

Health Promotion in Kyrgyzstan Through Changing Dietary Habits

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Abstract

Cardio vascular and cancerous diseases in Kyrgyzstan are among the three leading causes of death. There are many factors that can bring to the development of such diseases. One of the important risk factors is leading unhealthy life style and as a part of it having unhealthy dietary habits. In turn, dietary habits are influenced by many socio-economic, cultural and behavioral factors. This paper argues that population living in rural areas in Kyrgyzstan has relatively unhealthy dietary habits. These dietary habits include high meat and animal fat food, milk and dairy products as well as relatively low consumption of fruits and vegetables, especially during winter time due to both high seasonality of available food items and cultural reasons.

In order to reduce the number of diseases caused by unhealthy dietary habits, there is a need to conduct prevention measures. Conduction of a program with community based elements is advised for Kyrgyzstan in order to empower people in promoting their health. The special target group should be rural women who basically are in charge of cooking for households and thus changing their behavior can benefit more people.

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Introduction

Dietary habits of people are affected by many various factors many of which might not depend solely on the individual. In Kyrgyzstan the particular concern is related with the low level of socio-economic development associated with high poverty rates. While this paper acknowledges issues related to the poverty levels and lack of sufficient income to afford food, it calls attention to the general understanding of dietary habits of people in rural areas. Dietary habits of rural population in Kyrgyzstan consist of food rich in meat and animal fat, home made milk and dairy products, bread, tea, where fresh salads and fruits are consumed mainly only during summer time. Such food rich in animal fat with lack of vitamins available in fruits and vegetables are one of the risk factors for various diseases associated with unhealthy lifestyle such as various cardio vascular, cancerous and digestive system diseases. It basically argues that a simple cabbage or carrot salad made during winter time can make a difference.

The first part of this thesis gives a general background to the problem. It includes information on the level of development in Kyrgyzstan, dietary habits, gives information on the diseases which could be related to unhealthy eating. Unfortunately there are no studies on Kyrgyzstan linking local dietary habits with diseases. There are also no studies on dietary habits in Kyrgyzstan in general. I try to provide the information based on my personal knowledge of my culture and to look at the general statistics which takes into account poverty levels and does not allow to link properly dietary habits and disease levels. Thus, the topic on the study of dietary habits can be an area for further research. Second part includes literature review covering theories of health promotion, risk prevention, model of health education/promotion, gender and health promotion, good practices from field work on health promotion. Third part looks into general implications for Kyrgyzstan.

The thesis argues that a program including elements of community involvement with a special focus on rural women can be employed in Kyrgyzstan with an aim of changing dietary habits in rural communities. The focus on the rural communities is selected because majority of the population in Kyrgyzstan lives in rural areas. Promoting their health will be beneficial for the country. Currently there are number of international organizations such as Swiss Red Cross, World Health Organization, Food and Agriculture organization operating in Kyrgyzstan and assisting with health promotion and improving livelihoods. This work can be relevant for their consideration. At the same time this work can be of relevance to the countries with similar dietary habits such as neighboring countries or Mongolia.

Chapter 1. Problem background

Factors influencing dietary habits

Nugent (2008) notes that the increase in the number of diseases associated with leading unhealthy lifestyle is the outcome “of a complex constellation of social, economic, and behavioral factors” (Nugent 2008). It is important to emphasize that one of the main components of healthy life style includes eating healthy food. In this case Kyrgyzstan is an example of a country where there is a difficult situation with diseases related to unhealthy food consumption. Definitely there is a need to consider the influence of external environment such as socio-political situation, market situation, and income level on people’s dietary habits. However, this thesis attempts to look at the dietary habits of the population as a culturally structure phenomena. It argues that dietary habits characteristic of Central Asian cuisine are one of main risks leading to the appearance of diseases associated with poor dietary habits.

At the same time it outlines a need for a new research which can help to determine such connection there is a need for a more in depth scientific health research. At the same time even such research will not be able to establish direct causal links because it is simply impossible in such health related studies and trigger factors related to the risks related to unhealthy lifestyle. However, at least such research could look into possible links specifically in the context of Kyrgyzstan.

The dietary habits of different populations differ from each other. Lately there has also been a spread of Western food in the world as a result of globalization. Gilbert and Khokhar 2008 provide a lot of details on the factors influencing dietary habits in relation to different ethnic populations. They note that food habits “of ethnic populations are influenced by many factors, including the availability of food, level of income, health, food beliefs, dietary laws and religion, and cultural patterns and customs” as well as “age (in particular, generation), region of origin, and occupation” (Gilbert and Khokhar 2008).

