Do Social Sciences Have Little to Contribute to Public Health Investigation and Intervention? A Critical Analysis

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ABSTRACT

It is undeniable that the epidemic and the global burden of disease are shifting from infectious to degenerative diseases. The conventional way of understanding health and illness in society can no longer merely rely on depth clinical investigation, but should be collaborated with sociology, anthropology and other social sciences. To achieve a more comprehensive understanding of the risk of the disease, and health related behavior in the community, it is necessary for biomedical scientist to embrace the use of social science or at least bring social researchers into play. In the course of such integration, public health interventions would be far more effective with high degree of coverage or compliance. Through several examples and highlight evidences, this critical analysis reveals invaluable contribution of social science to the success of public health investigations and interventions.

Key words: social sciences, contribution, public health, investigations, interventions

INTRODUCTION

There has been a shift in the pattern of the major causes of disease and premature death around the world in the last few decades from infectious diseases and malnutrition to degenerative illness and over nutrition (Cohen and Perl 2003). Such diseases resulted as consequences of a chosen lifestyle; moreover, Cohen and Perl believe that by the year 2020 behavioral factors would be responsible for 50% of global diseases. Already, in 2003, about a half of US death was attributed to social behavioral factors such as tobacco or alcohol use and diet and physical activity patterns (Shinn, *et al*., 2003). Since the global burden of disease shifts mainly toward behaviorally based non communicable diseases, public health investigations and interventions will have more beneficial outcome if the integration between social and biomedical sciences will happen (Cohen and Perl 2003). Because then public health investigations and interventions would take into account the influence of social patterns of health and illnesses on the burden of disease within society. Through evidences and highlights of cases such as breast cancer screening, the notion of stigmatization in lung cancer, health professional-client relationship, the rising use of complementary and alternative medicine and HIV/AIDS interventions, this essay argues that social sciences do make significant contribution to public health investigation and intervention.

Integrating Biomedical and Social Science

For decades, social sciences have become one of the important methods of seeing public health matters in a comprehensive way. Cohen and Perl (2003) define behavioral and social sciences as theories or methods of individual and organizational changes that seek to address the complex interaction among behavior, context and health. Social sciences merge with biomedical sciences in the form of medical sociology with its key role in understanding of social behavior and living condition in the prevention, onset, and course of chronic disorders (Cockerman 2001).

Many biomedical experts began to embrace social science as a part of comprehensive methods in understanding health problems. A study conducted in New York City Health Department ranked program areas utilizing behavioral and social science from the highest HIV/AIDS to environmental health, community health (injury prevention, immunization), maternal and child health, and chronic disease (VanDeventer, *et al*., 2003). Twelve out of 22 departments of health serving US cities reveal that since inception of behavioral and social science approach, infant mortality declined by about 40%, and HIV/AIDS infection was reduced almost by half (Shinn, *et al*., 2003).

Social Science Contribution to Public Health Investigation: A Case of Breast Cancer Screening

Social science tries to understand people and how they perceive disease within their overall cultural, political or socioeconomic background. With this consideration, a public health researcher is able to fully understand why certain public health investigations such as screening is failing, so consequently appropriate action can be developed. The case of mammography had shown the impact of social organization, culture, and socioeconomic matters on women's stance on breast cancer screening.

Involving one of women's most intimate organ, breast cancer is considered as a unique disease (Remennick, 2006). Furthermore, Remennick states in his article that:

"Because of its special nature, breast cancer is shrouded in fears, myths, and connotations reaching far beyond the objective clinical understanding of disease. A gap is often found between knowledge and practice: many women who are aware of breast cancer risk do not use available breast-screening services" (Remennick, 2006: p. 103).

This phenomenon can not be solved through biomedical approach, because the predicaments and the factors influencing women's decision about breast cancer screening lay in sociological point of view (Remennick, 2006).

