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Abstract: *The purpose of this paper was to examine health risk behaviors from a sample of adults living in one of the nation's poorest counties in Central Appalachia. A descriptive secondary analysis of data collected for a public health surveillance project was conducted to determine the most pressing health problems and risk behaviors affecting this unique population. Residents reported high rates of hypertension, back pain, and sleep problems. They also reported very low levels of physical activity. A discussion of results is provided, including a comparison of the study population to information from national surveys. The limitations of the study and implications for social work practice, policy and research are also discussed.*

Keywords: *Appalachia, rural, poverty, health social work, health risk behaviors*

Introduction

Health risk behaviors can be defined as volitional involvement in established patterns of health behavior that limits the potential for achieving overall good health (Lindberg, Boggess & Williams, 2000; Resnick & Burt, 1996). Health risk behaviors are an area of great importance to social workers because overall physical health affects the general quality of life and well-being of the clients and communities served by the profession. Furthermore, there is a relationship between access to healthy lifestyles and social justice, which is of utmost concern to the profession of social work, as the profession's foundation is rooted in efforts to promote social justice for those it serves. Health risk behavior can affect both current and future health outcomes, resulting in a variety of implications related to the need for social work services. For example, results from one study indicate that health risk behaviors can affect a person's health status up to 20 years later and behavioral health choices have a significant influence over later health outcomes (Johansson & Sundquist, 1999). Also, health risk behaviors influence the need for levels of social work services based on the overall healthiness of the individuals and communities being served.

Health risk behaviors vary across communities. For example, the health risk behaviors of college students will vary compared to the health risk behaviors of rural, suburban and urban adults. Because of such differences, health risk behavior studies must be conducted in a variety of settings so that social workers will be aware of the specific health needs present in the specific communities they are serving. Knowledge of community health risk behaviors is essential for social workers who engage in the development of community health prevention programs and treatment planning. Assessments of health risk behaviors can assist social workers to develop evidence based health intervention plans that are tailored to the specific health needs of the clients and communities that are being served.

The purpose of the current study, then, was to examine many specific health risk behaviors that have not been previously studied in a rural, Appalachian population in order to begin to fill a gap in the social work knowledge base in this area, with the goal of developing a social work best practices approach to addressing such behaviors in the future. The descriptive results of a study

that examined the health risk behaviors of a sample of residents from rural Perry County, Kentucky are presented here. Most research surrounding rural Appalachia focuses on attitudes towards health, health beliefs, cancer behaviors, obesity and inactivity (Kentucky Institute of Medicine, 2007; McMillan, et al., 2007). The results of this study build on the information available related to such variables and contribute to the literature base by adding information related to health risk behaviors previously understudied in this specific population.

Review of the Literature

Researchers have begun to identify the unique health needs present in rural communities, although there are still limitations related to the scope of knowledge specifically available on rural health risk behaviors. For example, health researchers recently found that rural residents often postpone seeking health treatments due to barriers such as a lack of access to health insurance and greater rates of poverty, while fear of doctors, mistrust of hospitals and affordability concerns were all associated with a lack of treatment compliance and negative health risk behaviors of rural respondents, when compared to urban respondents in the same study (Harju, Wuench, Kuhl, & Cross, 2006). Results from another study indicate that women in rural areas have higher rates of breast cancer mortality likely due to their lack of overall access to healthcare and their lower levels of economic stability (McMillan, et al., 2007). Evidence indicates that Americans can benefit from healthier diets and regular exercise, but research suggests that rural residents in particular have difficulty incorporating such behaviors into their lifestyles and that health behaviors are very difficult to change and maintain, due to the barriers present in rural environments and a lack of will to change (Bowden, Shaul & Bennett, 2003). Thus, the task remains that social workers must identify the barriers present in the communities where they practice and then identify the best way to overcome such barriers with a best practices approach.

Suggestions for improving health risk behaviors have begun to emerge in the literature, although actual best practices recommendations are not fully developed. Atkinson and colleagues (2007) found that low-income mothers in rural areas report a need for community programs and interventions related to nutrition, physical activity and maintaining a food budget. The question remains as to how to best provide these community programs to these mothers. Other studies also indicate that a focus on increasing physical activity involvement is an important solution to negative health risk behaviors in rural areas, as obesity and inactivity have been found to be more prevalent in this population when compared to the general population (Boeckner, Pullen, Walker, & Hageman, 2006; Felton, et al., 1998). The best way to approach increasing physical activity remains a question. Social workers are in a unique position to participate in addressing these needs, as they are present throughout communities in a variety of settings and they are trained in social justice approaches to community programming. Thus further research in this area is called for to provide social workers with the knowledge related to how to effectively address community needs.

