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Translating Research on Healthy Lifestyles for Children: Meeting the Needs of Diverse Populations

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Synopsis

This paper provides two examples of approaches nursing can take to reach diverse populations of children and their families to enhance health lifestyles. First a descriptive summary of a brief after-school intervention program aimed at influencing 8 and 9 year-old children's media habits and the prevention of negative health behaviors will be presented. Design consideration for translating health lifestyles research findings into a Nurse managed inner city primary care practice will be reviewed in the 2nd example.

Keywords

children; health behaviors; media; risk taking; physical activity; obesity

INTRODUCTION

Poor health consequences in children are often related to lifestyle factors rather than disease processes. An expansive literature has emerged that describes the rapidly deteriorating and interrelated nature of health risk behaviors in American children and youth. The data indicate that half of school-age children are at moderate risk of engaging in two or more risk behaviors [1]. Categorical risk taking behaviors include substance use, early sexual activity, delinquency, violent behaviors, school failure, and mental health problems associated with depression and stress. Injuries, as an outcome of risky behavior, are among the leading causes of death in children ages 1 to 18 years [2]. In addition, poor nutritional habits, increased sedentary behavior, and lack of physical activity among children have been linked to increasing obesity rates, with 17% of the nation's children ages 2–19 years overweight in 2004 [3].

Studies of children's health beliefs, perceptions and practices have documented that children's health-compromising behaviors generally cluster, increase as children get older, and are relatively well defined and stable by 9–11 years of age. The 2005 national Youth Risk Behavior Survey (YRBS) [4] found that adolescents in the month preceding the survey were engaging in alcohol consumption (43%), cigarette smoking (23%), physical fighting (36%), and sexual intercourse (47%), among other health risk behaviors. Homicide climbs to the rank of second greatest killer of teens 15 to 18, with firearms as the leading method [3]. The highest rates of

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obesity and overweight among children in 2004 were in the 6–11 year old age group at almost 19%, followed by adolescents (12–19 years) at 17% [2]. These data highlight the early school age years as a critical period for interventions directed towards reinforcing healthy lifestyle behaviors.

But one cannot discuss trends in the health behaviors of children without taking into account socioeconomic variables. Census data from recent years show that in the United States over 40% of children under the age of 18 come from diverse racial and ethnic backgrounds. Approximately 20% of children in the U.S. are Hispanic, 17% are African-American, 4% are Asian, 1% are American Indian or Alaskan natives, and less than 1% are native Hawaiian or Pacific Islander [5]. These statistics are significant given that in many cases health behavior patterns tend to differ among children from different racial and ethnic backgrounds. In 2004, black and Mexican-American children aged 2–19 years had higher rates of overweight than whites (19% and 20% vs. 16%, respectively). Black and Hispanic adolescents in the 2005 YRBS also demonstrated higher prevalence over their white counterparts in certain health risk behaviors including physical fighting (43% and 41% vs. 33% respectively), sexual intercourse (67% and 51% vs. 43%), and time spent watching television (64% and 46% vs. 29%) [4].

In 2005 over 28% of U.S. children were living in a single-parent household, with 50% of all black children and 25% of all Hispanic children living with a single mother [6]. Single-mother households in the U.S. carried the highest family poverty rates in 2006, with 28% living below the poverty line [7]. Almost 12% of all U.S. children in 2006 had no health insurance coverage, and the numbers were even more dismal for minority children with 22% of Hispanic children and 14% of black children uninsured [7].

These grim statistics support concern for the continuing effects of disparities on health in the pediatric population. Given the negative trajectory and lack of improvement in meeting Healthy People 2010 goals translational efforts to accelerate the results of scientific findings into primary or community health is self-evident. Whether the recent NIH commitment [8] will realize its potential to shorten the time gap of this adaptation process and facilitate meeting the two Healthy People 2010 major goals for the USA to: 1) increase the quality and years of healthy life; and (2) eliminate health disparities [9] - will be critical for nursing to monitor.

The following discussion presents two different approaches to addressing two significant health lifestyle behaviors of children from vulnerable populations: television viewing and physical activity. Specifically we will explore nursing interventions in the after-school environment and the primary care setting, two relatively understudied contexts for these areas of health, yet highly accessible to reach diverse populations. In the first intervention we will review the design, implementation, and evaluation of a successful community-based after-school program aimed toward the reduction of TV influenced risk taking behavior among children. In the second we will look at the design and implementation plan for a currently funded translational project underway in an inner city primary care setting designed to encourage and motivate increased physical activity among children and their families.

INTERVENTION ONE: AFTER SCHOOL PROGRAMS

Television as an Influence on Children's Developing Health Behaviors

Health science researchers have well established that children's television (TV) viewing affect their health behaviors. Advertisements and portrayals of alcohol and tobacco use on television and in the movies have significantly contributed to youth drinking and smoking [10]. Media portrayals of unrealistically proportioned models have led to an increase in children's body image dissatisfaction, often leading to lowered self-esteem and disordered patterns of eating [11]. Media depictions of sexual activities without real-life consequences (such as pregnancy

and STD infection) have been associated with an increase in youth perception of sexual activity in the real world [12]. Indeed, risk-taking is portrayed in the media as consequence-free, with harmful outcomes depicted in only 3% of risky scenes [13].

There is a significant amount of evidence linking sedentary behavior to childhood obesity and overweight [14–19]. Combined with the increased sedentary behavior associated with viewing television, advertisements for high calorie, high sugar, and high fat foods have contributed to 17 percent of children and adolescents ages 6–19 years currently overweight [2], placing children at a greater risk for developing chronic diseases such as heart disease and type 2 diabetes. Interventions aimed at reducing time spent watching television and/or other forms of screen time have been shown to lower unnecessary calorie consumption, decrease adiposity and/or BMI levels, or in some cases increase PA levels [18,20–27]. A two-year long study by Motl et al [28] found that a decrease in the amount of time spent by early adolescents ($n = 4,594$) watching television was significantly associated with an increase in the frequency of leisure-time physical activity. Thus, interventions aimed at decreasing sedentary behavior are highly supported as part of a multidimensional program to reduce and maintain overweight in children [29,30].