Sociological perspective reveals several barriers experienced by women in breast care that varies from structural to organizational, psychological and sociocultural barrier (Remennick, 2006). Among structural barriers are lack of transportation to a screening facility and inability to take time off from work. An example of organizational barriers mentioned by Remennick, in Muslim society, is the shame experienced by Muslim women when attending clinics which have male staff. Psychological barriers include denial of one's own susceptibility and a belief that "this cannot happen to me" (Remennick, 2006). The last barrier which is sociocultural barrier includes unequal role in decision making between men and women in some cultures and fear among women of the possibility of being abandoned after being diagnosed positive.

Considering those barriers, it is not a surprise that women try to delay and deny any sign of illness and avoid breast screening (Remennick, 2006). Even if a high sensitivity of screening method with the latest technology promoted, the coverage of breast cancer screening might still be low. Only by taking into account the barriers that women face in their society we can take an appropriate approach to successful breast cancer screening. A role which social science plays when integrated with public health investigation.

Social Science Contribution to Public Health Investigation: A Case of Lung Cancer

Stigmatization has for so long been becoming a serious obstacle in public health investigations. The notion of stigmatization is where a community identifies people with a disease on the basis of social judgment rather than true proven scientific evidence. According to Gabe, Bury and Elston (2004), stigma gives a meaning imposed on an attribute via negative images, stereotypes and attitudes that potentially discredit someone in the community.

Among chronic diseases, perfect example comes from stigma, shame, and blame experienced by patients with lung cancer (Chapple, Ziebland, and McPherson, 2004). Whether the patients with lung cancer indeed smoke or not, the notion of stigmatization is really strong since the association between the disease and smoking is strong. One of the respondents in Chapple, Ziebland and McPherson's (2004) study says:

"I think all people with lung cancer are stigmatized, especially if they're smokers, and those that aren't generally blame it on the smokers for their passive smoking. So everybody feels that lung cancer, I believe anyway, is self-inflicted." (p.3)

Stigmatization might have serious consequences when the patients become afraid to seek treatment (Chapple, Ziebland & McPherson 2004). From this study we can predict that the extent of stigmatization would be greater in population than identified in the study, which means that the number of patients not diagnosed might be higher because they would avoid seeking medical help. In this situation, public health investigation should be accompanied by social science to understand whether stigmatization of particular disease occurs in the community, otherwise the prevalence of the disease would be underestimated due to under reporting.

Social Science Contribution to Public Health Investigation: A Case of Practitioner-Client Relationship

Practitioner-client relationship is defined as the ways in which health professionals interact with their patients during a medical consultation where the context and communication styles influence the type of relationship (Gabe, Bury, and Elston, 2004). A classic example of practitioner-client relationship which is a type of communication monopolized by health professionals when they define themselves as "experts" leads to bias in their diagnose. Drew, Chatwin and Collins (2001) argue that interaction between patients and health professionals play an important role in determining the accuracy of diagnosis, patients' commitment to treatment regimes and patient satisfaction with the service.

However, health professionals with their own predictions are reluctant to see the importance of such interaction and only communicate with patients to investigate the symptoms and try to match them with biomedical knowledge obtained from their academic training. Patients' experience, feelings and perceptions of the disease are neglected which sometimes results in ineffective treatment or lack of patients' compliance. Tuckett, et al. (1985) studied more than 100 GP and wrote in their findings:

"Patients are not treated as competent "expert" in their own health care, at least to nearly the degree that might be possible. Their ideas, explanations and opinions are not sought in any systematic or thorough way and tend to be devaluated as not useful or relevant" (Tuckett, et al., 1985: p. 211 cited in Gabe, Bury, and Elston 2004: p. 98)

One of social science contributions in understanding health professional-client relationship is through the use of conversation analysis (CA) which allows identification of patterns of behavior which health professionals might take into account in interaction with patients, and finding

interaction strategies which facilitate patient involvement in health care decisions (Drew, Chatwin, and Collins, 2001). With increasing patient awareness and the broad "consumer movement" that demand accountability, transparency and professionalism of health professional (Conrad and Leiter 2003), patients might want to be more involved in health-care decisions than ever before. In that sense, CA might give a tool to boost a more equal health professional-client relationship.

