Social Networks and Social Support: Implications for Natural Helper and Community Level Interventions

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The convincing evidence of the relationship between social support, social networks, and health status has influenced the development of program strategies which are relevant to health education. This article focuses on the linkage between social support and social networks and health education programs which involve interventions at the network and community level. Two broad strategies are addressed: programs enhancing entire networks through natural helpers; and programs strengthening overlapping networks/communities through key opinion and informal leaders who are engaged in the process of community wide problem-solving. Following a brief overview of definitions, this article highlights several network characteristics which are often found to be related to physical and mental health status. Suggestions are made for how these network characteristics can be applied to the two program strategies. Principles of practice for the health educator, and some of the limitations of a social network approach are delineated. The article concludes with a recommendation for engaging in action research—a perspective highly consistent with both the strategies discussed and the concepts of social networks and social support. This approach not only recognizes, but also acts to strengthen indigenous skills and resources.

INTRODUCTION

Human service delivery systems in general and health education programs more specifically tend to focus on the individual as the unit of practice and solution.[1] Even interventions involving family members or groups still emphasize behavioral change by the focal individual. The limits which individuals have over controlling and changing their own behavior are often not considered.

Extensive empirical evidence has identified various psychosocial factors as predictors of health behavior and health and mental health status. Among these factors are stress, coping, social support and social networks, socioeconomic status, and competence.[2-16]

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This article will focus on the linkage between social support and social networks and health education programs which involve units of practice beyond the individual as the target of change. Two broad strategies will be addressed: programs enhancing entire networks through natural helpers; and programs strengthening overlapping networks/communities through key opinion and informal leaders who are engaged in the process of community wide problem-solving.

This article will not review the extensive theoretical or empirical evidence regarding the relationship between social support and social networks and health, nor discuss the numerous methodological problems. Since there are many such reviews in the literature,[5,13,14,16–30] this paper will suggest how significant findings can be integrated into practice. The emphasis here is to build upon current knowledge, while recognizing the tentative and sometimes contradictory nature of the findings, and the scarcity of evaluation research which suggests that interventions can be carried out effectively. An action research strategy is described and recommended for future work in this area.

DEFINITIONS

There are several frequently cited similar definitions of social support.[14,18,23] According to House,[14] social support refers to four broad classes of supportive behavior or acts: emotional support (affect, esteem, concern); appraisal support (feedback, affirmation); informational support (suggestion, advice, information); and instrumental support (aid in labor, money, time).

While this definition and its application have made significant contributions to the field, several convincing arguments have been made that the use of a broader social network approach, rather than just examining social support, can be advantageous for understanding health behavior and health status.[16,26,31–38] Of particular relevance to this discussion, the analysis of social networks is considered to be an approach for delineating social intereactions. This approach provides for the investigation of numerous network characteristics, not just social support;[32,33] the examination of the context of interpersonal ties, for example, the number of ties and the frequency of interactions, that might provide different types of social support, with different effects;[16,36,37] and the identification and application of network characteristics for developing interventions aimed at improving health status.[33,38]

While the term "social network" has been defined in a variety of ways, this paper uses Mitchell's[31] definition "a specific set of linkages among a defined set of persons, with the additional property that the characteristics of these linkages as a whole be used to interpret the social behavior of the person involved (p.2)." In this definition a network refers to a set of relationships among individuals which has numerous characteristics that can be categorized along three dimensions.[5,20,24,26,39–41] *Structural* characteristics refer to the connections in the overall network, such as size and density—the percentage of people in the network who know one another. *Interactional* characteristics of social networks refer to the nature of the relationships themselves such as frequency of interaction and reciprocity—the extent to which support is both given and received. *Functional* characteristics refer to the functions provided by network members including affective support (caring, love), instrumental support (tangible aid), development of new social contacts, and maintenance of social identity. Thus, networks describe social relationships, some or all of which may or may not provide social support.

SIGNIFICANT NETWORK CHARACTERISTICS

Although it is premature to suggest a definitive list of important network characteristics with a high correlation to health, several are frequently shown to be significantly related to well-being.

Intensity: the emotional closeness between the focal person and network members (often operationalized by the presence of a confidant—at least one person in whom one does confide).

Reciprocity: the mutuality within a relationship, the extent to which support functions are both given and received within a network.

Affective support: the provision of moral support, caring and love.

