoms. Higher HPLP nutrition and exercise scores were related to fewer health symptoms; higher exercise and seeking-interpersonal-support scores were related to higher parenting confidence. Also, higher social desirability scores, a confounding influence, were related to less perceived stress. The authors conclude that health-promotion behaviours may be an important personal resource in maintaining health and promoting well-being among new fathers.

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A healthy lifestyle exemplified by good nutrition, adequate exercise, and stress management is widely recognized as important in preventing disease and disability (Federal, Provincial and Territorial Advisory Committee on Population Health, 1994; McGinnis & Foege, 1993; U.S. Department of Health and Human Services, 1991). Still unexplored, however, are the potential benefits of a healthy lifestyle during normal but challenging life transitions such as fatherhood. Research on healthy lifestyle during the transition to fatherhood is very limited. Thus this study examined relationships between healthy lifestyle and perceived stress, parenting confidence, and physical health symptoms among new fathers.

Background

The Transition to Fatherhood

Becoming a father brings challenges of mastering a new or expanded role in the family. In addition to forming an emotional bond to the baby, a father must reorganize his life to accommodate a new person in the family, a task described as "making room for the baby" (Anderson, 1996, p. 90). Mastery of the role is reflected by fathers' self-confidence in "their decisions and responses in caring for their child" (Ferketich & Mercer, 1995, p. 93). Studies have shown that becoming a father results in varying degrees of stress (Alpert, Richardson, & Fodaski, 1983; Russell, 1974). Fatherhood also comes with some costs, such as decline in health status. For example, Ferketich and Mercer (1989) found that new fathers reported declines in perceived health status from shortly after the child's birth to 8 months later. At the same time, the number of their physical symptoms progressively increased but did not reach levels experienced during the pregnancy. Moreover, research on the transition to fatherhood has focused on changes experienced by first-time fathers (Hangsleben, 1983; Russell), largely ignoring the impact of subsequent births on fathers. There is no reason to assume that fathers' levels of stress, health status, and parenting remain static with the birth of a second or subsequent child. For example, Ferketich and Mercer (1989) report that having a larger number of children is related to less favourable reports of health at 4 months; similarly, Grace (1993) reports that second-time motherhood is more stressful than first-time motherhood.

As a foundation for interventions with fathers, research has examined predictors of parenting and health among new fathers (Hangsleben, 1983; Mercer & Ferketich, 1989, 1995). The focus of these studies has been situational or psychosocial predictors, such as marital adjust-

ment, partner support, self-esteem, depression, and feelings about labour and delivery. Many of these predictors are not immediately amenable to change, are costly to modify, or are outside the immediate control of fathers themselves. In contrast, health-promoting lifestyle behaviours may be more readily modified through self-initiated change and possibly through intervention-based efforts.

Health-Promoting Lifestyle

Walker, Sechrist, and Pender (1987) define a health-promoting lifestyle as "a multidimensional pattern of self-initiated actions and perceptions that serve to maintain or enhance the level of well-being, self-actualization, and fulfillment of the individual" (p. 77). Proposed dimensions of such a lifestyle are reflected in the HPLP on subscales that measure self-actualization, health responsibility, nutrition, exercise, interpersonal support, and stress management. Among new mothers, such a health-promoting lifestyle was related significantly to positive attitudes towards their parenting — i.e., maternal identity (Walker, 1989b). It is noteworthy that contemporary books on fathering give little or no attention to the health of fathers (Bronstein & Cowan, 1988; Hanson & Bozett, 1985; Lewis & O'Brien, 1987; Mackey, 1996; Marsiglio, 1995; Snarey, 1993) except for depression (Cath, Gurwitt, & Gunsberg, 1989; Lamb & Sagi, 1983) or symptoms during pregnancy (Robinson & Barrett, 1986). This represents a significant gap in men's health. Although the impact of a health-promoting lifestyle has not been previously tested among new fathers, it may be a resource in mastering stresses during the transition to fatherhood and in preventing declines in health status. As a further benefit, a health-promoting lifestyle may bolster self-confidence in the parenting role.

Exploring the relationships between fathers' lifestyle and their perceived stress, parenting confidence, and physical health symptoms also requires considering certain background variables as confounding influences. Fathers' self-reports of parenting confidence are likely to be influenced by the wish to present themselves in a socially favourable light (Preski & Walker, 1997). Thus control for social desirability is warranted. Similarly, income as an index of socio-economic status may be related to parenting confidence (Preski & Walker) and health behaviours (Preski & Walker; Walker, 1989a). The number of children in the family also may be related to health status (negatively) and to parenting confidence (positively) (Ferketich & Mercer, 1989, 1995).