While research on the health behaviors of rural residents is limited, the study of rural Appalachian health risk behaviors is even more inadequate. The definition of Appalachia can be found in the Appalachian Regional Act of 1965, which identifies Appalachia as a specific region encompassing 399 counties in 13 states, including both rural and more urban areas, with a history of remoteness and economic instability mainly associated with outsider exploitation of natural resources (Appalachian Land Ownership Task Force, 1983). Although the area defined as Appalachia contains some more urban areas, the area is generally considered remote and encompasses mostly rural populations.

Because of the uniqueness of this area, the health behaviors of Appalachian residents are likely also unique, and health behaviors in Appalachia are understudied and the area is

underserved (McMillan et al., 2007). Available health research on this population indicates that residents have limited knowledge related to cancer risks, have limited understanding of the importance of screening tests, have a basic mistrust of the healthcare system, have a fatalistic attitude towards illness, have a propensity towards the use of religion to deal with illness, and possess health beliefs that are often different from those of Americans in other areas of the country (McMillan et al., 2007; Rosswurm, 1996; Walker, Lucas & Crespo, 1994).

The county where this study took place is located in Central Appalachia, the poorest part of the Appalachian region, in Perry County, Kentucky. Census data from 2004 indicates that 26% of county's residents were below the poverty threshold, as compared to 16.3% for the state, and 12.7% for the U.S., overall (U.S. Census Bureau, 2008). This county was recently identified as ranking 117th out of 120 Kentucky counties on health risks, indicating that it is one of the top three most health challenged counties in the state (Kentucky Institute of Medicine, 2007). Health recommendations suggest that this county needs to reduce smoking rates, promote physical activity and promote preventive health screenings (Kentucky Institute of Medicine, 2007), thus identifying a need for social workers to engage in community planning that incorporates these identified needs. However, social workers need more knowledge related to other detailed health risk behaviors for residents in this county, in order to provide social workers with adequate knowledge for specific health risk community planning, in this community and similar communities. While the information from the current study cannot be generalized to the population in other Appalachian counties, it does provide information that may be useful when studying the specific health risk behaviors in other Appalachian communities.

Method

In April 2006, the University of Kentucky Prevention Research Center (UKPRC) and its Community Advisory Board, the Kentucky River Community Advisory Board (KRCAB) initiated a surveillance project in Perry County, Kentucky. The KRCAB serves as a formal link between communities in Appalachian Kentucky and the UKPRC. The KRCAB is composed of community members and leaders from communities identified as having significant health disparities, in comparison to other Kentucky communities. Traditionally, surveillance activities have been defined by the reporting of notifiable diseases. Based on initiatives from the Centers for Disease Control and Prevention (CDC), surveillance has also become a process of monitoring health risk behaviors. This process of behavioral surveillance allows public health professionals to monitor trends in health risks and respond with the implementation of timely and appropriately targeted prevention programs. Trends in health risks are particularly important and are monitored best by prospective studies that identify those at risk and monitor them over time.

Recruitment and retention of participants is often problematic for surveillance projects and is particularly challenging in low income, medically underserved populations. A variety of strategies have been used to recruit and retain participants for surveillance projects, including direct mail, telephone solicitation, and partnerships with physicians and public health departments. All of the strategies have had limited success. Interestingly, none of the strategies has the capacity to provide information to individual participants. The first phase of the surveillance project was designed to assess the efficacy of Health Risk Appraisal (HRA) as a recruitment tool for engaging and retaining participants for surveillance. HRA has been used in health education and health promotion programs for decades. In essence, the HRA collects information about an individual, compares the information with population data, and develops probability-based descriptions of selected current and future risks to health for that specific individual.

Health risks commonly covered by HRA include major chronic diseases, accidents, obesity and exercise. Feedback to the individual is one of the key features of HRAs, and it provides a

tangible benefit to participants. The feedback provides individuals with information on their health risks due to their family history and their own behaviors, as well as information on benefits that they may accrue from behavior change. The individualized nature of HRA feedback is an important feature and it was hypothesized that providing such feedback would increase recruitment and retention.