While the negative health consequences of children's media consumption and its associated developmental trajectories have been well researched, the socialization of children's health behaviors remains underexplored [31,32]. Although there are several historical descriptive studies regarding children's use of television, few studies have sought to directly approach children regarding their motivations for watching television. Researchers who have directly assessed children's motivations for watching television have found that children watch television as a coping strategy, albeit an ineffective one [33], and as a means for spending time with their parents [34]. Children also report perceiving television as a friend, with several researchers demonstrating that television establishes normative behavior much in the same way as a peer [34,35].

Previous Intervention Programs

Family and school-based interventions aimed at changing the amount of time that children view television have reported some success. Jason reported 9 case studies that modified children's television viewing practices in households with young children (age 3–13), all of which were effective [36–40]. Jason's approaches shared the same strategy of the children receiving reinforcement for alternative activities. He noted that the use of mere "rules" in the households had been historically ineffective, particularly in households where viewing hours were particularly excessive (> 4 hours a day). Singer has also demonstrated that interventions aimed at changing children's viewing behaviors by working only with the subjects' parents were ineffective [41].

Two school-based programs have reported similarly positive results. Dorr indicates that children in kindergarten and third grade have been able to demonstrate appreciable change in their understanding of the effect of television content when instructed and have an opportunity to practice the new skills [42–44]. More recently, Robinson demonstrated that a school-based program was effective in reducing third and fourth-grade children's television viewing time, body mass index, video games use, and frequency of eating meals in front of the television. Robinson's intervention program was comprised of 18 lessons integrated into the school curriculum, occurring over a period of 7 months. In addition to receiving the lesson, the intervention group budgeted their watching or playing time, practiced a more selective use of play, and received limited access to television [18].

THEORETICAL MODEL

Based on the findings of our own pilot work [34], we created a program aimed at limiting media influence on the development of adverse risk-taking and dietary behaviors in young school age children. In contrast to the interventions reported here, our program was less reliant on parental involvement or the external application of parental rules. Further, it was less time and resource intensive and easily replicated by trained staff in after-school programs and community-based sites.

To understand how children understand and respond to television, and how television impacts their risk-taking and dietary behaviors, children's viewing experiences must be considered from a developmental perspective and within a larger social context. Guided by motivational and self-change theories [45,46], the Kids TV Study intervention utilizes a behavioral approach to change children's TV habits and self-care behaviors.

The intervention program postulates television as a potentially modifiable social influence. As such, social learning theory (SLT) has provided the strongest explanatory framework for the acquisition of health behaviors and interpretation of personal and environmental determinants of behaviors in children. SLT is a comprehensive theory of human behavior based upon interrelationships among behavioral, cognitive, and emotional processing within the individual, and the surrounding physical and social environments. Congruent with motivational, self-change, and social learning theories, the intervention was designed to impart knowledge (a prerequisite to change), skills (a mechanism for change), and practice (to facilitate change), while affecting behavioral change through the child's developing abilities to self-regulate.

PROGRAM DESIGN

The intervention program was designed for small groups of 4–6 children, facilitated by several trained research staff. With the support and assistance of after-school program directors and child-care providers, children were recruited from after-school programs from urban, rural, and suburban communities in northern California. Comprised of four, one hour weekly sessions, the program was held at the after-school centers from which the children were recruited. Because the program required minimal supplies (a laptop computer, some small props, and a series of workbook hand-outs), it could be conducted in any on-site room equipped with an electrical outlet and children's furnishings, such as a classroom.

The program utilized motivating strategies that are appealing to children, such as a peer playgroup comprised of role play activities, games, and children's media clips. Activities focused on instructing, developing, and practicing critical viewing skills, alternative choices to the target behavior (television viewing), and problem-solving strategies (see Table 1). Based on theories of perceived control and motivation, the workshop activities provided the child with psychological engagement and incentives. In effect, the children were shown how effort could be shaped and directed to produce desired outcomes. These "performance enactments" (experiences of control) help establish behavioral change via the child's competence system.

The program was comprised of four weekly curriculum segments. The thematic concept of each week moved from the general to the specific, focusing on knowledge and awareness, the acquisition of new skills and behaviors, and then the supportive practice and application of the skills. This natural progression of knowledge and skills development paralleled the growth and development of the children's playgroup. Hence, a naturally evolving group structure and dynamic was facilitated to provide increasing support for the children throughout the program. Essential to learning and internalizing the information presented, each programmatic week

allowed for repetition and practice within the group and at home. While parents did not directly participate in the program, they did receive weekly information packets containing media and health concepts related to the content the children received that week. The concept of each program segment was further reviewed during the following week, in relation to the activities children practiced at home, and as an introduction for the related successive concept.

Upon approval from the University of California, San Francisco Committee on Human Research, parental consent and child assent were obtained with enrollment in the Kids TV Study program. Confidentiality, group rules, and general behavioral guidelines were discussed with the children. Children were told they would receive incentives (books and small surprises) each week of the program and a \$20 gift certificate to Toys R Us upon completion of the program; parents were given a gift certificate to a local restaurant or food market. These incentives were utilized because of the significant questionnaire response burden for both child and parent necessary for hypothesis testing over the 6 month longitudinal design in both intervention and control groups.

Utilizing after-school programs and community sites made the intervention accessible to children and families, thereby increasing parents' willingness to participate and the overall study subject retention rate. Indeed, the program appreciated a 100% retention rate. Riesch [47] reports successful recruitment in vulnerable populations by attending to three major factors: 1) community involvement, 2) adherence to developmental principles, and 3) ease of participation for the families and communities. The after school and community site coordinators' interest in the program, relationships with the families, and willingness to accommodate groups in their facilities proved to be critical in the successful enrollment of families and administration of the program. As gatekeepers for their communities, the program coordinators' support and trust facilitated the referral of families to our program.

Enrollment—The Kids TV Program enrolled 145 children, however 11 withdrew before participating in the program, primarily due to scheduling difficulties (day/time selected at the site conflicted with other after school commitments) or changes in eligibility status. A total sample of 134 children (ages 8 and 9) and their mothers participated in this study (Anglo n=54, Latino n=57, Other =23), comprised of 70 girls (52%) and 64 boys (48%). Working with 16 different after school programs and community sites, we conducted a total of 34 groups, with an average group size of 4 kids. Half of the sites with whom we collaborated provided multiple (2 or more) groups to the study, and 25% of the sites provided 3 or more groups. Working from within an established community site made it possible for children to refer their peers to the program, as was often the case.