The combination of these characteristics suggests that it is the quality (meaning, intensity, mutual sharing), not the quantity (size, frequency of interaction), of social relationships that is most strongly associated with physical and psychological well-being.[25,42–45]

Several additional network characteristics seem to be associated with well-being, although the findings are more inconsistent. These characteristics include:

Size: the number of direct contacts an individual has.

Density: the extent to which members of a network know one another.

Instrumental support: the provision of tangible aid and services, such as loan of money, food, help with child care.

Cognitive support: the provision of diverse information, new knowledge, advice.

The preceding lists are not necessarily complete, and the significance of these characteristics is quite variable, depending upon the needs and situations of a given individual and network. For example, an individual recovering from severe injuries sustained in an automobile accident may benefit from a small, close-knit (high density), intimate network which provides affective support, but may not have enough members (size) who are able to provide instrumental support, such as contacting work associates or providing transportation. Similarly, a recently divorced individual may initially be assisted by a small, dense network containing a confidante, but later will need a larger, loose-knit network with more weak ties (bridging ties) which can provide new information and access to new social contacts. The empirical evidence regarding the role of social support in buffering stress suggests that different types of support are called for in response to different stressors and in different subcultures.[16] Therefore, even though there are some network characteristics which are significantly related to well-being and thus have particular relevance to practice, it is necessary to diagnose the situation and needs of any individual and network before carrying out an intervention.

LEVELS OF INTERVENTION

Social network and social support concepts have been applied to different levels of intervention, e.g., individual, family, group, network, community. In addition, a variety of labels have been given to the different types of strategies used, e.g., enhancing already existing personal networks, mutual aid networks, neighborhood helper, network-centered support development activities.[16,26,46,47] These diverse strategies also have correspondingly diverse goals, such as health promotion, primary, secondary,

and/or tertiary prevention. The focus here is on strategies which aim to foster change beyond the individual level. Programs which involve: (1) enhancing natural caregiving networks through natural helpers; and (2) strengthening overlapping networks/communities through individuals engaged in the process of community wide problem-solving where network strengthening is usually a secondary program aim.

PROGRAM CATEGORIES: NATURAL HELPERS AND COMMUNITY

Although networks can be examined from the perspective of the individual and interactions with members of his or her network, the program strategies discussed here are examples of examining an entire network system and the interconnectedness within and among networks.[48] Here, relationships are identified among sets of individuals and involve multiple networks. Within this perspective, there are two broad categories of programs.

First, there are programs which aim to enhance the "total network"[48] with the intervention working through the natural helpers within the network. Such natural caregivers are lay people to whom others naturally turn for advice, emotional support, and tangible aid. They provide informal, spontaneous assistance, which is so much a part of everyday life that its value is often not recognized. These natural helpers provide daycare for young and old, advice and emotional support on health, personal, family, and financial matters, and referral information to formal agencies when necessary. Natural helpers are most often characterized as persons who are respected and trusted, and who listen well and are empathic, sufficiently in control of their own life circumstances, and responsive to the needs of others. The identification of such natural helpers for an intervention may be, for example, from a neighborhood base or a church base with the emphasis on working with the natural caregiver to strengthen the entire entity of his or her network.

The second category of programs are developed explicitly to bring together interacting and overlapping networks, usually through the identification of key opinion leaders, to engage in community wide problem-solving. The strengthening of supportive network linkages is usually considered, if at all, as a secondary aim of the program. In this context, these interacting and overlapping networks can be referred to as communities. The term "community" is used here to imply communality in the sense that there are members sharing a relatively distinctive life-style and with which there is a sense of identity and belonging, shared values, norms, communication and helping patterns. A community may be geographically bounded but this is not essential to the definition. Within this category of intervention, a community of interest is usually designated, followed by the identification of key influentials/opinion leaders, who are engaged in bringing together their networks in a cooperative problem-solving process to address identified problem areas.

NATURAL HELPER INTERVENTIONS

There are numerous program examples of relevance to health education in which the main focus was on strengthening networks through working with natural helpers.[16,35,46,48–54] Some of the similarities and differences in how such program strategies have been designed and implemented will be discussed here.