The HRA data collection and feedback portion of this project has been completed. The information provided to the original researchers was so rich in relation to this population that the current researchers decided that a secondary analysis describing the health risk behaviors reported by this group would be a significant contribution to the knowledge base in this area. A secondary analysis of data collected from the Health Risk Appraisal (HRA) Study was conducted to develop a descriptive profile of health risk behaviors of these rural Appalachian adult survey participants.

Sampling Strategy

In April 2006, the UKPRC and the KRCAB purchased a mailing list of Perry County residents 18 years and older and randomly selected 501 individuals. A recruitment letter was mailed to all individuals, instructing them to return their letter to a UKPRC staff member if they were interested in the study using the stamped envelope provided and to indicate the best days and times to reach them. The UKPRC staff called interested individuals, obtained informed consent, and conducted telephone interviews. At the end of the interviews, participants were randomly assigned to either receive personalized feedback or a general health pamphlet. Personalized feedback was created using the Personal Wellness Profile (2011), a software application that assesses health risk and then motivates participants to make improvements in their health and lifestyles. All participants were mailed either personalized feedback or a general health pamphlet. UKPRC staff then conducted follow-up interviews at 1, 6, and 12 months. Due to low response rates, the mailing was repeated with another sample of 500 in July and recruitment was completed with a third sample of 6000 in October.

Results from Sampling and Mailing Efforts

The total sample included 7001 individual addresses. UKPRC staff identified and removed four duplicates and mailed 6997 letters. Of these, 395 letters (5.6%) were returned to sender due to an incorrect address; one letter was returned with “not interested” specified on the letter; and 18 letters (0.25%) were returned because the individual was deceased. The remaining 6583 letters (94%) represented eligible participants. Among these, 381 letters of interest were returned, representing a response rate of 5.8%.

Of the 381 individuals who returned letters of interest: 1) 124 (33%) were removed for reasons that varied, including three telephone attempts with no contact; a disconnected phone number; the individual was no longer eligible (i.e., the person moved to a different county), etc.; 2) 54 (14%) were contacted and declined the offer to participate; and 3) 203 (53%) were enrolled. Among the enrolled, 104 (51%) were randomized to receive personalized feedback and 99 (49%) were randomized to receive a general health pamphlet.

The purpose of this secondary data analysis was to examine the aggregate of respondents' self-perceptions of current health and self-reported health behaviors. Univariate statistics are reported to provide a descriptive profile of the sample.

Findings

A total of 203 surveys were completed. One hundred fifteen (57%) respondents were female and 199 (98%) identified themselves as Caucasian. The mean respondent age was 51 (SD=13.4).

Findings are reported in the categories of general physical health and familial and personal health history; emotional health; and health behaviors. Responses that indicate particularly high

levels of health risk for the subject county, as compared to statewide and national trends, are highlighted.

General Physical Health

Respondents reported numerous health concerns. Twenty-four percent felt they had ‘serious health problems’. Thirteen percent reported their current general health as poor, and an additional 25% reported general health as fair. A large percentage of respondents also related high levels of familial history for several risk factors: Hypertension (71%), heart ailments (47%), diabetes (45%), and high cholesterol (44%).

Personal Health History

A large proportion of respondents reported a personal history of specific health problems: high blood pressure (44%), chronic back pain (37%), chest pain (28%), shortness of breath (21%), temporary sensation of numbness or tingling (30%), frequent urination (24%), and sleep problems (50%). Twenty-four percent said that, over the past month, their health problems had either limited their ability “quite a bit” (14%), or that they could not do daily work at all (10%).

Emotional Health

Somewhat fewer respondents reported significant emotional problems. Sixty-six percent stated they felt that they were coping “fairly well” or “very well”, with the remaining 34% reporting some difficulty coping. The most frequently cited emotional problems included: feeling tense or anxious (possible symptoms of anxiety disorder) (28%), feeling frustrated or impatient (26%), and inability to stop thinking about problems (23%).

Health Behaviors

Twenty-five percent of respondents reported regular tobacco use. Thirty-three percent reported frequently using prescription or nonprescription medications to aid relaxation or sleep. Fifty-eight percent of respondents reported receiving no aerobic exercise in a typical week. Seventeen percent of respondents had not received a physical exam within the past five years.