Week One—The facilitator began the first group by describing a general and broad overview of the concepts that would be covered each week. The children were given a binder to house all of the information and activities they received each week. A parody on the TV Guide, the workbook was labeled "Kids TV Study TV GUIDE", to be kept near the television at home, so they could have access to information and alternatives to television. Serving as an "ice-breaking" role-play designed to generate dialogue, the group facilitator then played the role of a reporter, whereby the children were "interviewed" as experts for a pretend investigative report regarding children and television. To introduce the idea of alternatives to watching television, the children were asked what they would do if they couldn't watch television, which resulted in a list of healthier alternatives to television viewing. Worksheets summarizing alternative activities were given to the children as reinforcements.

The children's first activity would be to begin creating their own TV GUIDE. To reinforce children's participation in alternative activities, the children were challenged to practice one alternative activity each day for one week, and they were given a small disposable camera for

their family or friends to “catch” them doing these acts. Also embedded in the challenge was the idea that the children would be behaving more healthfully than their family and friends, and that they could “catch” them watching television. The children’s pictures were developed by research staff the following week, to be placed in their TV Guides as reminders of the healthy activities they chose to do.

Week Two—During the second week of the program, the children role-played being “detectives” looking for clues about actual product contents and common advertising strategies. The children participated in the “Cola Challenge,” a game in which the kids try to determine the brand of soft drink they are sampling, based on taste alone. In addition to learning the techniques of building brand loyalty, the children learned how to read labels, and began determine whether ingredients are helpful or harmful to their health. Hand-outs featuring tips on reading labels were given to the children, to be placed in their TV Guide binders. The children also learned how commercials use special effects to sell products. To extend their new awareness of marketing strategies to daily life, the children were instructed to play “Mute the Commercials” at home, using their remote control Mute button while watching television. The children were challenged to try to determine the product being advertised by looking for clues. This at-home activity was designed to reinforce disengagement from the media as well as support the practice of critical viewing skills.

Week Three—The third week began with a review of the basic concepts of critical viewing, applied to magazine ads for junk food, designer clothes, and cigarettes. After deconstructing the ads to reveal their emotional appeal, the ads were used to challenge the children to consider whether the message was real or fake, or if the message could result in negative health consequences. The group discussed prevention, and how realistic viewing can play a part in preventing diseases or injuries from occurring in real life. The children then played a game called “Emergency!” in which teams of health care providers and patients view popular movie clips portraying risky behaviors, and compete to determine the number of injuries that would have resulted in real life. Week three concludes with the children receiving a paper “TV Kid patient”, pack of crayons, and band-aids, to practice identifying and recording real-life injuries on their “patient” while they view television during the following week.

Week Four—During the final week of the program, the children role-played coaches, learning and practicing problem-solving techniques developed by Shure et al [48] that could help prevent risk-taking behaviors within peer groups. The children viewed conflict scenes from superhero cartoons and determined the problem, consequence, and alternative solution to each conflict scene. The technique was then practiced on problems offered by the children, and each child was given a pocket-size card listing the problem-solving steps to aid as a reminder and reinforcement.

PROGRAM EVALUATION

Child Evaluations—Children’s evaluations of the overall program, content specific to each week, and structure and function of the playgroup were solicited at the conclusion of the four-week program. Of the 134 children enrolled in the program, 73% (n=98) completed evaluations at the end. Based on their responses, 99% of the children considered the program “fun”; 100% of the children thought that the program taught them new things; 96% thought they would participate in the program again, if given the opportunity; and 96% would refer other children to the program. The children were split in their responses regarding the length of time the program encompassed, with 44 % reporting that they thought the program should be longer and 47% thinking the program length was just about right; only 9% thought the program was too long. Children reported favoring week three of the program most (36%), followed by week two (25%), week one (22%), and finally week four (17%). When asked about the specific

activities of each program week, children reported preferring content that included video clips (weeks 2, 3, and 4) and interactive games (weeks 2 and 3), consistent with their reporting of their favorite programmatic week. Children also reported positive experiences of the group format; 97% of the children perceived the kids in their group getting along with each other and 98% perceived the group facilitator as enjoying the group with the kids. Indeed, several children specifically reported that their most favorite aspect of the program was being in the peer group, and that their least favorite part was having the program end. These results support the potential for success in replicating the intervention program approach to successfully recruit, engage and retain Latino and Anglo children, independent of the use of research based funded incentives.

Parent Evaluations—We received considerably fewer (40%, n=53) parent responses to program evaluation surveys, which may have been due to longitudinal subject burden questionnaire fatigue, as parents completed 16 instruments at four different time points regarding the research hypotheses being tested at much higher completion rates (80–100%). However, 98% of parents (n=52) who completed the survey reported the program was a positive experience. Eighty-two percent of parents indicated their children evidenced behavioral changes as a result of the program; 86% noted attitudinal changes; 82% noted changes in their children's food intake; 82% noted purchasing changes; and 88% noted changes in television viewing. Regarding the utility of the parent information and incentives embedded within the program, 93% of the parents found the weekly information packets to be helpful; 95% reported the family gift certificate helpful; and 95% considered the children's books useful. Indeed, 94% of parents reported reading the children's books with their children. Based on their survey responses, parents commented that the program helped their children to read more and watch less TV; think more critically about advertising and television programming; and read more food packaging. Other reported benefits were increases in the child's self esteem and an increased capacity to understand another point of view. Seventy-one percent of parents reported they would participate in a similar program in the future.

SUMMARY

Overall, the Kids TV Study program was successful in recruiting and retaining children, providing a positive group environment conducive to learning, and effective in producing some immediately observable behavioral changes. While the program did not directly intervene with parents and the response rate to the survey was lower than desired, the parents also reported changes in their family media habits, indicating larger systemic changes resulting from the child's participation in the program. The children and parents' evaluative feedback was also remarkably consistent. The evaluative feedback provides some initial evidence that the theoretical underpinnings upon which the program was based were successful. Manuscripts with empirical results related to specific hypothesis tested by the intervention are currently under peer review.

This approach utilized motivating strategies that were appealing and familiar to children, such as the media clips, interactive games, and the peer group format; the overwhelming majority of children reported both learning a great deal and having fun while in the program. Interestingly, many children also reported that the thing they liked best about the program was being with their peers in the group. It might be argued that by placing children's viewing experience in a larger social context, the children were both motivated and reinforced to change their behaviors. As the progression of knowledge imparted and skills practiced also paralleled the growth and development of the children's playgroup, this observation may be particularly true.