Complementary and Alternative Medicine (CAM): A Health Seeking Behavior

People begin to seek treatment or medication when they feel ill. Many would contact their GP to make appointment and other may rush to private clinic or hospital to be diagnosed and cured. However, in the last decade, many high income and well educated people started to seek medication from CAM instead of "orthodox" medicine. Due to this increase, CAM has become public health concern, not only because the question of their safety but also of their efficacious, working mechanism and the reason why more and more people utilized it. Social science makes a vital contribution in finding out the reasons behind people's health seeking behavior though CAM which is related to a wider social and psychological context, something that biomedical science fails to investigate.

The reasons for the rise of CAM use are related to high awareness of people of search for meaning, a distrust of science, the preponderance of chronic rather than infectious disease, a more personal healer-client relationship, and the search for control over one's life (Germov, 2005).

With the shift pattern of disease from infectious to chronic diseases, biomedical science though its germs theory provides less satisfaction in explaining the personal misfortune of getting the disease; whereas, CAM with its alternative theory such as spiritualism, and the balance of element in the body like Chinese yin and yang give a broader meaning regardless of the truth. A distrust of science occur when some one see biomedical science not only give possible cure but also further problems because of their treatment that is not consider "green" or natural. Germov (2005) argues that the increased use of CAM is mainly related to personalized service CAM provides that treats their clients with more respect and extraordinary listening ability. Furthermore, CAM does not make any promise of curing people but instead to give people the ability to manage their own disease, strengthening and help people to reconstruct themselves (Germov, 2005). In a condition where the orthodox medicine is perceived as failing, CAM is regarded to be more promising (Coulter and Willis, 2004).

Understanding Health-Related Behavior

Cockerman (2001) argues that one of the contributions of social science to public health investigation is in understanding health-related behavior, which consists of: preventive health, illness, and sick role behavior. Preventive health behavior is people's activity taken to prevent illness with the assumption that they are in the state of good health (Kasl and Cobb, 1966 cited in Cockerman 2001). The example of this behavior is shown in a Thai study of HIV/AIDS prevention (Lyttleton, 1993 cited in Cockerman, 2001) where prevention campaign was interpreted differently in urban and rural areas. When mostly well educated urban people understood the intended message, rural people had a misconception that avoid visiting commercial sex workers alone would prevent from HIV infection, whereas sleeping with several different village women was considered safe.

Illness behavior is defined as people's activity when defining the illness and seeking medication when they feel ill (Kasl and Cobb, 1966 cited in Cockerman, 2001). A study of Melbourne Aborigines reveals illness behavior beautifully where Aborigines define that they are ill from diabetes when they already are in an acute condition (Thompson and Gifford, 2000). Prior to the acute condition, Aborigines deny they are suffering from diabetes because they are afraid of being separated from their families and community. Further health seeking behavior for these Aborigines is traditional remedies like old man weeds or the use of needles, and leaving doctor as the last resort (Thompson and Gifford, 2000).

Sick role behavior is defined as people's activity in considering themselves ill in order to get well (Parsons, 1951 cited in Cockerman, 2001). Here, people seek what they perceive as "technically competent" resource, such as nurses, doctors, nutritionist or any other health professionals. Like Melbourne Aborigines whose later seek help of a general practitioner or dietitian when their diabetes is already in the severe stage.

Through this thorough understanding of health-related behavior, public heath investigation becomes more comprehensive and close to the true picture of the occurring public health problem. From here, intervention would be much more likely to succeed because it would take into account not only health provider's perspective but also patients' individual and socioeconomic context within society.