For items specific to women’s health, 21% of women had not received a pap test within the past 3 years, and 31% had not received a mammogram over this period. Thirty percent said they do not practice monthly breast self-exams.

Barriers to Physical Activity

Respondents were asked a series of questions regarding personal walking behaviors, as well as community factors that serve to either encourage or discourage walking. Respondents reported several barriers to walking. For instance, 151 (75%) reported the unavailability of sidewalks, and 142 (70%) said that it was not possible for them to walk to work or school from their homes. Forty participants (20%) reported feeling unsafe when walking in their neighborhoods. However, 155 (77%) reported the availability of walking paths or parks in the community. Eighty-six respondents (43%) said they would like to be personally notified if a walking group was to become available in the future.

See Table 1 for a comparison of the above results with some state and/or national information, when available, on health complaints and health behaviors that were also reported in the current study. Although different methods were utilized to gain the information from the state and national datasets, and thus are not directly comparable, such information is helpful in providing a context for discussion related to the scope of the problems and it facilitates a better understanding of the results from the Perry County study.

Table 1
State and National Comparisons of Health Complaints and Behaviors^a

Type of Health Problems	Current Sample	Kentucky	U.S.
Back pain	37.0%	unavailable	29.5% (comparable age group)
Hypertension	44.0%	unavailable	23.0% (comparable age group)
Tobacco use	25.0%	29.0%	21.0%
Lack of Exercise	58.0%	32.0%	24.0%
Pap test within past 3 years (n=114)	79.0%	83.0%	82.4%
Mammogram within past 3 years (n=114)	69.0%	77.0% (comparable age group)	69.5% (within past 2 years)
Problems with anxiety or tension	28.0%	unavailable	18.1% suffer from anxiety disorders 26.0% suffer from diagnosable mental health disorders
Difficulty coping	28.0%	unavailable	26.0% suffer from diagnosable mental health disorders
Regular alcohol use	12%	20%	23%

^aComparison given when available

^bNational Center for Health Statistics (2006)

^cKentucky Institute of Medicine (2007).

^dHall., Uhler., Coughlin, & Miller, (2002)

^eNational Institutes of Mental Health, (2008, www.nimh.nih.gov)

^fSAMHSA Office of Applied Statistics Report on Alcohol Use-adults ages 26+ reported binge (serious) alcohol use in the last month (2007, <http://oas.samhsa.gov/2k7state/Ch3.htm>).

Discussion

State and National Comparisons

Table 1 provides a comparison of the percentage of selected health problems reported by respondents to statistics in the State of Kentucky, when available, and then in the US, overall. In general, residents of Perry County Kentucky reported higher levels of health problems and

involvement in negative health risk behaviors when compared to residents of other counties in Kentucky and residents of the overall United States. For example, residents of Perry County reported a lack of involvement in exercise at over double the rates of the overall United States (58% compared to 24%). Residents of Perry County reported that they experienced back pain at higher rates than the overall U.S. population as well (37% compared to 29.5%), and higher rates of hypertension (44% compared to 23%).

The results of the study suggest that certain measures of the general physical health of this sample are poor in comparison to national levels of health. In addition, the personal health histories of these rural residents indicate that they do not report a history of health behaviors that are associated with positive future health outcomes. Interestingly, their emotional health seems comparable to the emotional health of the nation overall. Yet, the national information available in relation to emotional health is sparse and focused mainly on diagnosed mental illness, thus these comparisons should be interpreted with caution. Furthermore, the health behaviors reported by these residents are concerning in comparison to national information. Of particular concern is the lack of exercise reported by respondents, as the number of respondents reporting that they do not get aerobic exercise in any given week is double the number reporting this nationally. Of additional concern is the fact that one quarter of respondents report regular tobacco use. While this is lower than the state overall (25% compared to 29%), this is higher than the national average and certainly an area of concern to social workers, considering the various and severe health problems associated with tobacco use (Stevens, Colwell & Hutchinson, 2003).

It should be noted that the current respondents did not report high rates of regular alcohol use; 88% reported seldom or rarely drinking alcohol. Although tobacco use in this group was higher than national estimates, it was lower than the average for the state of Kentucky.

A recent Kentucky Institute of Medicine (KIM; 2007) study also found Perry County's population to suffer from high rates of cardiovascular death, total mortality, premature death, and high rates of lung, colorectal and prostate cancer, in addition to the results reported in the current study. The negative health risk behaviors noted in this current study, in particular the low rate of physical activity, likely contribute to the overall poor health of this community represented in the KIM study.