Compared to other intervention programs, this study was less resource intensive and did not require parent participation, potentially making the program easily replicable. Unlike lengthy classroom-based curricula [49] the four, weekly one-hour sessions could be easily accommodated in any after-school program, administered by trained staff on site. The intervention program required minimal supplies (a laptop computer, some small props, and a series of workbook hand-outs) and could be conducted in an on-site room equipped with an electrical outlet and children's furnishings, such as a classroom. Video clips used within the program were copied on CD's, also making them easy to reproduce and utilize.

Our program evaluation data indicates that the program was successful placed in a community-based venue, and that both children and parents reported attitudinal and behavioral changes through their participation in it. Further, the program was accessible and could be easily replicated in diverse communities, making its application and utility feasible for future programs.

INTERVENTION TWO: Primary Care Practices

Childhood Physical Activity and Healthy Lifestyles

Physical activity is fundamental to improving and maintaining physical and mental health. Significant evidence demonstrates the strong positive effects of PA on several biological indices, cardiovascular health, and behavioral and academic outcomes [50,51]. Obese children and adolescents have been shown to exhibit lower self-esteem, which may be partially related to body dissatisfaction or teasing by peers [52–55]. In addition, obesity has been correlated with lower health-related quality of life ratings, decreased physical functioning, and effects on parental emotional well-being [56]. Physical activity in adolescents may improve their physical self-concept, a characteristic that can improve motivation for sustainable change as well as possibly mediate unhealthy behaviors [57,58]. Current guidelines from several national health organizations therefore recommend that children and adolescents get at least 60 minutes of cumulative activity per day, and limit screen time to less than 2 hours per day [50,59–61]. However the 2005 YRBS revealed that only 36% of adolescents engaged in at least 60 minutes of activity on at least 5 out of the 7 preceding days [4].

While a majority of recent research has examined programs based in the school setting to increase physical activity among youth, the primary care clinician's office has been somewhat neglected as an important venue of influence in this area. Over recent years the primary care health setting has transitioned more than ever before from a disease management model to one of health promotion and disease prevention. In this contemporary approach to primary care, health care providers discuss lifestyle behaviors with children and their families and thus provide the education and support necessary to make and sustain healthy choices. Given the frequent visits families make to the primary care office for health maintenance during childhood, an intervention towards the promotion of physical activity in this type of setting seems ideal.

Needs Assessment

Valencia Health Services (VHS) is an integrated service-teaching practice owned and operated by the University of California, San Francisco (UCSF), under the direction of the Department of Family Health Care Nursing and in partnership with the San Francisco State University (SFSU) School of Nursing. VHS is a primary care provider for children in the Mission, South of Market, and Bayview-Hunter's Point districts of San Francisco, California. In 2004, 49.7% of the children and adolescents seen at Valencia were Latino, 21.9% African-American, 8.9% Asian or Pacific Islander, 7.96% White, and 11.5% identified themselves as "other".

Approximately 35% of these children had private health insurance, while the remainder had Medicaid, SCHIP, or were uninsured.

Over the past few years, VHS has been tracking the BMI of its patients over 2 years of age, as well as certain behaviors that may contribute to increased BMI. Current data shows that 31.1% of VHS children ages 4 to 11 and 36.3% of teens ages 12 to 19 have a BMI > 95%-- far above the national average. In addition, at VHS as many as 34.9% of the teens report never or rarely getting vigorous exercise and 45.1% of children 4 to 11 and 68.2% of teens 12 to 19 are spending more than 2 hours per day on screen time.

In a recent review of PA intervention research Estabrooks and Glasgow [62] report that despite wide dissemination of findings and guidelines for PA, weight management and CV fitness there is little evidence that clinical PA interventions are being translated into practice. And yet the concerning findings from the VHS clinic prompted the design of a new approach to the promotion of physical activity among children and families by the authors, using a systems and relationship model of translation.

Behavioral Counseling in the Promotion of PA

There is strong evidence to support the use of behavioral counseling in conjunction with dietary monitoring, parenting skill development, and physical activity for the prevention of childhood overweight [29,30,63]. Creating sustainable behavior change is in part related to building intrinsic motivation for maintaining the desired behavior (64–67). In addition, children and families make more effective and lasting behavior changes if they have more autonomy and control in managing the change process, especially if they receive support and empathy while doing so [64–67,68]. Although the motivation for change process is patient-centered, the guidance and support of healthcare professionals is essential to its success.

In a survey of VHS providers, all felt that the majority of children seen at the clinic would benefit from physical activity and nutrition advice and all attempted to address these issues. However, most felt that they lacked sufficient time and resources to address these issues comprehensively. In fact, research has shown that the amount of MD and PNP time spent on PA promotion is generally low [69–71]. Primary care providers often cite lack of time or decreased confidence as reasons for neglecting preventive counseling [72–78]. Lack of reimbursement has also been cited in explaining the low prevalence of counseling efforts among pediatricians and pediatric nurse practitioners [72,74,75,77].

Parenting Skills

In a review of scientific evidence by the American Dietetic Association (ADA) [29], multidimensional family-based interventions were strongly recommended for reducing childhood overweight, specifically those including parent training. In general, parents are considered strong role models for PA and healthy behaviors, and inactivity and obesity in parents is often a problem for their children as well [79–82]. Studies of multi-ethnic low-income children have demonstrated that support and encouragement from their parents alone results in an increase in PA levels [83–85]. VHS providers report that a considerable number of children with borderline blood pressure, lipids or blood sugar also had significant behavioral issues, challenging their parents' abilities to institute healthy lifestyle changes. Addressing parental misperceptions with regard to their children's health risks is also significant to promoting change. In a survey of African-American caregivers of 5 to 10 year-olds, only 44% perceived their child to have a weight problem, despite the fact that 70% of the children sampled were obese [86].