Purpose

The purpose of this study was to test whether a healthy lifestyle was related to new fathers' perceived stress, parenting confidence, and physical health symptoms, after controlling for confounding variables of social desirability, income, and number of children. A healthy lifestyle included the dimensions of self-actualization, health responsibility, nutrition, exercise, interpersonal support, and stress management. The research questions addressed were:

Are fathers' social desirability scores, income, and number of children related to dimensions of fathers' health-promoting lifestyle, perceived stress, parenting confidence, and physical health symptoms?

After controlling for the possible influences of social desirability, income, and number of children, are fathers' health-promoting lifestyle dimensions related to perceived stress, parenting confidence, and physical health symptoms?

Method

Design and Procedures

After approval had been secured, a health-related questionnaire was mailed to 232 new fathers as part of a larger descriptive correlational survey of health patterns of new parents (Walker, 1996; Walker, Walker, & Walker, 1994). Names and addresses of fathers with singleton newborns were systematically selected (every seventh name) from birth announcements published in a newspaper circulated in northern Indiana and southwestern Michigan in the United States. Four reminder notices were sent to nonresponders.

Sample

Of the 232 questionnaires that were sent, 12 were returned by the postal service as undeliverable. A total of 96 fathers (41%) returned completed questionnaires; two fathers declined to participate and one father indicated that his infant had died, rendering him ineligible. Two fathers were excluded for serious illness, while one was excluded because he had an unusually large number of health problems. Eight additional cases were excluded because of missing data on one or more of the key study variables. Thus the final sample for analysis was 87, representing 39.5% of the 220 deliverable questionnaires.

Instruments

The questionnaire packet included a demographic questionnaire and instruments to measure healthy lifestyle, perceived stress, physical health symptoms, parenting confidence, and social desirability. The demographic questionnaire contained items on sociodemographic variables such as age, race, employment, family configuration, and birth-related data. Total yearly family income was rated on a 5-point scale: (1) under \$15,000, (2) \$15,000 to \$29,999, (3) \$30,000 to \$44,999, (4) \$45,000 to \$59,999, and (5) \$60,000 or above.

Healthy lifestyle. The HPLP is 48-item instrument designed to measure health-related behaviours and perceptions (Walker et al., 1987). The HPLP has been applied successfully as a measure of lifestyle in a wide variety of populations, such as older adults (Walker, Volkan, Sechrist, & Pender, 1988), blue-collar workers (Weitzel, 1989), and new mothers (Walker, 1989a, 1989b). The HPLP consists of six subscales validated by factor analysis: self-actualization (13 items), health responsibility (10 items), exercise (5 items), nutrition (6 items), interpersonal support (7 items), and stress management (7 items). Second-order factor analysis resulted in extraction of one factor. Each item is rated on a 4-point scale: never, sometimes, often, routinely. Sample items include: *am enthusiastic and optimistic about life* (self-actualization); *report any unusual signs and symptoms to a physician* (health responsibility); *read labels to identify the nutrients in packaged foods* (nutrition); *exercise vigorously for 20–30 minutes at least 3 times per week* (exercise); *maintain meaningful and fulfilling interpersonal relationships* (interpersonal support); and *take some time to relax each day* (stress management). Higher scores on the HPLP represent more healthful lifestyles. Walker et al. (1987) reported that internal consistency for the whole scale was .92; alpha coefficients for subscales ranged from .70 to .90. Test-retest reliability over an interval of 2 weeks indicated stability of the instrument ($r = .93$). In this sample the alpha coefficients for subscales was as follows: self-actualization, .91; health responsibility, .83; exercise, .83; nutrition, .76; interpersonal support, .75; and stress management, .65.