Selection of Natural Helpers. Most frequently a set of criteria is established which describes the characteristics/type of person which fits the project's definition of a natural helper. Various terms are used, e.g., "health facilitator," "natural neighbor." The selection of individual natural helpers can be carried out by professional staff involved in a series of open-ended interviews within the project area. One approach is the "reputational method" of asking for names of persons who fit the criteria and then interviewing those persons who are repeatedly mentioned. In some instances the selection is made by, for example, the project's advisory board or deacons of the church. The base from which these helpers are selected may vary from a geographically defined neighborhood, an entire catchment area, a church, or an apartment building.

Needs Assessment Strategies. Frequently, the beginning of a project involves participant observation and informal interviews in a diagnosis of the target area, including the nature of network interactions. In some programs a formal, close-ended survey of residents is carried out to identify needs. Some programs focus on professionally identified needs as defined by census data, epidemiological evidence, and similar sources of information.

Target Population. Programs have focused, for example, on parents in need of day care services, low income elderly persons with a variety of needs, low and middle income black communities where persons are at risk for numerous health problems, and the general population.

Goals and Objectives. The overall goal of this strategy is to strengthen the entire network for all of its members. Additional objectives have included health promotion, early detection of health problems, provision of referral information, training in the application of first aid techniques, skill development in the use of audiovisual materials, and network building and help-giving. Programs have distinguished between developing existing skills of the natural helpers and developing new skills.

Implementation Strategy. Some programs have used a one-to-one process consultation approach for developing a relationship and providing service between the professionals and the natural helpers.[48–50,54] Others have relied upon training where natural helpers are brought together in a group.[51–53] The varied content of such training has included specific instruction on health and disease, information on the service delivery system, and developing skills of effective counseling. A combination of consultation and training is also used.[51]

Evaluation Methods. Some programs have used knowledge pre- and post-tests for substantive training sessions.[51,53] Some programs have asked natural helpers to keep records of help-giving interactions,[50,51] and some have conducted interviews with natural helpers regarding their help-giving interactions as well as satisfaction with the program.[50,51]

SUGGESTIONS FOR INTEGRATING NETWORK CONCEPTS

Natural helper interventions are considerably more complex than what has been portrayed here. However, it is hoped that the information provided gives enough background for understanding the suggestions of how such programs might apply and integrate the social network and social support concepts most strongly associated with health status. It is important to note that much of the research in this area has examined supportive aspects of networks for a person needing help and not specifically for a natural helper. The following applies these research findings to program components

involving both the natural helper and network members who need help. Although in some instances such applications to the natural helper may go beyond or be contradictory to the evidence (see following discussion on reciprocity), these suggestions seem appropriate as a preliminary synthesis of current findings and practice issues.

Because this program strategy aims to strengthen existing networks through the involvement of natural helpers, the approach used to identify and select such helpers is crucial. Some of the criteria for selection could include the extensiveness (size) of the natural helper's network; the degree to which members of the network know one another (density); the extent to which there are varying strengths of ties within the network; the extent and diversity of support functions provided, e.g., affective, instrumental, cognitive. The actual entrée and selection process would seem most effective if it included an ethnographic approach in which the professionals involved would obtain an understanding of both who the natural helpers are, and how the networks operate within the values and norms of the target area. The use of a multifaceted reputational method to obtain names of natural helpers seems most appropriate. This allows for cross-validation and avoids the possible misapplication of criteria and selection based on positions held or "favors owed," which might happen with advisory boards or committees. Members of the target population need to be actively involved in the reputational approach. Throughout this early period of examination, the question of whether natural helpers exist needs to be asked with a willingness on the part of the professional to adopt another strategy if such helpers do not readily appear within the target population.

After selecting existing natural helpers, emphasis should be placed on increasing the number of meaningful relationships not only between the helper and individuals within the network (size), but also between network members themselves (density). This could be accomplished through the provision of network functions, such as providing meals for someone recently home from the hospital, and would need to be situation specific. For example, one individual may need emotional support regarding a personal matter, and another individual may need help in finding a job. The natural helper may provide the network function directly to the former individual, but might encourage the latter person to develop new linkages with several other network members. In this second instance the natural helper could introduce, by the telephone or in person, the given individual to persons who are particularly knowledgeable about job opportunities and strategies for finding a job. The natural helper could followup to make sure the contacts had been made, whether they were successful, and determine what if any additional connections would be beneficial.