Social Flavor of Public Health Intervention

On the individual basis, social sciences already provide valuable answers to public health investigations and interventions. Many biomedical experts incorporate social science in their effort to change high risk behavior of an individual which is associated with certain diseases. However, the contribution of social sciences to public health intervention is far beyond that type of individual intervention. Health and individual health-seeking behavior are not separated from social, economic, environmental or any other sphere which has influence on health (Cohen and Perl, 2003). In that sense, Cohen and Perl believe that understanding of culture and ecological approach

in conducting public health interventions in wider social context might be more effective.

Community based interventions usually aim to modify wider responses to organizational, environmental and policy change beside changing the health related knowledge and behavior of individuals (Higginbotham, Willms and Sewankambo, 2001). Public intervention in complex communities left researchers with many question, like the quote from Fortmann *et al* shows.

"Perhaps the most important lesson we have learned about communities is that there is much we do not know. Much public health intervention research has focused on the individual as the target of the change and of the intervention. Yet a consideration of communities as the units of intervention demands an understanding of the many elements within a community that influence individuals and their health behaviors. An integration of the multiple components of a community, its families, networks, institutions, and policies, allows researchers not only to understand each component more completely but also to determine the role of each component in influencing individual health behavior." (Fortmann, *et al*., 1995: p. 583 cited in Trostle, 2005: p. 138)

When public health intervention is targeting the whole community, researcher must take into account not only individual compliance with the intervention, but also what existing organization, beliefs or culture within community is able to do or decide not to allow particular intervention and changing take place (Trostle, 2005).

One of valuable contributions of social science to public health interventions based on community is the use of community based participatory research (CBPR) or what in other texts might be referred as participatory action research (Higginbotham, Willms and Sewankambo, 2001). The researcher might have a much better understanding from the "scientific" point of view, but it is still the people from the community themselves who have a clear understanding about their society. CBPR is a form of research conducted in a mutual relationship between the researcher and people in the community to synchronize their best knowledge and understanding to make intervention appropriate to the holistic factors in the community.

A study conducted by Dennis Willms and Nelson Sewankambo (1994 cited in Higginbotham, Willms and Sewankambo, 2001) about HIV/AIDS intervention in Uganda gives us some insight into social science contribution to public health intervention through the use of CBPR. The study began with the question of the effectiveness of current programs which seemed to be working slowly (Higginbotham, Willms, and Sewankambo, 2001). The researchers wondered why people who seemed to know the cause of HIV/AIDS, continue to place themselves at risk. Then they worked with people in the community with tools integrating epidemiological, ethnographic, and Indigenous knowledge systems with the main purpose to get a comprehensive understanding. Researchers joined with the members of the community and talked about the disease in a meeting place called "Talking About AIDS: The Town Study Group" (Higginbotham, Willms, and Sewankambo, 2001). Among the findings is the higher risk for divorced women in the trucking town to get HIV. The reason was related to their work as alcohol sellers from which customers demanded sex before paying for the alcohol.

The relationship that develops during the meeting between researchers and participants laid the basis for the design of participatory intervention (Higginbotham, Willms, and Sewankambo, 2001). Furthermore, Higginbotham, Willms and Sewankambo clearly argue in their quote:

"It became obvious that this kind of research strategy was in and of itself a kind of intervention, since telling stories and illness narratives is therapeutic, enabling community participants to clarify their relationships, their options, and their choices." (Higginbotham, Willms and Sewankambo, 2001: p. 118)

The focus of CBPR is upon action and change not only to seek deeper understanding of the disease of the community perspective, an approach which makes health promotion and intervention more effective.

CONCLUSION

With the ongoing shift of global burden of disease from the infectious to degenerative diseases, the important role of social science in understanding health and illness is more understandable. Many biomedical science researchers collaborate with social scientists to gain a more comprehensive understanding of the risk of the disease, and health related behavior in the community. Moreover, integrated with social science, public health interventions would be far more effective with high degree of coverage or compliance. Through several examples and highlight of public health investigations and interventions, it can be clearly seen that social sciences do make a valuable contribution.

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