Perceived stress. The Perceived Stress Scale (PSS), a 14-item self-report scale, was used to measure fathers' perception of stress (Cohen, Kamarck, & Mermelstein, 1983; Cohen & Williamson, 1988). The PSS has been applied successfully as a measure of perceived stress in a wide variety of populations, such as college students (Kuiper, Olinger, & Lyons, 1986), persons undergoing biomedical research (Cohen, Tyrrell, & Smith, 1991), and new mothers (Walker, 1989a, 1989b). The PSS mea-

asures the degree to which persons find "their lives unpredictable, uncontrollable, and overloading" (Cohen et al., 1983, p. 387). For example, "In the last month, how often have you found that you could not cope with all the things you had to do?" Items are rated on a 5-point scale, ranging from "never" (0) to "very often" (4). The PSS is scored by reversing responses to seven positively worded items and then summing responses to all items. Higher scores represent higher levels of perceived stress. Coefficient alpha reliability for the PSS ranges from .84 to .86 and short-term test-retest reliability is .85. Evidence for concurrent and predictive validity is derived from correlations with life-event scores and mental and physical health outcomes. The PSS exceeds life events as an effective predictor of a wide variety of outcomes. Norms have been established using 960 male and 1,427 female residents of the United States (Cohen & Williamson). In the present study, the alpha coefficient for the PSS was .84.

Parenting confidence. In this study, fathers' parenting confidence was measured by modifying the Lips Maternal Self-Confidence Scale (LMSCS) (Bloom & Lips, 1988) for use with fathers. For example, items were re-worded from "Motherhood is more difficult than I thought it would be" to "Fatherhood is more difficult than I thought it would be." This parallelism in items was maintained because the larger survey was aimed at comparing mothers' and fathers' responses. The LMSCS underwent psychometric evaluation with 177 women on their second and third postpartum days. Test-retest reliability was .88 and internal consistency was .88 and .91 on the second and third days, respectively. The instrument consists of 24 items rated on a 6-point scale from "strongly agree" to "strongly disagree." Higher scores represent higher levels of parenting confidence. In this sample, the alpha coefficient for the parenting self-confidence scale was .88, indicating high internal consistency. Since this is the first study to use the LMSCS modified for fathers, validity data for this instrument are not available.

Physical health symptoms. Symptoms were measured by a 5-item checklist developed for this study. The checklist was similar to one used by Ferketich and Mercer (1989). Fathers were asked to indicate if, during the preceding month, they had any of the following or other health problems: cold, diarrhea or vomiting, muscle or joint strain, or severe headache. A total symptom score, ranging from 0 to 5, was tallied by summing all symptoms selected by fathers.

Social desirability. A short version of the Marlowe-Crowne Social Desirability Scale (M-C SDS) (Crowne & Marlowe, 1964; Strahan & Gerbasi, 1972) was used to measure social desirability. The M-C 20 has

been used successfully with new mothers as an index of socially desirable responses (Preski & Walker, 1997). The scale measures the extent to which persons "describe themselves in favorable, socially desirable terms in order to achieve the approval of others" (Robinson & Shaver, 1973, p. 727). Correlation between the 20-item version used in this study (M-C 20) and the original 50-item M-C SDS was in the range of .90. The two scales have similar reliability, with K-R 20 reliability coefficients for the M-C 20 ranging from .73 to .83. Respondents indicate whether each statement is true or false as it relates to them (for example, "I always try to practise what I preach"). Higher scores indicate a tendency to respond in ways that are more socially desirable. The alpha coefficient in this study was .76.

Data Analysis

Data were coded, entered into a computer for analysis, and examined for accuracy. Statistical calculations were performed using the Statistical Package for the Social Sciences. Data were screened for normality via measures of skewness, kurtosis, frequency histograms, and normal probability plots. Of the three outcome variables — perceived stress, parenting confidence, and physical health symptoms — the latter two departed significantly from normality using the K-S Lilliefors test. The distribution for the parenting confidence scale departed from normality only modestly ($p = .04$), as the mean and median were within one point of each other. As a result, analysis of relationships involving both parenting confidence and perceived stress were computed using Pearson product-moment correlations and partial correlations. For health symptoms, the departure from normality was extreme ($p < .000$); thus tests of relationships involving this variable were conducted using the Spearman rho statistic.