The extent to which such relationships can be characterized as reciprocal (mutual sharing) is usually considered to be most important. Natural helper interventions provide a somewhat different challenge when trying to integrate this concept of reciprocity. On the one hand, natural helpers are persons who seem not to have extensive need for receiving social support, and often establish ties which may be non-reciprocal, without experiencing significant adverse effects. On the other hand, persons receiving nonreciprocal support often experience negative feelings about receiving help.[55] Therefore, network members may have a greater need for reciprocity in relationships than the natural helper. Furthermore, this need for reciprocity may differ depending upon the context of a relationship over time. Wentowski[56] suggests that distant relationships have more immediate need for reciprocity than closer relationships which are built on deferred reciprocity, and that a more generalized reciprocity is appropriate for long

term relationships. An awareness by natural caregivers of this norm of reciprocity might assist them in analyzing and strengthening ties within their networks. The aim may not be to increase reciprocity *between* the natural helper and a given network member needing help, but may be for the natural helper to assist in increasing reciprocal ties *within* the network of the individual needing help.

Initially, it would seem that a mutual consultation approach between the professional and the natural helper would be appropriate.[50] This would involve the development of a trusting, reciprocal relationship in which the professional and natural helper could apply a network analytic approach to identify the characteristics of the natural helper's network, and also discuss network building techniques. This one-to-one consultation approach would ensure confidentiality and tailor the professional/lay interaction to meet the specific needs of the individual natural helper. It is most important that the professional be sensitive to culturally different forms of network interactions, and that a collaborative rather than authoritative relationship be established with the natural caregiver.[16,49]

Conducting a network analysis with the natural caregiver would provide a means of identifying how many and what types of persons come to the caregiver for what types of help and the nature of the interactions. Such information would give both the caregiver and the professional an understanding of the helping process, which could be used to determine what types of strategies might be used. For example, the lay advice-giver might decide to provide more affective support and increase linkages between network members themselves. Hence, the use of a network analytic approach enables the natural caregiver to identify the characteristics of the network and then place particular emphasis on strengthening those characteristics which have been identified as being strongly associated with well-being. There are many different approaches to delineating/mapping social networks.[31,57–63] (An example of a network analytic tool is available from the author.)

Depending upon the focus of the program and the existence of shared informational needs among the natural helpers, the use of training may be helpful, for example content focused on health and disease. However, there is reason for concern that:[13,50] (1) training should not focus on helping skills, since these frequently translate into professionally determined skills, and may undermine the very strengths of the natural helpers; and (2) training may bring about problems with confidentiality. Such training could focus on indigenous helping skills used by several natural helpers, with the potential benefit being that it enables the helpers themselves to learn and gain from one another (cognitive support, and reciprocity). Furthermore, natural helpers might obtain affective support through training sessions. At minimum, it would seem important that the natural helpers themselves decide whether or not they want to be involved in training and that they be actively involved in determining the content and process of the training.

The evaluation of natural helper programs is complicated and needs greater attention than will be given here. As a first step, the specific objectives of a program need to be determined, and decisions made regarding who and what will be the focus for evaluation. The focus might be the natural helpers themselves, network members, or the entire network, with regard to, for example, change in network characteristics, health behavior, strength of the network, or well-being. Such decisions should be guided by the empirical evidence referred to earlier and theoretical foundations (exchange,[67,68] symbolic interactionism,[69] diffusion of innovations[70]) applicable to this

program strategy. Data collection methods should include both qualitative and quantitative approaches in order to gain in-depth, reliable, and valid information on the process and outcomes of the program. Some of the issues which need to be addressed are sole use of self-reports by natural helpers; possible problems with confidentiality; potential alteration of the natural system by involving network members in evaluation; difficulties in record keeping; and the role of the lay system in developing an evaluation schema.

COMMUNITY LEVEL INTERVENTIONS

The second broad category of programs which will be examined here are community level interventions that involve bringing together interacting and overlapping networks to engage in community wide problem-solving—where "community" implies that members have a sense of identity and belonging, shared values, norms, communication, and helping patterns. The strengthening of networks is usually considered, if at all, as a secondary aim of the intervention.