Study Limitations

The complex sampling recruitment strategy, initiated via the U. S. mail, that was used in the original public health survey resulted in a low response rate (5.8%), but, the resulting sample size itself was large enough to provide a substantial amount of valuable descriptive information from a unique and under-researched sample. The authors suspect that the small number of people who did respond to the mailings generated in the original surveillance project did so because they are concerned about their health, they wanted feedback about their health, or they were very conscious of health and thus desired feedback about their health status. On the other hand, those who chose to respond may have significant health problems that they wished to receive information about, so they may represent residents of this county with the most illness. Thus, in this situation, it may either be the healthiest or most health conscious people who responded to the survey or it may be the sickest individuals who chose to respond. Based on the information obtained there is no way of knowing what was unique about those who chose to respond, and thus the current study should be considered exploratory in nature and serve as a basis for the additional research that is needed in this area.

Despite the limitations presented by the low response rate, the authors chose to examine the reported health behaviors of this group because no data is available examining such a variety of specific health behaviors in a sample of Central Appalachian residents, thus the knowledge gained from this secondary analysis provides valuable preliminary data that can inform future

research efforts with more representative samples. It is unknown if the profile of the study sample is representative of the adult population of the county, and it is unclear if those who self-selected into the study are similar to the larger county population. Therefore, generalizations regarding the health status and health behaviors of the larger population are tentative. The benefits of the current study come in light of a lack of information related to health risk behaviors in rural Appalachian populations, and this case study provides detailed health information for a fairly large sample of residents of an impoverished rural Appalachian county, and is therefore a contribution to the literature. However, this information should be considered preliminary. A larger probability sample from the county would be needed in order to confidently describe the county's adult population in regard to these variables. Thus, this study should be considered exploratory and should serve to make the case that additional research in this area is needed.

Additionally, comparison data from state and national samples are provided as a general reference regarding the relative health and health risk behaviors of the study sample. As previously mentioned, the statewide and national surveys employed very different methods than did the current study, and therefore, these comparisons should be interpreted with caution. The value of the current study lies in the level of detail provided by participants regarding their familial and personal health histories, their current health, and current health related behaviors, and the implications for social workers practicing in this community.

Implications for Social Work Practice

The lack of physical activity reported by rural, Appalachian residents of Perry County, Kentucky is consistent with other studies of rural areas (Aronson & Oman, 2004; Patterson, Moore, Probst, & Shinogle, 2004) indicating that lack of involvement in exercise is prevalent in such populations. The lack of physical activity reported by residents of Perry County, Kentucky is likely the most important health risk behavior that needs to be addressed by social workers who are working in this area, as it has recently been associated with poor health behaviors (Kentucky Institute of Medicine, 2007), it has consistently been associated with many of the other health problems reported by rural residents in other studies, and it has been defined as a leading health indicator for Americans overall. Interventions that promote physical activity in rural populations are warranted, as regular exercise is recommended for preventing disease and promoting healthy lifestyles (Aronson & Oman, 2004; Osuji, Lovegreen, Elliott & Brownson, 2006) and social workers are in a prime position to take the lead in such interventions due to their placements in a variety of settings throughout rural communities. This is extremely important as research indicates that when health behaviors change from inactivity to increased physical activity, overall health can be greatly improved, and increased physical activity is a protective factor against poor health, even in individuals who are overweight or those who smoke (Johansson & Sundquist, 1999).

Specific social work interventions to increase physical activity for this community at the macro level should include social work involvement in community advocacy efforts that address the barriers reported by case study respondents. In particular, social workers could spearhead community efforts to create safe and accessible walking opportunities in this and similar communities. Ideally, social workers could be employed specifically for this purpose. Local health departments are in good positions to write grants to secure funding for such positions. Social workers in health departments could team up with nurses and others working in the health departments to identify possible funding sources and submit grant applications that might fund such positions.