THEORETICAL MODEL

Motivational interviewing (MI) is a behavioral counseling technique that has been used by healthcare professionals to assist patients to who seek to modify unhealthy lifestyles. Motivational interviewing is a “client-centered, directive method for enhancing intrinsic motivation to change by exploring and resolving ambivalence” [87]. MI guides a patient through the process of reconciling feelings of ambivalence for change with overall goals for a desired behavior [64]. Through non-judgmental support and empathy, the counselor helps the patient and family develop and achieve set goals while fostering confidence and autonomy. Although more research on the efficacy of MI has been done in adult populations, there is ample evidence of its effectiveness in adolescents, especially for behaviors related to substance abuse and dietary control [88,89]. Empirical support for the application of MI to the modification of parental preventive care behaviors is also increasing [88]. MI has been successfully applied to the healthcare setting in recent years and evidence supports the training of healthcare providers in this technique [68,89,90].

Providers at VHS recognized that patient and parent readiness for change was a key factor in the success of any intervention. Prochaska and colleagues [91] have proposed a Transtheoretical model for a variety of types of behavioral change in both adults and children. Their model has five stages: precontemplation, contemplation, preparation, action, and maintenance. Individuals in the precontemplation stage are not thinking about making a change in behavior. In the contemplation stage individuals are seriously thinking about behavior change. The preparation stage involves both an attempt to stop previous behavior and an initiation of new behaviors. The action stage is a continuous period of behavioral change and maintenance, immediately following action and lasting until the problem behavior is extinguished. Prochaska’s stages of change are ideally suited to guide clinicians in determining a patient and family’s readiness to address changes in physical activity and nutrition behaviors.

PROGRAM DESIGN

Allied Health Professionals to Support PA Counseling—Evidence-based analysis of the literature demonstrates that multidimensional family-based programs, including behavioral and dietary counseling, parent training, nutrition education and promotion of PA, are the most effective for overweight treatment [29,63]. In addition, it has been found that counseling by allied health professionals, either as adjunct to a provider or alone, actually produced better long-term results [92]. The use of provider support staff in obesity and PA interventions provides complimentary reinforcement for effecting sustainable behavior change and addresses barriers such as time and reimbursement issues that limit primary care providers. In fact, many reimbursement codes associated with nutrition and exercise counseling are only applicable to non-physician providers [93].

Based on preliminary successful reports in Canada [94] which integrated a Physical Activity Counselor (PAC) into the adult primary health care team we adapted their approach for the VHS nurse managed center. During the primary care visit and using MI, provider and patient design a specific stage-based plan for increased PA. The patient is referred to an allied health professional (e.g., PAC) to reinforce the counseling done by the provider [92,94]. The provider uses credibility and a relationship with a patient to recommend the PA behavior change, and then the PAC provides the specialized counseling necessary to achieve this goal [92]. Fitness instructors, exercise specialists, or other individuals with experience in kinesiology or related fields are qualified to be a PAC. A PAC can provide more time interacting with a patient, has the education to counsel a family about PA, other behavior changes, and knows PA-related information in the community that may be beneficial to patients [92]. This approach avails greater time for the child and family, and more intensive and more effective counseling to

promote behavior change and maintenance to reduce health disparities in a diverse and at risk community population.

SUMMARY

An extensive body of literature provides strong evidence for the substantial benefits of regular PA, decreased sedentary behaviors, and health dietary practices for multicultural children and youth. Lack of PA and poor nutrition are clearly associated with health disparity-related chronic disease onset and shortened life among ethnically diverse and multicultural individuals. However, a new model of pediatric primary care that gives children and families easy access to services is culturally sensitive, and that uses an innovative, multidimensional team approach which maximizes provider skills and services, must be implemented and evaluated.

OVERALL CONCLUSION

Translating research findings on healthy lifestyles for children and families is not a radical or even new concept. Historically, nursing has always supported health promotion. But the field, until recently, labored under the heavy mantle of dyadic patient education without much attention to behavioral change psychology or even health literacy. Attention to developmental friendly alternatives in low demand settings for diverse communities is one step in not only thinking outside the proverbial box but in actually delivering it.

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References

1. Dryfoos, JG. The prevalence of problem behaviors: Implications for programs. In: Weissberg, RP., editor. Enhancing children's wellness. Thousand Oaks, California: Sage Publications; 1997. p. 17-46.
2. Centers for Disease Control and Prevention. WISQARS leading causes of death reports, 1999–2004. National center for injury prevention and control website. 2007 Jul 10 [Accessed December 2, 2007]. Available at <http://webappa.cdc.gov/sasweb/ncipc/leadcaus10.html>.
3. Ogden C, Carroll M, Curtin L, et al. Prevalence of overweight and obesity in the United States, 1999–2004. JAMA 2006;295(13):1549–1555. [PubMed: 16595758]
4. Centers for Disease Control and Prevention. Youth risk behavior surveillance – United States, 2005. MMWR 2006;55(SS5):23. [PubMed: 16723971]
5. US Census Bureau. Selected age groups for the population by race and hispanic origin for the United States: July 1, 2005. Press release: nation's population one third minority (table 3). 2006 May 10 [Accessed December 2, 2007]. Available at <http://www.census.gov/Press-Release/www/2006/nationalracetable3.pdf>.
6. US Census Bureau. The living arrangements of children in 2005. Population profile of the United States: dynamic version. 2007 Jul [Accessed December 2, 2007]. Available at <http://www.census.gov/population/pop-profile/dynamic/LivArrChildren.pdf>.
7. DeNavas-Walt, C.; Proctor, BD.; Smith, J. U.S. Census Bureau, Current Population Reports. Washington DC: US Government Printing Office; 2007. Income, poverty, and health insurance coverage in the United States: 2006. p. 60-233.
8. National Institutes of Health. Re-engineering the clinical research enterprise: translational research. NIH roadmap for medical research website. 2007 Sep 18 [Accessed January 11, 2008]. Available at <http://www.nihroadmap.nih.gov/clinicalresearch/overview-translational.asp>.
9. Healthy people 2010. Washington, DC: US Government Printing Office; 2000. US Department of Health and Human Services.
10. Villani S. Impact of media on children and adolescents: a 10-year review of the research. J Am Acad Child Adolesc Psychiatry 2001;40(4):392–401. [PubMed: 11314564]

