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Stress Reduction: A neighborhood introduction

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SCHOOL OF NURSING**

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The project and manuscript have been successfully completed and meet the standards of the School of Nursing at San Jose State University. The project demonstrates the application of professional knowledge, clinical expertise, and scholarly thinking. An abstract of the project and two copies of the manuscript are attached.

Virgil Pearson
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12/8/06
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Please submit this form to the Graduate Coordinator. Attach abstract, two copies of the manuscript, and documentation of submission to the journal (i.e., postal receipt).

Abstract

Responding to reported health concerns a stress reduction program was developed for residents of an urban Latino neighborhood struggling with poverty, crime, and limited access to healthcare. The revised Health Promotion Model (HPM) was used as a framework (Pender, 1996). A qualitative study testing a 5-week Mindfulness-based Stress Reduction (MBSR) intervention was imbedded into the program 18 months after its implementation. Utilizing a pre/post test design participants were predicted to demonstrate significant reductions in post-intervention mean scores for 3 self-report measures, the Cohen Perceived Stress Scale, General Sleep Disturbance Scale, and a modified Memorial Symptom Assessment Scale. A 91% drop in participation compared to prior attendance levels precluded measuring the dependent variables. Comparing the MBSR intervention with prior instruction attempts to explicate this unexpected outcome, supporting the potential explanatory possibilities of the HPM and informing the need for further studies of MBSR in cultural contexts.

Key Words: Health Promotion Model, Stress, Mindfulness-based Stress Reduction

Running head: STRESS REDUCTION INTRODUCTION

Stress Reduction: A neighborhood introduction

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Abstract

Responding to reported health concerns a stress reduction program was developed for residents of an urban Latino neighborhood struggling with poverty, crime, and limited access to healthcare. The revised Health Promotion Model (HPM) was used as a framework (Pender, 1996). A qualitative study testing a 5-week Mindfulness-based Stress Reduction (MBSR) intervention was imbedded into the program 18 months after its implementation. Utilizing a pre/post test design participants were predicted to demonstrate significant reductions in post-intervention mean scores for 3 self-report measures, the Cohen Perceived Stress Scale, General Sleep Disturbance Scale, and a modified Memorial Symptom Assessment Scale. A 91% drop in participation compared to prior attendance levels precluded measuring the dependent variables. Comparing the MBSR intervention with prior instruction attempts to explicate this unexpected outcome, supporting the potential explanatory possibilities of the HPM and informing the need for further studies of MBSR in cultural contexts.

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Stress reduction: A neighborhood introduction

Fostering healthy communities is a challenge that can be addressed through collaborative efforts between members of the public, social service, governmental, and academic agencies. A re-development project incorporating these elements was undertaken in a central California coastal city, to link health and housing in a neighborhood characterized as the poorest and most densely populated in the city, with the highest reported crime rate (Alexander, 2003; Banuelos, 2002). Low-income Latinos comprised 78% of the neighborhood, with the majority employed as service or agricultural workers. Average incomes ranged from 30% to 60% of the area median (Banuelos, 2002).

A health needs assessment of the area was conducted using surveys and two focus groups of neighborhood residents. This assessment revealed an average individual monthly income of \$850/month. Typical households had 5 members, most with children; 59% of respondents to the health needs survey stated they were undocumented and 59% reported having no health insurance. This rate compares to a 31.8% insured rate for the surrounding county (Banuelos, 2002).

To strengthen a neighborhood facing issues of poverty, crime, and limited access to healthcare, efforts between a non-profit housing project and the city redevelopment agency produced a 48 unit low-income apartment complex. A subsidized child development center and a permanent location for the community center were included in

the project. Further collaborative efforts anchored a sliding-scale primary health clinic and a nurse managed center at the site.

The nurse-managed center, in co-operation with a university and the non-profit housing project, offers comprehensive case management for individuals and families. Services are provided by university faculty and baccalaureate nursing students. Responding to a questionnaire regarding health concerns, many community residents indicated that “los nervios,” or the nerves, were a major concern. Problems with sleep were also identified. Stressors included finances, social isolation from family members living in Mexico, immigration issues, language barriers, and unfamiliarity with both the health-care and social service systems in the United States. In response to these concerns an exploratory stress reduction program was developed by university faculty and graduate and undergraduate nursing students.

Since establishment in 2004 the nurse managed center stress reduction classes have been offered each semester by nursing students in conjunction with the university faculty. University nursing faculty and students have both provided and participated in the stress-reduction instruction which included basic yoga postures, stretching, breathing exercises, and guided visualizations/meditations. Because of the initial success and program participation, a quantitative study using Mindfulness-based Stress Reduction (MBSR) was imbedded into the program in 2006. The MBSR program was selected because it had been used with monolingual Spanish-speaking participants before and afforded the potential to compare results. Additionally, the initial three classes of the program were

taught using MBSR informally, by a university faculty member who is an MBSR instructor.