There are several important aspects of communities and community interventions which make them particularly appropriate for the application of social network and social support concepts. A primary consideration in working within a community context relates to the functions which communities may provide for their members. According to Klein,[71] these functions are the maintenance of the physical and social environment, finding help and support at times of stress, and achieving a sense of self and of social worth. Warren and Warren[72] describe six functions of a neighborhood context: a sociability arena, an interpersonal influence center, mutual aid, an organization base, a reference group, and a status arena. Several of these functions are similar to social network characteristics, e.g., reciprocity, affective, instrumental and cognitive support, maintenance of a social identity, and access to new social contacts. Additionally, the use of a network analytic approach is an appropriate means of delineating communities, because such an analysis identifies social linkages and exchange of resources—factors important to both networks and communities.[73]

The focus of the community level interventions being addressed here is on strengthening networks as a way of enhancing a community's capacity to achieve its primary goals, such as: empowerment—gaining control over decision-making; community competence—joining in cooperative problem-solving strategies; and reducing stressors—as identified by the community itself. These goals are often aimed at making basic social changes in the way communities (society) distribute political and economic resources. Although the nature of these goals will not be elaborated upon here, their suggested relevance to the current discussion is that "the strength of a community's capacity to organize and alleviate certain local health problems is health promoting in itself."[74]

Using "community organization" as an umbrella term for the types of community level interventions which are applicable to health education practice, there are at least five different models: community development, social planning, social action, public advocacy, and consciousness raising.[75,76] Although it it not the purpose of this article to elaborate on each of these models, a few remarks will be made, followed by a discussion of the application of social network concepts to a combined model.

These five models differ in several ways: (1) the extent to which they focus on meeting a specific need, e.g., access to health care, and/or focus on strengthening

community cooperative problem-solving capabilities; (2) the extent to which community members are actively involved in and in control of program-planning and decision-making; (3) the degree to which the program focuses on issues along a continuum of influencing individual behavior change to social change; (4) the extent to which emphasis is placed on tasks to be accomplished and/or the process of the community's efforts; (5) the degree to which the professional role is one of specialist, factfinder, facilitator, catalyst, consciousness raiser; advocate; (6) the extent to which the target community is a local, geographically bounded area to a larger, nonbounded community of interest; and (7) the types of specific strategies and tactics used, including group consensus, lobbying, citizen boards, civil disobedience.

It is readily apparent that there are problems in discussing community level interventions as if they are a single entity. A combined model which is familiar to many health educators is being advocated here, one which is most closely associated with community development, and which involves cooperative problem-solving, consumer participation, self-help, and empowerment.

There are numerous program examples applicable to health education and to social network concepts which have engaged the community as the unit of practice.[46,54,75,77–84] The extent to which such community level interventions have drawn from the social network and social support literature to guide the approach has greatly varied.

The cooperative problem solving approach[82,84] draws upon the strategies and techniques of community development[75] to achieve the overall goal of community competence—the ability of the community to collaborate effectively in selecting, implementing, and evaluating solutions to problems identified by the community. Examples of the kinds of problems which might be addressed are: hazardous water supply, deteriorated housing, lack of adequate and appropriate health services, and lack of access to low-cost, nutritional foods.

The cooperative problem solving approach emphasizes widespread community participation and self-help in recognizing and bringing together lay expertise and professional expertise. The health educator serves as a facilitator/catalyst in the process of community members developing a mechanism for identifying their own needs and building upon their collective strength to solve problems. A successful community experience would result in at least some level of enhanced community competence, a greater sense of control over decision making, and the resolution of at least one identified problem.

SUGGESTIONS FOR INTEGRATING NETWORK CONCEPTS

During the entrée and community diagnosis phases of a project, a reputational approach to identifying opinion leaders and key informants is often used. Throughout this process particular attention could be placed on delineating the networks of such influentials—the structure, nature of interactions, and functions they provide. Such information would be useful for understanding communication and influence patterns and for identifying who needs to be involved for what types of activities. For example, different network members may be needed to provide different functions for a project aimed at cleaning up a contaminated water supply than say, for a project aimed at enhancing economic development opportunities for single mothers. For a neighborhood based project, such network information could be drawn on a map for visual representation of how the networks overlap and operate.