11. Polce-Lynch M, Myers BJ, Kliewer W, et al. Adolescent self-esteem and gender: Exploring relations to sexual harassment, body image, media influence, and emotional expression. *J Youth Adolesc* 2001;30(2):225–244.
12. Committee on Public Education. Sexuality, contraception, and the media. *Pediatrics* 2001;107(1):191–194. [PubMed: 11134460]
13. Gerbner, G. Mixed messages: television and public perceptions of medicine. Presented at: American Medical Association; Los Angeles, CA. 1987 Feb.
14. Dietz WH. The role of lifestyle in health: the epidemiology and consequences of inactivity. *Proc Nutr Soc* 1996;55(3):829–840. [PubMed: 9004327]
15. Dietz WH, Gortmaker SL. Do we fatten our children at the television set? Obesity and television viewing in children and adolescents. *Pediatrics* 1985;75(5):807–812. [PubMed: 3873060]
16. Ekelund U, Brage S, Froberg K, et al. TV Viewing and physical activity are independently associated with metabolic risk in children: The European Youth Heart Study. *PLoS Med* 2006;3(12):2449–2457.
17. Must A, Bandini LG, Tybor DJ, et al. Activity, inactivity, and screen time in relation to weight and fatness over adolescence in girls. *Obesity* 2007;15(7):1774–1781. [PubMed: 17636096]
18. Robinson TN. Reducing children's television viewing to prevent obesity: a randomized controlled trial. *JAMA* 1999;282(16):1561–1567. [PubMed: 10546696]
19. te Velde SJ, De Bourdeaudhuij I, Thorsdottir I, et al. Patterns in sedentary and exercise behaviors and associations with overweight in 9–4-year-old boys and girls—a cross-sectional study. *BMC Public Health* 2007;7:16. [PubMed: 17266745]
20. Davison KK, Marshall SJ, Birch LL. Cross-sectional and longitudinal associations between TV viewing and girls' body mass index, overweight status, and percentage of body fat. *J Pediatr* 2006;149:32–37. [PubMed: 16860123]
21. Epstein LH, Paluch RA, Gordy CC, et al. Decreasing sedentary behaviors in treating pediatric obesity. *Arch Pediatr Adolesc Med* 2000;154(3):220–226. [PubMed: 10710017]
22. Ford BS, McDonald TE, Owens AS, et al. Primary care interventions to reduce television viewing in African-American children. *Am J Prev Med* 2002;22(2):106–109. [PubMed: 11818179]
23. Lumeng JC, Appugliese D, Cabral HJ, et al. Neighborhood safety and overweight status in children. *Arch Pediatr Adolesc Med* 2006;160(1):25–31. [PubMed: 16389207]
24. Salmon J, Ball K, Crawford D, et al. Reducing sedentary behaviour and increasing physical activity among 10-year-old children: overview and process evaluation of the "Switch-Play" intervention. *Health Promot Int* 2005;20(1):7–17. [PubMed: 15668218]
25. Treuth M, Hou N, Young D, et al. Accelerometry-measured activity or sedentary time and overweight in rural boys and girls. *Obes Res* 2005;13(9):1606–1614. [PubMed: 16222064]
26. Viner R, Cole T. Television viewing in early childhood predicts adult body mass index. *J Pediatr* 2005;147:429–435. [PubMed: 16227025]
27. Wiecha JL, Peterson KE, Ludwig DS, et al. When children eat what they watch. *Arch Pediatr Adolesc Med* 2006;160(4):436–442. [PubMed: 16585491]
28. Motl R, Dishman R, Saunders R, et al. Perceptions of physical and social environment variables and self-efficacy as correlates of self-reported physical activity among adolescent girls. *J Pediatr Psychol* 2007;32(1):6–12. [PubMed: 16707779]
29. American Dietetic Association. Individual-, family-, school-, and community-based interventions for pediatric overweight. *J Am Diet Assoc* 2006;106:925–945. [PubMed: 16812927]
30. Kirk S, Scott BJ, Daniels SR. Pediatric obesity epidemic: treatment options. *J Am Diet Assoc* 2005;105:S44–S51. [PubMed: 15867895]
31. Peterson L, Bartelstone J, Kern T, et al. Parents' socialization of children's injury prevention: description and some initial parameters. *Child Dev* 1995;66:224–235. [PubMed: 7497826]
32. Tinsley BJ. Multiple influences on the acquisition and socialization of children's health attitudes and behavior: an integrative review. *Child Dev* 1992;63(5):1043–1069. [PubMed: 1446542]
33. Sharrer VW, Ryan-Wenger NM. A longitudinal study of age and gender differences of stressors and coping strategies in school-aged children. *J Pediatr Health Care* 1995;9(3):123–130. [PubMed: 7769556]