Social workers in Perry County, Kentucky should be enlisted to conduct community assessments to ascertain the limitations that may be present in the community that contribute to the lack of physical activity. Once barriers are identified, social workers can then advocate for

the changes that are necessary. Advocacy efforts should incorporate local customs and knowledge as research indicates this is an important component for community programs targeted towards improving health (Tate et al., 2003), especially with rural and Appalachian populations. Furthermore, other study results have shown that women report that when they have no one to exercise with they are less likely to engage in physical activity (Osuji et al., 2006). Thus, if a specific community assessment indicates that social isolation is also found to be associated with lack of exercise in Perry County, Kentucky, then social workers can organize walking groups through churches, public schools, health departments, and/or local lodges such as the Elks, and/or other trusted organizations. If populations with similar interests, such as parents at the elementary schools, could be connected and organized into walking groups for example, these efforts could go far to eliminate the social isolation that inhibits physical activity and also provide emotional connectedness for the residents of these communities. Since social workers are trained in community assessment skills and they are present in a variety of settings, this is an area where social work could greatly contribute to increasing the overall health of the Perry County community and possible other Appalachian communities, as well.

While there is an obvious need to increase physical activity as identified in this case study, additional health risk behaviors have been identified that also need attention. Residents in this case study reported high levels of tobacco use, which is a health risk behavior widely known to be associated with a lack of good health (Osuji et al., 2006). At the macro level, social workers can take the lead in designing community education programs that promote smoking cessation. Social workers at the micro level can employ their clinical skills to provide treatment programs and lead support groups targeted towards smoking cessation, as social workers are often specifically trained in this type of intervention. Appropriate interventions for Perry County, Kentucky, might be as simple as designing a program that goes around to churches educating congregations on the benefits of smoking cessation and informing individuals what type of help is available and where it can be accessed. Clinical smoking cessation groups could also be offered in a variety of community settings to increase accessibility and decrease potential stigma. Social workers in health departments and medical clinics in this county could advocate offering over the counter smoking cessation medication either free or at a reduced cost based on income, and incorporate such aids into smoking cessation groups. They could seek grant funding, or funding provided from tobacco taxes that would facilitate this effort, as even over the counter cessation aids might be considered prohibitively expensive to impoverished residents in this area. Social workers who are employed in health departments and medical clinics in the area could provide consultation and referrals for residents wishing to stop smoking.

Lack of exercise and high levels of tobacco use were not the only health risk behaviors identified by the residents of Perry County, Kentucky that social workers should be concerned about, as residents also reported a lack of seeking health screenings. Twenty-one percent of female respondents in this study reported not having a pap test in the last 2 years while 31% reported not having a mammogram. The pap exams were slightly behind state and national averages, and the mammogram results were comparable to the national average. This population does not seem to be atypical in terms of the results of these particular health screenings, but nationally, social workers should be concerned about the fact that approximately one in five women may not be getting regular screenings. The health consequences of missing such important health screenings can be dire. Thus, efforts from social workers to improve rates of preventive health screenings are important. Social work advocacy efforts to encourage preventive screenings in this county should be increased when possible, yet the appropriate ways in which to do this are unknown. Some suggestions would be to get social workers to work with community residents to find out their opinions on the best ways to promote and increase screenings so the community will be aware of the availability of and importance of such screenings. An increase in knowledge could be enough to encourage residents to make the effort

to seek out screening services, as it is noted by researchers that community participation is essential for designing effective health services (Tate et al., 2006). An increase in screenings could possibly improve health in the areas where health problems were reported to be high, as 24% of respondents in the current study indicate that their current health problems such as pain, symptoms associated with heart disease and sleep problems significantly limited their activities.

Roughly one third of respondents report problem with anxiety, tension and difficulty coping, thus indicating problems related to emotional health that may affect the ability to achieve good overall physical health. At the micro level, social workers in any setting could assess for emotional health issues that may contribute to a lack of concern for positive health behaviors. By providing clients who are not already receiving interventions related to emotional health with treatment, or referring clients for assistance in these areas, emotional health could be improved and thus a desire to improve one's overall health could also be improved. This is important in light of findings from another study indicating that negative health risk behaviors often take place in the context of depressed mood (Paxton, Valois, Watkins, Huebner, & Drane, 2007). Social workers in all settings should have the skills to use rapid assessment instruments to gauge the levels of emotional and physical health in their clients so that treatment and referrals can be provided for clients who are not already receiving such services. The use of rapid assessment instruments is beneficial for social workers who wear many hats in rural areas as they provide a great deal of information in the short time it takes to administer them. An example of an effective rapid assessment instrument that can give a social worker information in a variety of areas related to emotion health is the Global Assessment Scale (Hudson, 2007). This particular scale provides information in several areas related to emotional health including suicide risk, drug use and abuse, interpersonal problems, family problems and self-esteem, while it takes only about five minutes to administer to a client. Such scales can help social workers identify problems that may limit a client's ability to be concerned with good physical health behaviors.