During this entrée and community diagnosis period, specific needs and target populations will have been selected by community opinion leaders. At this point, a more intensive needs assessment involving members of the selected need/target area will be helpful for developing programs. A network analytic tool could be used while conducting this needs assessment. (An example of a network analytical tool is available from the author.) For example, if a community has selected as a priority the needs of unemployed teenagers, an interview/survey could be carried out with teenagers in the community. Not only could questions specifically regarding felt needs be asked, but various network characteristics could be delineated. In addition to identifying specific problems (e.g., lack of jobs, inadequate job training, discrimination, misuse of alcohol), the use of a network analysis might indicate that many of the teenagers belong to small, highly dense networks which provide reciprocal affective support, but that they lack more diverse ties to persons who could provide tangible aid and information about jobs and job training. A health education program could be developed that among other goals, would aim at extending the teenagers' networks to include more ties with individuals who could provide cognitive and instrumental support.

Recognizing that community interventions have the potential for increasing the size and density of the participants' networks, this can be enhanced by consulting with local leaders on how to conduct meetings in a way that encourages mutual interactions—social as well as task-oriented. Given the main goals of such interventions, it is perhaps appropriate that emphasis be placed on strengthening interactions that provide instrumental and cognitive support, but within an environment that is conducive to the provision of affective support when needed.

In accordance with the importance of the network characteristic of intensity as well as the concept of the "strength of weak ties"[85] (nonintense, acquaintance level ties), programs could benefit from focusing on both enhancing internal linkages within a given community and on developing and strengthening external linkages between several communities, which could be called upon when necessary.

Regarding evaluation, specific objectives could be determined which aim to strengthen networks within the community. Examples of such objectives are to increase the amount of cognitive and instrumental support given to and received by members within the community, and to increase the number of linkages (new contacts) between community members and persons outside the community. These objectives would, of course, need to be operationalized and then observed and measured throughout the project as to whether or not they had been met. The relationship between specific network related objectives and broader program goals should also be examined. For example, to what extent and in what ways does the development of new external linkages improve the community's ability to solve identified problems. An emphasis on process as well as outcomes, the use and integration of both quantitative and qualitative data collection techniques, and the involvement of lay and professional expertise are all areas in need of further refinement and application.

ROLE OF THE HEALTH EDUCATOR

Given the differences within and between the program examples which have been discussed, it is not possible to think in terms of a single role for the health educator. Rather, different interventions require different roles, and it is necessary to diagnose

each situation to determine appropriate actions. Numerous authors have addressed the more general role issues involved in linking formal and informal sources of help.[16,22,26,46,50,53,86–90] One focus has been on identifying the distinctions between professional and lay expertise and suggesting general strategies for the professional to follow in working with informal social networks.

Drawing upon the authors cited previously, several general principles of practice are briefly presented. It is suggested that health educators working with informal social networks should adopt an overall framework which includes recognizing, incorporating, and learning from the lay expertise of network and community members; interacting with lay persons as colleagues and collaborative problem-solvers; acknowledging different values, customs, and norms of the lay system and responding appropriately; focusing on strengths and resources as well as problems/needs within the informal system; recognizing that lay persons should be involved in and, to the extent possible, control every phase of a project from defining the problem to evaluating its solutions; enhancing professional interagency and intra-agency linkages and coordination; and identifying and addressing the social conditions (e.g., poverty, sexism) that may inhibit the expansion of health promotive aspects of social networks.

In adopting such a role, health educators need to be prepared to deal with a variety of circumstances which may be different from those they experience with other types of interventions. These circumstances include not being in complete control, working with people who have different normative patterns, being involved in what at times seems to be an ambiguous program, relating to other professionals who may not understand or value this approach, not receiving recognition from lay persons, and collaborating with people who operate from a different time frame.

ACTION RESEARCH RECOMMENDED

Although this article has emphasized some of the linkages between the theoretical and empirical evidence regarding social networks and social support and their implications for practice, it is an area where more knowledge and understanding is needed. Some of the unanswered questions are methodological ones, others are theoretical. In what ways do people vary in their need for social support? Who uses what types of network interactions for what types of support and with what results? What are the mechanisms and processes by which network interactions are health promotive or protective versus destructive? In order to address these issues and in keeping with the principles presented here, an action research strategy[16,93–98] is recommended. In such an action research project, professionals collaborate with network members toward several goals. One is to gain an increased understanding of the relationship between social networks, social support, other relevent factors, and health. Others would be to design and implement strategies aimed at improving health status and quality of life, and to evaluate the process and outcomes of these strategies.

The conduct of action research involves a cyclical problem-solving process, one in which the lay system and the action researcher work together to facilitate and maintain the process. The data which are collected are used to influence change as well as to increase knowledge. "Action" and "research" are not operationalized as separate entities, rather they are well integrated throughout the process.