34. Kennedy CM, Strzempko F, Danford C, et al. Children's perceptions of TV and health behavior effects. *J Nurs Scholarsh* 2002;34(3):289–294. [PubMed: 12237993]
35. Gentile, DA.; Walsh, DA. MediaQuotient®: National survey of family media habits, knowledge, and attitudes. Minneapolis, MN: National Institute on Media and the Family; 1999.
36. Jason LA. Self-monitoring in reducing children's excessive television monitoring. *Psychol Rep* 1983;53(3 Pt 2):1280. [PubMed: 6669685]
37. Jason LA, Rooney-Rebeck P. Reducing excessive television viewing. *Child & Family Behavior Therapy* 1984;6(2):61–69.
38. Jason LA. Using a token-actuated timer to reduce television viewing. *J Appl Behav Anal* 1985;18(3):269–272. [PubMed: 16795690]
39. Jason LA, Johnson SZ, Jurs A. Reducing children's television viewing with an inexpensive lock. *Child & Family Behavior Therapy* 1993;15(3):45–54.
40. Jason LA, Johnson SZ. Reducing excessive television viewing while increasing physical activity. *Child & Family Behavior Therapy* 1995;17(2):35–45.
41. Singer, DG.; Singer, JL.; Zuckerman, DM. Teaching television: how to use TV to your child's advantage. New York: Dial Press; 1981.
42. Dorr A, Graves SB, Phelps E. Television literacy for young children. *J Commun* 1980 Summer;:71–83. [PubMed: 7372846]
43. Dorr A, Kovaric P, Doubleday C. Parent-child coviewing of television. *Journal of Broadcasting & Electronic Media* 1989;33(1):35–51.
44. Dorr, A.; Rabin, BE. Parents, children, and television. In: Bornstein, MH., editor. *Handbook of parenting, Vol. 4: applied and practical parenting*. Hillsdale, NJ, England: Lawrence Erlbaum Associates, Inc; 1995. p. 323–351.
45. Deci, EL. *The psychology of self-determination*. Lexington, Mass: Lexington Books; 1980.
46. Cox CL, Miller EH, Mull CS. Motivation in health behavior: measurement, antecedents, and correlates. *ANS Adv Nurs Sci* 1987 Jul;9(4):1–15. [PubMed: 3111347]
47. Riesch SK, Tosi CB, Thurston CA. Accessing young adolescents and their families for research. *J Nurs Scholarsh* 1999;31(4):323–326.
48. Shure MB. I can problem solve (ICPS): an interpersonal cognitive problem solving program for children. *Residential Treatment for Children & Youth. Special Issue: Innovative mental health interventions for children: Programs that work* 2001;18(3):3–14.
49. Robinson TN, Saphir MN, Kraemer HC, et al. Effects of reducing television viewing on children's requests for toys: a randomized controlled trial. *J Dev Behav Pediatr* 2001;22(3):179–184. [PubMed: 11437193]
50. Strong WB, Malina RM, Blimkie CJ, et al. Evidence based physical activity for school-age youth. *J Pediatr* 2005;146:732–737. [PubMed: 15973308]
51. Global strategy on diet, physical activity, and health. Geneva, Switzerland: WHO; 2004. World Health Organization.
52. Eisenberg ME, Neumark-Sztainer D, Story M. Associations of weight-based teasing and emotional well-being among adolescents. *Arch Pediatr Adolesc Med* 2003;157:733–738. [PubMed: 12912777]
53. Eisenberg ME, Neumark-Sztainer D, Haines J, et al. Weight-teasing and emotional well-being in adolescents: longitudinal findings from Project EAT. *J Adolesc Health* 2006;38:675–683. [PubMed: 16730595]
54. Hesketh K, Wake M, Waters E. Body mass index and parent-reported self-esteem in elementary school children: evidence for a causal relationship. *J Obes* 2004;28:1233–1237.
55. Werrij MQ, Mulkens S, Hospers HJ, et al. Overweight and obesity: the significance of a depressed mood. *Patient Educ Couns* 2006;62:126–131. [PubMed: 16095867]
56. Friedlander SL, Larkin EK, Rosen CL, et al. Decreased quality of life associated with obesity in school-aged children. *Arch Pediatr Adolesc Med* 2003;157:1206–1211. [PubMed: 14662577]
57. Dishman RK, Hales DP, Pfeiffer KA, et al. Physical self-concept and self-esteem mediate cross-sectional relations of physical activity and sport participation with depression symptoms among adolescent girls. *Health Psychol* 2006;25(3):396–407. [PubMed: 16719612]

58. Rodriguez D, Audrain-McGovern J. Physical activity, global physical self-concept, and adolescent smoking. *Ann Behav Med* 2005;30(3):251–259. [PubMed: 16336076]
59. Council on Sports Medicine and Fitness and Council on School Health. Active healthy living: prevention of childhood obesity through increased physical activity. *Pediatrics* 2006;117(5):1834–1842. [PubMed: 16651347]
60. National Association of Pediatric Nurse Practitioners. Healthy Eating and Activity Together (HEAT SM) Clinical Practice Guideline: Identifying and Preventing Overweight in Childhood. Cherry Hill, NJ: NAPNAP; 2006.
61. Turbett P. Position statement on exercise and physical activity. *J Pediatr Nurs* 2006;21(1):80–83. [PubMed: 16428018]
62. Estabrooks PA, Glasgow RE. Translating effective clinic based physical activity interventions into practice. *Am J Prev Med* 2006;31:S45–S56. [PubMed: 16979469]
63. Shaw K, O'Rourke P, Del Mar C, et al. Psychological interventions for overweight or obesity. *Cochrane Database Syst Rev* 2005 Apr;18(2):CD003818. [PubMed: 15846683]
64. Markland D, Ryan RM, Tobin VJ, et al. Motivational interviewing and self-determination theory. *J Soc Clin Psychol* 2005;24(6):811–831.
65. Matsumoto H, Takenaka K. Motivational profiles and stages of exercise behavior change. *International Journal of Sport and Health Science* 2004;2:89–96.
66. Ryan RM, Deci EL. Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *Am Psychol* 2000;55(1):68–78. [PubMed: 11392867]
67. Vansteenkiste M, Sheldon KM. There's nothing more practical than a good theory: integrating motivational interviewing and self-determination theory. *Br J Clin Psychol* 2006;45:63–82. [PubMed: 16480567]
68. Britt E, Hudson SM, Blampied NM. Motivational interviewing in health settings: a review. *Patient Educ Couns* 2004;53:147–155. [PubMed: 15140454]
69. Galuska DA, Will JC, Serdula MK, et al. Are health care professionals advising obese patients to lose weight? *JAMA* 1999;282(16):1576–1578. [PubMed: 10546698]
70. O'Brien SH, Holubkov R, Reis EC. Identification, evaluation, and management of obesity in an academic primary care center. *Pediatrics* 2004;114:154–159.
71. Wee CC, McCarthy EP, Davis RB, et al. Physician counseling about exercise. *JAMA* 1999;282(16):1583–1588. [PubMed: 10546701]
72. Barlow SE, Dietz WH. Management of child and adolescent obesity: summary and recommendations based on reports from pediatricians, pediatric nurse practitioners, and registered dietitians. *Pediatrics* 2002;110:236–238. [PubMed: 12094001]
73. Cheng TL, DeWitt TG, Savageau JA, et al. Determinants of counseling in primary care pediatric practice. *Arch Pediatr Adolesc Med* 1999;153:629–635. [PubMed: 10357306]
74. Larsen L, Mandelco B, Williams M, et al. Childhood obesity: prevention practices of nurse practitioners. *J Am Acad Nurse Pract* 2006;18:70–79. [PubMed: 16460413]
75. Perrin EM, Flower KB, Garrett J, et al. Preventing and treating obesity: pediatricians' self-efficacy, barriers, resources, and advocacy. *Ambul Pediatr* 2005;5:150–156. [PubMed: 15913408]
76. Pinto BM, Goldstein MG, Marcus BH. Activity counseling by primary care physicians. *Prev Med* 1998;27:506–513. [PubMed: 9672943]
77. Story MT, Neumark-Stzainer DR, Sherwood NE, et al. Management of child and adolescent obesity: attitudes, barriers, skills, and training needs among health care professionals. *Pediatrics* 2002;110:210–214. [PubMed: 12093997]
78. Wee CC. Physical activity counseling in primary care: The challenge of effecting behavioral change. *JAMA* 2001;286(6):717–719. [PubMed: 11495623]
79. Borra ST, Kelly L, Shirreffs MB, et al. Developing health messages: qualitative studies with children, parents, and teachers help identify communications opportunities for healthful lifestyles and the prevention of obesity. *J Am Diet Assoc* 2003;103(6):721–728. [PubMed: 12778044]
80. Conner, JM. The Center for Child Well-Being. Physical activity and well-being. In: Bornstein, MH.; Davidson, L.; Keyes, CLM.; Moore, KA., editors. *Well-being: positive development across the life course*. Mahway, NJ: Lawrence Erlbaum Associates; 2003.