Literature Review

Stress is a complex concept which operates on physiological, psychological and social levels. Stress has been defined as an inharmonious fit between an individual and his or her environment, whereby a person's resources are challenged, creating an individual and often complex struggle to cope (Lazarus, 1984). This process-oriented definition underscores the transactional relationship between an individual and environmental demands, focusing on what a person thinks and does in a stressful encounter. Coping, defined as a person's continually changing mental and behavioral struggles to manage external and internal demands, is influenced by the person's assessment of a situation and the resources he or she has for responding to it (Folkman, Lazarus, Duntek-Schetter, DeLongis, and Gruen, 1986; Lazarus, 1984; see also Judkins, 2004; Kabat-Zinn, 1990; & Pender, Murdaugh, & Parsons, 2002). The transactional aspects of stress and coping informed both the possibilities for stress-reduction and the strategies developed for the program.

Stress and Wellness in Latino Communities

Wellness was assessed for a low income, urban Hispanic community by Elliot, Quinless and Parietti (2000). The researchers reported that the stress associated with daily living had significantly more impact on participants' perception of wellness than biomedical factors such as chronic health problems, substance abuse, and HIV/AIDS. The assessment offered strategic planning recommendations for the neighborhood;

however, specific strategies for stress reduction were not addressed.

Health promotion during pregnancy was reported by Lagana (2003) to be an essential feature of the pregnancy experience for Mexican-American women. In this ethnographic study, interviews with participants revealed that the act of worrying, or *preocuparse*, was believed by all the women participants to be harmful to the fetus. *Preocuparse* is a concept that includes the recognition that individuals are faced with multiple internal and external stressors and asserts that they can regulate their internal environment regarding them. For pregnant women in the study, stress reduction was stated to be an expected health behavior, supported by both the family and larger community (Lagana, 2003).

Mindfulness-Based Stress Reduction

Jon Kabat-Zinn and his associates at the University of Massachusetts were pioneer researchers in applying mindfulness meditation as a secular tool for addressing health and wellness. A variety of mindful meditation techniques are taught and practiced in Mindfulness-Based Stress Reduction (MBSR), including sitting meditation, walking meditation, eating meditation, Hatha yoga, and the body scan. The breath is considered the link between the body and the mind and is used as a focal object to enhance development of attention and awareness which is purposeful, present in the moment, and without judgment (Kabat-Zinn, 1990; see also Beddoe & Murphy, 2003; Proulx, 2003; Roth & Creaser, 1997). MBSR practice trains individuals to be fully present even while a stressful event is occurring. This is thought to expand choices in dealing with stress by enhancing the ability to recognize automatic and hyper-aroused responses. By being aware of inherent autonomic or spontaneous reactions, an individual may be able to

recognize and choose other options in response to stressful thoughts or situations (Kabat-Zinn, 1990).

Numerous studies examining the impact of MBSR on psychological and biomedical factors have been reported. Current published surveys of the MBSR literature reflect this frequency (Bishop, 2002; Proulx, 2003). Since the initial development of MBSR as a treatment intervention, a variety of programs have been created, reflecting the broad flexibility and dynamic aspect of this intervention.

The effects of a 7-week MBSR program on mood disturbance and stress symptoms for cancer patients was assessed by Speca, Carlson, Goodey, and Angen (2000). The results of this trial revealed a reduction in mood disturbance and symptoms of stress. The randomized, controlled study design was robust and standardized data instruments were used.

A non-clinical sample of community volunteers tested an 8 week MBSR program. The effects of daily hassles, number of medical symptoms, and psychological distress were measured in a randomized controlled trial (Williams, Kilar, Reger, & Pearson, 2001). The control group was referred to community resources and given educational material. Significant decreases in both the psychological and somatic measures were reported for the intervention group that was maintained at the 3-month follow-up.

Two studies involving a low socio-economic cohort with a Spanish-speaking subgroup tested MBSR an intervention (Roth & Creaser, 1997; Roth & Stanley, 2002). In both studies Spanish speaking participants were compared with English speakers. The MBSR intervention was conducted in each language, in separate classes for each group.

Roth and Creaser (1997) designed an 8-week MBSR study which measured anxiety, medical symptoms and self-esteem at pre and post intervention times. Treatment adherence data were also collected. Participants from both the Spanish-speaking and English-speaking groups demonstrated significant changes in all data areas. These results suggest reductions in anxiety, medical symptoms, and increases in self esteem.

Healthcare utilization by inner city Spanish and English speaking residents were analyzed by Roth and Stanley (2002). Chronic and acute care visits by members of the two groups were compared pre and post intervention. A significant decrease in the number of chronic care visits for both groups was reported. Total medical visits were also decreased for the Spanish speaking participants.