Results

Sample

Fathers ($N = 87$) had a mean age of 29.3 years ($SD = 4.96$, range = 19–41). They were employed for a mean of 44.5 hours per week ($SD = 10.0$, range = 0–80). Most fathers ($N = 84$, 96.6%) were employed outside the home. Using the *Dictionary of Occupational Titles* (U.S. Department of Labor, 1991), 33 fathers (41.8%) were professional, technical, or managerial; seven (8.9%) were clerical or sales; four (5.1%) were service; and the remainder were in other occupations, with eight uncodable/unknown. Fathers reported their total yearly family income as follows:

10 (11.5%) under \$15,000; 33 (37.9%) from \$15,000 to \$29,999; 22 (25.3%) from \$30,000 to \$44,999, 14 (16.1%) from \$45,000 to \$59,900, and eight (9.2%) \$60,000 or above. In terms of education, 51 fathers (58.6%) had ever attended college or university. The majority ($N = 51$, 61.4%) stated that they lived in a rural area. Regarding ethnicity, 82 (95.3%) were White/Anglo, three (3.5%) were Black/Afro-American, and 1 (1.2%) was Hispanic/Mexican American. (The ethnicity of one was unknown.)

The majority of the fathers ($N = 85$, 97.7%) were currently living with a spouse/partner. Of the partners, 21.8% had had a cesarean delivery and 4.6% had given birth prematurely. Of the infants, 44 (50.6%) were male, 43 (49.4%) female; at the time of the study, they had a mean age of 30 weeks ($SD = 6.24$, $range = 22-52$). In terms of total number of children in the household, 35 fathers (40.2%) had only one child, 25 (28.7%) had two children, 14 (16.1%) had three children, 10 (11.5%) had four children, two (2.3%) had five children, and one (1.1%) had eight children.

Findings

The mean for fathers' perceived stress was 22.8 ($SD = 7.5$, $range = 7-39$). This is higher than the mean of 18.8 ($SD = 6.9$) reported by Cohen and Williamson (1988) for a national probability sample of men in the United States. The mean for fathers' parenting self-confidence was 114.2 ($median = 115$, $SD = 13.5$, $range = 80-144$) and is similar to that reported by Bloom and Lips (1988) for mothers on the second ($M = 114$) and third ($M = 117$) days postpartum. Fathers reported a mean of 1.3 health symptoms ($median = 1.0$, $SD = 1.0$, $range = 0-4$).

Table 1 shows that the background variables, particularly social desirability, were related significantly to fathers' outcomes of perceived stress and parenting confidence, but not physical health symptoms. Table 1 also shows that the variables of social desirability, socio-economic status, and number of children were each significantly related to one or more subscales of the HPLP. These data support controlling for the effects of social desirability, socio-economic status, and number of children when testing for relationship between health promotion and fathers' outcomes, especially perceived stress and parenting confidence.

Table 2 presents partial correlations between fathers' lifestyle patterns on HPLP subscales and perceived stress and parenting confidence, while controlling for the effects of social desirability, socio-economic status, and number of children. Table 2 also presents Spearman rho correlations between HPLP subscales and health

symptoms. Perceived stress, parenting confidence, and physical health symptoms were each correlated significantly with a majority of HPLP subscales. The direction of correlations for all three fathers' outcomes was as expected: healthier lifestyle patterns were related to lower levels of perceived stress and health symptoms and to higher levels of parenting confidence.

Table 1 *Pearson Correlations between Background Variables and Key Study Variables*

	Social Desirability	Family Income	Number of Children
Outcome Variables			
Perceived stress	-.42 [‡]	-.32 [‡]	.03
Parenting confidence	.42 [‡]	.24 [*]	-.25 [*]
Health symptoms ^a	-.08	-.18	.15
Lifestyle Subscales			
Self-actualization	.34 [‡]	.35 [‡]	-.21 [*]
Health responsibility	.19	.23 [*]	-.00
Nutrition	.12	.16	.06
Exercise	.14	.29 [‡]	-.21
Interpersonal support	.20	.12	-.16
Stress management	.17	.10	-.03

* $p < .05$ † $p < .01$ ‡ $p < .001$
^a Spearman correlations were computed for health symptoms because of a non-normal distribution.

Table 2 *Partial Correlations between Health-Promoting Lifestyle Subscales and Fathers' Outcomes^a*

Lifestyle Subscales	Perceived Stress	Parenting Confidence	Health Symptoms ^b
Self-actualization	-.48 [‡]	.46 [‡]	-.32 [‡]
Health responsibility	-.22 [*]	.20	-.11
Nutrition	-.15	.16	-.28 [‡]
Exercise	-.18	.35 [‡]	-.35 [‡]
Interpersonal support	-.28 [‡]	.37 [‡]	-.15
Stress management	-.26 [*]	.34 [‡]	-.30 [‡]

* $p < .05$ † $p < .01$ ‡ $p < .001$
^a Partial correlations control for social desirability, income level, and number of children.
^b Correlations between health symptoms and lifestyle subscales were computed as Spearman rho correlations; consequently, no control for background variables was possible.