81. Fogelholm M, Nuutinen O, Pasanen M, et al. Parent-child relationship of physical activity patterns and obesity. *J Obes Relat Metab Disord* 1999;23(12):1262–1268.
82. Moag-Stahlberg A, Miles A, Marcello M. What kids say they do and what parents think kids are doing: the ADAF/Knowledge Networks 2003 family nutrition and physical activity study. *J Am Diet Assoc* 2003;103(11):1541–1546. [PubMed: 14576728]
83. Klesges RC, Malott JM, Boschee PF, et al. The effects of parental influences on children's food intake, physical activity, and relative weight. *J Eat Disord* 1986;5(2):335–346.
84. McGuire MT, Hannan PJ, Neumark-Sztainer D, et al. Parental correlates of physical activity in a racially/ethnically diverse adolescent sample. *J Adolesc Health* 2002;30(4):253–261. [PubMed: 11927237]
85. O'Loughlin J, Paradis G, Kishchuk N, et al. Prevalence and correlates of physical activity behaviors among elementary schoolchildren in multiethnic, low income, inner-city neighborhoods in Montreal, Canada. *Ann Epidemiol* 1999;9(7):397–407. [PubMed: 10501407]
86. Young-Hyman D, Herman LJ, Scott DL, et al. Care giver perception of children's obesity-related health risk: a study of African American families. *Obes Res* 2000;8(3):241–248. [PubMed: 10832767]
87. Miller, WR.; Rollnick, S. *Motivational interviewing: preparing people for change*. New York: Guilford Press; 2002. p. 25
88. Erickson SJ, Gerstle M, Feldstein SW. Brief interventions and motivational interviewing with children, adolescents, and their parents in pediatric health care settings. *Arch Pediatr Adolesc Med* 2005;159:1173–1180. [PubMed: 16330743]
89. Sindelar HA, Abrantes AM, Hart C, et al. Motivational interviewing in pediatric practice. *Curr Probl in Pediatr Adolesc Health Care* 2004;34:322–339.
90. Scales R, Miller JH. Motivational techniques for improving compliance with an exercise program: skills for primary care clinicians. *Curr Sports Med Rep* 2003;2(3):166–172. [PubMed: 12831657]
91. Velicer WF, Hughes SL, Fava JL, et al. An empirical typology of subjects within stage of change. *Addict Behav* 1995;20:299–320. [PubMed: 7653313]
92. Tulloch H, Fortier M, Hogg W. Physical activity counseling in primary care: who has and who should be counseling? *Patient Educ Couns* 2006;64(1–3):6–20. [PubMed: 16472959]
93. American Academy of Pediatrics. Obesity and related co-morbidities coding fact sheet for primary care pediatricians. American Academy of Pediatrics Website. 2005 Jul [Accessed July 13, 2006]. Available at <http://www.aap.org/obesity/Obesity%20CodingFactSheetAugust07.pdf>.
94. Fortier, M.; Hons, WH. Project summary. The PAC Project Website. 2006 Feb 24 [Accessed July 18, 2006]. Available at <http://www.health.uottawa.ca/pac/index.php?page=accueil&slang=an>.

Table 1

Intervention Program

<i>Curriculum Concept</i>	Week One – Choices in Activities	Week Two – Consumerism and Unhealthy foods	Week Three – Risk-taking/ Consequences (self)	Week Four – Risk-taking/ Consequences (others)
Behavioral Domain	Coping; Motivation	Cognitive Appraisal	Self-Regulation	Competency (self efficacy)
Role Play	Reporters!	Detectives!	Doctors and Nurses!	Coaches!
Mode	Role play of children being interviewed by a reporter regarding TV viewing and alternate activities	Laptop video clip of taste tests of three different cola brands and understanding brands	Laptop video clip of action/adventure scenes with potential injuries	Laptop video clips of Superheroes and conflict scenes
Group Activity	Group dialogue regarding their media use, favorite shows, etc; fun activity worksheets	Cola challenge	“Emergency!” game	Group dialogue of consequences and alternative problem-solving strategies
Practice	Determining children’s media and lifestyle habits and motivation; encouraging choice and healthy activities	Learning to look for clues regarding product contents and advertising.	Preventing accidents, injuries, and illness	Learning and practicing problem solving strategies
Knowledge	Kids can choose healthier, alternative activities to watching television	Commercials and ads are meant to sell you products, and may not tell you everything you need to know to make healthy buying decisions.	Media do not usually show real life consequences to risky and unhealthy behaviors.	Violence is not a viable solution to solving real-life problems, even though the media often portray it as such.
Skill	Generating alternate activities; utilizing internal and external resources	Critical Thinking – Reading food labels and deconstructing ads	Deconstructing special effects and identifying real life consequences to risky and unhealthy behaviors portrayed in the media.	Problem-solving; applying concrete steps to solving problems; utilizing internal and external resources
Family and Peer Reinforcement	Practicing alternate activities and reinforcing healthy behaviors via journal and photography	Fostering critical analysis of ads through peer competitive play and conscious media disengagement; Practicing disengagement and critical viewing at home via “Mute the Commercials” activity.	Identifying harmful behaviors evidenced in daily media portrayals; Practicing identifying harmful behaviors, by determining when real life injuries would result from televised behaviors, and placing Band-Aids on TV Kids while viewing television.	Applying problem-solving strategies to real-life situations with peers and family; practicing problem solving strategies via televised conflicts and generating alternate outcomes.