Methodology

This project attempted to address stress and broaden the knowledge base regarding stress reduction strategies for a low-income, Latino community. Planning for the project was done using Pender's (1996) Revised Health Promotion Model (HPM) as the framework. The model is structured around health promotion, and incorporates a broad definition of health. Both of these elements were identified as major health concerns for community residents (Banuelos, 2002). Previous studies involving Hispanic/Mexican-American workers using Pender's HPM reported that health promoting behaviors among Mexican-American workers could be supported by promoting benefits, decreasing perceived or actual barriers, and promoting a sense of self-efficacy regarding the behavior (Kerr, Lusk, & Ronnis, 2002).

Self-efficacy for program participants was addressed by having University faculty and students provide and participate in the initial instruction. This created a casual atmosphere communicating the idea that everyone was learning together and that the techniques were easy to learn and master. In an attempt to reduce access barriers, the stress reduction classes were offered at the apartment complex, in the evenings, and at no cost. The first semester language barriers were approached by having instruction translated into Spanish by a volunteer. Subsequent classes were taught in Spanish. To promote the program, incentive prizes were awarded.

Hypothesis

The pre-experimental quantitative study embedded into the program in 2006 used a pretest/posttest design and implemented a 5-week MBSR intervention. The influence of the instruction on physical symptoms, stress, and sleep was examined. It was predicted that post intervention mean scores would show significant reductions from the pretest scores for the Cohen Perceived Stress Scale, the General Sleep Disturbance Scale, and a modified Memorial Symptom Assessment scale. It was also predicted that higher stress scores would correlate with physical symptoms, including the prevalence, characteristics, and distress produced by them. A correlation between stress and sleep disturbance scores was anticipated.

Subjects

A volunteer sample of adult subjects was recruited by nursing students during home visits. Fliers advertising the stress reduction intervention and study were placed throughout the neighborhood. Additional recruitment of volunteers was undertaken at the

primary care clinic, community center, a downtown women's center, and a family resource center. Interested individuals were informed that participation in the study was not a prerequisite for attending the classes. Of the nine individuals who participated in the first class, seven volunteered for the study.

Materials and Devices

Three Spanish translation self-assessment questionnaires were given on the first and last classes. These standardized instruments included the Cohen Perceived Stress Scale, a modified Memorial Symptom Assessment Scale, and the General Sleep Disturbance Scale (GSDS). The GSDS, a 20-item self-assessment inventory that assesses problems with initiating and maintaining sleep, consists of 20 items related to frequency of sleep problems in the previous week measured from 0 (never) to 7 (every day). Validity and norms have been established for the GSDS for women and female shift workers. The Cronbach alpha coefficient was 0.88 in a sample of female shift workers (Lee, 1992).

The Mexican/Spanish translation of the Perceived Stress Scale asks subjects about their feelings and thoughts during the last week. For each case subjects were asked how often they felt or thought that way. A 5 point Likert scale is used for the 10 questions, with 0(never) to 4 (very often).

Section 1 of the Memorial Symptom Assessment Scale asks participants to respond to 24 questions regarding symptoms prevalence, the severity of the symptoms, and how much distress the symptom caused the individual during the past week. Symptom prevalence is answered by a yes or no response and severity of symptoms is assessed by 1 (slight) to 4 (very severe). Distress caused by the symptoms is measured as

0 (not at all) to 4 (very much). Section 2 of the scale asks about symptoms specific to individuals who are undergoing cancer treatment and was not used in the study (Chang, Hwang, Feuerman, Kasimis, & Thaler, 2000).

Procedures

After approval from the university Institutional Review Board, informed consent was obtained and participants were asked to complete the three self-assessments before the first class and after the last class. Additionally, subjects were requested to attend all five of the classes and to practice daily at home. Content of the classes included mindfulness-meditation instruction developed for stress reduction . This included sitting meditation, walking meditation, eating meditation, and the body-scan. Hatha yoga exercises were also taught. The classes were given in Spanish by an instructor who has completed extensive training in MBSR.

Results

Nine individuals attended the first class and 7 consented to participate in the study and completed the pretests. The subjects were all women who had emigrated from Mexico; their ages ranged from 21 to 82 years. The subjects all lived in the neighborhood or were clients of the local *familia* center. The only exception was a subject who worked in the community in a professional capacity.

At the next class, 6 persons attended. Three of them study subjects and 2 were student nurses. Because new students were present prior instruction in mindfulness principles were reviewed, as well as class introductions and personal histories.

The following week the class had only 2 participants, 1 study subject and 1 new student from the community. The fourth class was cancelled because it fell on a day in which the majority of neighborhood residents were participating in nation-wide protests in response to federal policy discussions involving immigration. A large rally and march to a downtown park emptied the community. The fifth and last class had just 1 participant, the only subject who had attended all three previous classes and who was a professional working in the community.