Discussion

Conclusions

The findings of this study support an inverse relationship between a new father's health-related lifestyle, as measured on the HPLP, and perceived stress levels. That is, routinely engaging in a health-promoting lifestyle was related to lower levels of perceived stress. This is true despite the fact that fathers in this sample had stress levels above the mean of norms for men in the United States. Not surprisingly, fathers who reported seeking interpersonal support and who used more stress-management techniques experienced lower levels of perceived stress. Fathers' scores on HPLP subscales measuring self-actualization and health-responsibility behaviours were also related to lower levels of stress. Although not statistically significant, the relationships between nutrition and exercise behaviours and perceived stress were in the expected direction.

The results of this study also support a positive relationship between healthy lifestyle and parenting confidence in new fathers. In particular, more self-actualization behaviours, regular exercise, interpersonal support, and stress-management behaviours were related to parenting confidence. The finding that interpersonal support was related to parenting confidence is similar to the finding of Ferketich and Mercer (1995) that the partner relationship is a significant predictor of paternal competence for experienced fathers (but not for inexperienced fathers). We hypothesize that a healthy lifestyle enhances parenting confidence by helping fathers to renew their daily capacity to nurture and to respond to the challenges of parenting in an effective manner. Thus by engaging in a healthy lifestyle and experiencing satisfying relationships fathers may increase their own well-being, which in turn they are able to extend to others, notably their children. As a consequence, they are more confident in their role as fathers.

Since Belloc and Breslow (1972) reported some time ago that personal health practices were related to health status, there has been a growing practical wisdom that suggests that adopting positive health behaviours may be a means of avoiding illness. Although the data analyzed in this investigation came from an observational study rather than a clinical trial, the findings are consistent with this practical wisdom. More favourable nutrition, exercise, and stress-management behaviours as well as self-actualization were related to decreased physical health symptoms among new fathers. Although the non-normality of the distribution of health symptoms did not permit use of partial cor-

relations to control for social desirability, family income, and number of children, the nonsignificant relationship of these variables to health symptoms indicates that their confounding effects are likely minimal.

In summary, even after controlling for potential confounding influences, such as social desirability, a number of dimensions of a health-promoting lifestyle were related to fathers' perceived stress and parenting confidence. These findings suggest that a healthy lifestyle may help new fathers to manage the stress inherent in fatherhood, may enrich the resources that fathers bring to parenting, and may contribute to fathers' health status. We conclude that a health-promoting lifestyle may be an important personal resource in maintaining health and promoting well-being among new fathers.

Influence of Background Variables

Of the background variables, social desirability was most highly correlated with fathers' outcomes. Its influence was evident in relation to perceived stress (negative correlation of $-.42$) and parenting confidence (positive correlation of $.42$). Because perceptions of stress and self-confidence are inherently intrapersonal factors, their measurement by self-report is necessary and reasonable. The findings of this study suggest, however, that measurement innovations or statistical adjustments that take social desirability into account may be needed, to reduce measurement error threatening validity of self-report instruments for these constructs. Further psychometrically oriented research is needed to determine whether the effects of social desirability are as predominant in other samples as they were found to be in this study — especially for perceived stress, which is a widely studied variable in health research.

With regard to the influence of number of children in the family, this variable was negatively related to parenting confidence ($r = -.25$). That is, in the present study having a greater number of children was related to lower parenting confidence. This finding is inconsistent with that of Ferketich and Mercer (1995), who found that being an experienced father was associated during the early weeks postpartum with higher perceived paternal role competence than being a first-time father; these differences disappeared at 1, 4, and 8 months. We re-analyzed our data excluding the father who reported having eight children. With this exclusion, the correlation between number of children remained negative ($r = -.15$) but was no longer statistically significant. This finding is intriguing and worthy of further study.

Our finding that number of children was not related significantly to perceived stress is also inconsistent with that of Cohen and Williamson (1988). They found that the number of people in the household and the number of these who were children were associated with perceptions of stress. As the number of persons in the household increased, so did scores for perceived stress. Their larger sample size probably accounts for this difference in results, because the absolute magnitude of the correlation in the two studies is not greatly different (.03 in this study and .11 in Cohen and Williamson's report [p. 51]).