An action research design is being advocated here for several reasons. First, there

are serious methodological problems with studies of planned change interventions in natural settings, and action research has been suggested as a preferable alternative to more conventional research approaches.[97] Second, lay persons are often skeptical or unwilling to cooperate with conventional research projects because they fail to see how such research will benefit them. With its emphasis on close collaboration between professionals and lay persons, with the aims of the research determined by the user (lay system), and with an emphasis on developing action strategies within an atmosphere of trust and mutuality, action research is a promising approach for overcoming this skepticism. Third, in accordance with the principles of practice presented here, this approach not only recognizes indigenous skills and resources but it serves to make them more prominent—a result which in turn empowers people. Fourth, numerous aspects of action research are highly consistent with both the strategies suggested for natural helper and community interventions, and the concepts of social networks and social support. For example, action research begins with the interests and needs of the lay system and moves at their pace. It also works within the norm of reciprocity, develops a socially supportive environment, and involves the researcher as a facilitator, not as the expert. Fifth, both the process and goals of action research lend themselves to and encourage the complementary use of both qualitative and quantitative data collection methods—an approach which provides a greater depth of understanding along with tests of statistical significance and a mechanism for cross-validating results. Lastly, health education programs have often failed to diffuse new ideas, change behaviors, or achieve long term program acceptance. Such programs neither obtain the participant's "inside" understanding of attitudes and needs,[1,99] nor was there similarity between those introducing the program and the participants themselves.[70] The active, ongoing involvement of network members in an action research process increases the potential of minimizing these previous shortcomings, as well as providing greater understanding of social network concepts and a means for evaluating effectiveness of natural helper and community level interventions.

LIMITATIONS OF SOCIAL NETWORK FOCUS

It is important to recognize that there are limitations, as well as positive effects on well-being, to the use of social network and social support concepts. Network interactions may have a negative impact on network members, e.g., street gangs contributing to drug abuse habits, family members physically and psychologically abusing one another, well-intentioned help perceived as being too demanding or controlling. Professional intervention may undermine the strengths of and alter the naturally occurring social network. Network interventions may place too much emphasis on interpersonal transactions and self-help, often resulting in a focus on the provision of services, which may serve as a diversion from addressing root causes and needed changes in the delivery of human services and in the broader society. There are numerous other important factors which influence well-being, such as socioeconomic status, stress, sense of control, which may be neglected in favor of social support focused interventions. Such programs take a significant amount of time in the early stages, and it is often difficult to convince an agency that the process will be beneficial in the long run. Additionally, major problems such as dangers of toxic waste and other environmental and social problems are usually beyond the network or community's

ability to control and change, and thus require the use of larger scale coalition building and policy/advocacy approaches.

CONCLUSION

The convincing, albeit nondefinitive, evidence of the relationship between certain network characteristics and health status has influenced the development of program strategies which are most relevant to health education. The integration of these social network concepts into programs which extend beyond the individual as the unit of practice, programs involving natural helpers and their entire networks, and community level interventions have been discussed here. Although these interventions have been presented as two separate entities, there are examples of programs which have combined both approaches.[54,83] The use of a combined approach may be an effective means of alleviating some of the limitations discussed. For example, natural helpers may focus on the personal and interpersonal stressors of their network members, including working toward providing needed human services. Community level interventions, involving interacting and overlapping networks, could focus on addressing broader social and economic stressors in order to achieve needed social change. Even in advocating such a combined strategy, it is necessary that in any given program an approach be designed which is applicable to the situation. Although one can learn from and build upon previous interventions, strategies involving naturally occurring networks do not lend themselves to the use of a predetermined "packaged" program. Furthermore, given the need for greater understanding of social network processes and their impact, the need for empirical evidence regarding the effectiveness of network interventions, and the need to adhere to the principles of practice described here, an action research approach is recommended.

The role of the health educator throughout this process is one of establishing interdependence with the lay system. As we enter into social networks which are probably quite different from our own, we need to not only identify and be responsive to their values and norms, but also to reflect on our own professional culture and the impact it has on our actions and how we are viewed by those with whom we work. Furthermore, just as we may be trying to influence change within naturally occurring lay networks, it is equally important that we consider the need for and strategies for changing professional networks in order to maximize efficacy when working with lay sytems.

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