The lack of participation was a surprising and disappointing result, especially in contrast to the previous success of the stress reduction program. Prior classes were attended regularly, and ranged from 8-15 attendees. To try and explicate this unexpected Outcome, the MBSR intervention was analyzed in comparison with the previous stress-reduction classes. Using the qualitative measures hypothesized would be insignificant.

Discussion

High levels of participation are common with a new program, but over time these levels can decline. The use of incentives can be a valuable tool to help improve retention rates and restore declining participation (Chapman, 1998). Incentives were used for the initial classes and participants could choose from a variety of prizes based on attendance. Attendees also had their blood pressures taken before and after instruction. This may have stimulated attendance as hypertension was reported as a chronic health care concern by community residents. At the end of the classes, refreshments were provided and served by the student nurses for a period of socialization. To standardize the MBSR intervention and prevent confounding variables; incentives, refreshments, and blood-

pressure checks were not offered. Study organizers were confident that because the program had been in place successfully for almost 2 years, interested residents would be attracted and willing to participate.

Ethnic/minority communities have been reported to mistrust government and government controlled programs (Pender, Murdaugh, & Parsons, 2002). Fear of deportation due to bureaucratic intake processes is also experienced (Betancourt, Green, Carrillo, & Maina, 2004). The requirements of informed consent and the pretest questionnaires could have influenced participation in the qualitative study by creating an organizational barrier.

Realized access to health care is defined as the actual services which are used and the satisfaction with services. Qualitative data reports have asserted that cultural aspects have the most impact on realized access (Document & Sharma, 2004). Latinos have shown preference for personal and warm relationships with providers and respond to the provider's commitment and interest. This was considered at least as important as the medical knowledge the providers may have (Document & Sharma, 2004). Several variables with the MBSR intervention could have affected realized access. One possibility is omission of the refreshments and socialization after classes. The second is that the MBSR classes were taught by a trained MBSR instructor who lived outside the area. The previous classes were taught by faculty and students who regularly provided care and services in the community, possibly demonstrating a higher degree of commitment and interest.

Concepts of social support and collective identity are common in Latino cultural traditions. Informal community resources are important to foster collective identity for immigrants who may feel isolated as a result of separation from families and friends (Elder, 2003; Zuniga, 2002). Émigrés from societies which emphasize the needs of the group or family over their own may not be influenced by messages that target only the individual (Elder, 2003). The MBSR intervention emphasized the individual in relation to practice and stress management and a perception of autonomy with regards to the program may have been affected.

The meditations taught in the MBSR intervention focused on developing personal awareness of the mind and body. Previous classes used a meditation based on guided visualization of the Virgin of Guadalupe, who has special meaning for many Mexican-American women and is seen as devoted to the poor and suffering, compassionate, and responsive to needs (Mendelson-Klauss, 2002). Supporting the strong link that can exist between Mexican-American women, the Virgin of Guadalupe, and health might have strengthened satisfaction and participation.

Self-efficacy was reported as predictive in differentiating Mexican-American women smokers likely to succeed in quitting and those who were likely to fail (Keller & McGowan, 2001). A possible inhibiting factor to developing a sense of self-efficacy with regards to MBSR was the emphasis on doing the practice every day for progress. This may not have seemed achievable or possible due to family and work demands. Attendance expectations for study participants as well as a more structured program might also have had some impact.

Perceptions and expectations of health care can lead to dissatisfaction and reluctance to seek health promotion (Betancourt et al., 2004). The format and structure of the MBSR intervention varied from previous efforts and seemed to have created unmet expectations. Delayed application issues may also have been encountered, with the emphasis placed on regular practice to build progress and development.

Conclusion

Research by Mendelson-Krauss (2000) pertaining to Mexican-American women's efforts to create health underscores the importance of focusing health education on wellness behaviors including stress and coping, and indicates that little is known about the influence of culture on health promoting behaviors within this population. A study by Elder (2003) reported that understanding health promoting behavior requires appropriate theories of behavior change and that often these theories are based on stable, middle-class society. To the extent that MBSR has had limited testing in ethnic/minority, immigrant, and low socio-economic cohorts, further inquiry of the model in cultural contexts is warranted.

The explanatory possibilities of the HPM were an unintended but potentially significant outcome. The comparative analysis seemed to have revealed potential cultural barriers with the MBSR intervention. A diminished sense of self-efficacy in association with MBSR practice might have been an obstacle to participation. Unmet expectations associated with prior related behavior also need to be considered. These three variables, perceived barriers, perceived self efficacy, and prior behavior, have been shown to be significant in the highest percentage of reported studies of the HPM (Pender, Murdaugh,

& Parsons, 2002). Further research testing these constructs in association with MBSR interventions is recommended.

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