In the present study, family income was significantly related to perceived stress ($r = -.32$): as income increased, fathers' perceived stress decreased. This is generally consistent with the finding of Cohen and Williamson (1988): "Perceptions of stress declined linearly as household income increased to the level of \$35,000 per year. Beyond \$35,000 per year, the trend was less consistent" (p. 47).

Strengths and Weaknesses of the Study

In interpreting the findings of this study it is important to consider its strengths and weaknesses. Two measures used in this study, the PSS and the HPLP, are well-established instruments that to our knowledge have not previously been used with new fathers. Thus findings reported here provide information not heretofore available. The findings suggest a number of areas for health-promotion research with new fathers, such as nursing interventions to enhance health promotion in the transition to fatherhood. In contrast, findings associated with the measures of parenting confidence and health symptoms are based on previously untested measures and should be viewed as preliminary.

Moreover, the study controlled for the influence of variables, such as social desirability, which were significantly related in most cases to parenting confidence and perceived stress. The relationship found between social desirability and parenting confidence was expected. However, to our knowledge this is the first study to report a statistically significant relationship between social desirability and perceived stress. That is, fathers who valued presenting themselves in a socially acceptable manner tended to under-report stress in their lives.

The findings of this study should be viewed cautiously, however, because of sample characteristics. Fathers responding to the survey represented a minority of the target sample. The sample of responding fathers was predominantly White/Anglo and may not represent the experience of fathers from other ethnic groups. The study data reported

in this study are cross-sectional in nature, so direction of influence between fathers' lifestyle and outcome variables is not clearly established. Finally, this study of the transition to fatherhood embraced fathers of later-born children as well as first-time fathers. This may have obscured findings pertinent only to first-time fathers, who have been the usual focus of transition-to-fatherhood research.

Future Directions

The findings of this study support exploring a number of issues related to health-promotion research aimed at enhancing the health and well-being of new fathers. First among these issues is determining the best venue and timing for health-promotion interventions. Unlike new mothers, who may be in the health-care system for postpartal care, new fathers may not have the regular contact with the health-care system that facilitates health promotion. Thus the scope of traditional parenthood education may need to be broadened. Parent education for expectant mothers and fathers has traditionally focused on changes of pregnancy and preparation for the events of labour and birth. It is reasonable to start testing the efficacy of health-promotion strategies that have life-span relevance for fathers within the context of prenatal education for parenthood.

A second issue concerns whether health-promotion interventions are actually efficacious in enhancing the health and well-being of new fathers — a group who are not yet typically facing the onset of chronic illnesses. During times of transition, however, individuals are often open to making changes in daily living. Testing the efficacy of health-promotion interventions for fathers has the potential to improve their own health as well as that of their spouses and children. The findings of this study indicate that measures of perceived stress and symptoms may be useful indicators of health and well-being among fathers.

A third issue is whether health-promotion interventions for new fathers should be targeted at the family or uniquely at fathers. Barnhill, Rubenstein, and Rocklin (1979) indicate that fathers may have special needs best addressed in fathers-only groups. The optimal balance between father-focused and family-focused health promotion remains to be determined.

Clinical Implications

Lifestyle behaviours have recently been identified as a key cause of mortality (McGinnis & Foege, 1993). Conversely, promoting healthy

lifestyles is a major strategy for decreasing illness and enhancing health throughout life (Federal, Provincial and Territorial Advisory Committee on Population Health, 1994; U.S. Department of Health and Human Services, 1991). This study shows that health-promoting behaviours are related to increased parenting confidence and decreased stress and symptoms among new fathers. Interventions to promote a healthy lifestyle among expectant and new fathers have the potential to positively impact health and well-being during the transition to fatherhood. The promotion of health and healthy lifestyles is a key aspect of nursing care in the contexts of ambulatory care, discharge planning, and patient education. For maternal-child nurses, though, the emphasis on the birthing experience and infant outcomes may overshadow the broader health-promotion needs of both fathers and mothers. To quote a mother who attended a postpartum health-promotion class given by one of us: "Once the baby is born, the health-care providers are no longer interested in you — just the baby."

Thus prenatal education and classes for new parents provide one means of reaching out to fathers and mothers. Within such settings, nurses should seek opportunities to assess lifestyle and explore interventions that may aid fathers and their spouses in achieving meaning and purpose in daily life, attending to health needs and seeking health information, engaging in sound nutrition and regular exercise, fostering interpersonal support, and managing stress in daily living.

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