Implications for Social Policy

Results from studies such as the one presented here point to a need for more intensive efforts to address negative health behaviors in Appalachia and other isolated rural communities. Federal health dollars need to be dedicated to improving overall health behaviors in Appalachian communities by funding research for community health assessments and for social workers to conduct these assessments and implement the identified changes. Thus, social workers should advocate for this whenever the opportunity arises. Sending emails and letters and placing phone calls to federal lawmakers to draw attention to this issue is a good place to start. Local, state and federal budgets need to include funding that places a social worker in every hospital and clinic serving Appalachia whose purpose is to work with other health professionals to increase physical activity in the area. For example, in Kentucky social workers could advocate for an increase in the cigarette tax that would generate funds that could be dedicated to improving health risk behaviors in Appalachian communities. It is important for social workers throughout Kentucky and in similar states to advocate for such by contacting state lawmakers. Funding also needs to be provided for changes in infrastructure that will promote physical activity in Appalachian communities. For example, public parks need to be added or enhanced in areas where physical activity can take place. Sidewalks need to be a priority in Appalachian communities to enhance walkability. Social workers in Perry County and other similar communities could advocate for this by attending local city council meetings, and arranging meetings with local officials to use their expertise to draw attention to the importance of the issue. Fundraising efforts at the local level are also important. Social workers could recruit assistance with fundraisers from church groups or community college students to raise money for the purpose of adding exercise areas to public parks or to help organize exercise groups.

Mobile screening centers are an important way of reaching isolated residents in communities like Perry County. In light of the overall health behaviors reported by residents in this sample, screening for health problems in order to catch them early seems appropriate. Social workers could advocate for local health departments to divert some of their funds to increasing mobile screening centers. Such units bring access to cancer, cholesterol and other physical health screenings to isolated residents who may not fully embrace the value and importance of such screenings. All mobile health units should be staffed with a social worker who can administer rapid assessment instruments to assess for health risk behaviors and emotional health problems, and then make referrals to connect clients to treatment resources for all identified health problems. Social workers could be conducting these assessments while mobile screening nurses are conducting the physical health assessments, thus providing very thorough and cost effective screenings in one mobile screening visit. If funding for these social work positions is not available, health departments could work together to identify possible grant opportunities for such positions. Social workers could also work with area colleges and universities to identify individuals with grant writing skills to assist with these efforts. Social workers could also organize to advocate for local and state policy change that provides access to health insurance for all residents, as well as greater access to continued care for populations who experience barriers to seeking health care.

Directions for future research

More research is needed into social, economic, and intrapersonal factors related to health risk behaviors in rural Appalachia. The current study identifies lack of physical activity as very problematic for the adults surveyed. Respondents also reported high levels back pain and hypertension, perhaps as a result of low physical activity. However, much more information is needed regarding perceptions about the benefits of, and barriers to, physical exercise in impoverished rural communities. Future research efforts should seek to identify social, economic, and intrapersonal predictors of inactivity, and to examine possible interactions among of these factors. Only when social workers have a thorough understanding of various influences on physical activity will they be able to develop optimal macro and micro interventions toward raising activity levels and improving community health.

Conclusion

Both BSW and MSW level social workers need to be at the forefront of decreasing health risk behaviors in Perry County, Kentucky and other similar communities. Social workers are generalist practitioners with a social justice mission who can be effective in many health related settings ranging from mental health to community health practice. They are educationally trained to practice in both micro and macro areas and are more plentiful than nurses and more economical to employ than doctors. Social workers are uniquely trained to approach problem solving from a holistic perspective that takes into account the different levels of a problem on a micro-mezzo-macro level. Without a commitment from rural social workers towards improving the health risk behaviors in areas like Perry County, efforts to improve overall health in such communities are likely to fail. This paper is essentially a call to action for social justice in these remote and underserved communities. If this profession does not make the effort to improve health risk behaviors in Perry County and similar communities, what other professionals can be expected to fight for a socially just approach to health promotion that is necessary for good health in overlooked communities?

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