Researches like Krull et al. in 2013 have identified similarities on consumption of fruits and vegetables in post-Soviet region. They studied consumption patterns in nine former Soviet countries including Kyrgyzstan. They have noticed that the overall consumption of fruits and vegetables have decreased in the time period between 2001 and 2009. They also looked at the causal links and have established that “socio-economic situation, negative health behaviours (smoking and alcohol consumption) and rural residence” are the reasons for such low consumption. They have made the recommendation that this worrying trend has to be taken into account by policy makers and corrected in order to prevent increase in the diseases related to the lack of proper diet (Krull et al. 2013). In their study Isaev, Borsokbaeva, and Moldokeeva (2004) have determined that poverty is one of the main factors determining the quality of life of the people in Kyrgyzstan.

At the individual level besides socially and culturally constructed food habits there are also studies on fatalistic beliefs of human beings. It is when individuals think that their health mainly depends on external environment and as such they do not acknowledge the need to change their lifestyle (Davison, Smith, and Frankel 2003). Taking this into consideration brings to “the idea that health promotion is involved in a battle for the hearts and minds of the population, a struggle between a modern belief in lifestyle and an atavistic culture of ‘fatalism’” (Davison, Smith, and Frankel 2003).

Socio-economic situation in Kyrgyzstan

Kyrgyz Republic is a least developed country. It is on 126th out of 187 along the Human Development Index in 2011 (World Health Organization 2013). It is one of the poorest countries in Central Asian region. In 2008 gross national income per capita (GNI per capita) was less than 900 USD (World Bank 2011). In 2010 overall poverty level constituted about 35%, and the amount of those living in extreme poverty constituted 5% (National Statistical Committee of the Kyrgyz Republic 2012a). It is also noted that the poverty in Kyrgyzstan is

mainly present in rural areas, where 75% of all poor people are living in villages (National Statistical Committee of the Kyrgyz Republic 2012a). The inequality gap between extreme levels of income in Kyrgyzstan constituted 6.9 times which means that there are no great fluctuations in the income distribution of the population of the KR (National Statistical Committee of the Kyrgyz Republic 2012a). In addition, most of the country's poor live in the rural areas (National Statistical Committee of the Kyrgyz Republic 2012a).

Since majority of the population lives in rural area, main economic activity in Kyrgyzstan is agriculture. Despite this fact Kyrgyzstan is a country experiencing food deficit (World Health Organization 2013). Food security is important in Kyrgyzstan because due to food deficit, Kyrgyzstan is dependent on imports (World Health Organization 2013). Each price rise influences negatively food security situation in the country, thus even more hurting the poor population of Kyrgyzstan.

In 2009 the population of Kyrgyzstan constituted 5, 4 mln people, where urban population constituted 1.8 mln people and rural population 3.6 mln people, constituting about 65% of the population (National Statistical Committee of the Kyrgyz Republic 2010). Number of rural women equaled to 1.76 mln and number of rural men equaled to 1.8 mln people in 2009(National Statistical Committee of the Kyrgyz Republic 2010).

Kyrgyzstan is a multi-ethnic country. The majority are Kyrgyz who constitute 71.7%; the second largest ethnic group are Uzbeks equaling to 14.4% and the third largest ethnic group are Russians constituting 7.2% of the total population composition (National Statistical Committee of the Kyrgyz Republic 2012a). The ethnic composition is discussed also in relation to the dietary habits in a separate sub section. Life expectancy in 2010 equaled to 73, 5 years for men and 65.3 years for women (National Statistical Committee of the Kyrgyz Republic 2012a).

The Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat (2009) developed population forecasts for each country. In accordance with it, in general population number will continue growing reaching 6.5 mln people in 2030 where urban population will equal to 2.6 mln and rural population will equal to 3.9 mln people constituting 60% of the total population of Kyrgyzstan (Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat 2009). The increasing number of the rural population implies that more attention should be paid to improving their livelihoods.

Kyrgyzstan has mixed results on achievement of Millennium Development Goals in 2000-2008 (World Bank 2011). In terms of availability of food under “prevalence of undernourishment” the indicators show that 15 percent of the population is undernourished, where average amount for poor countries is 33 percent, but for developed countries it constitutes only 7 percent. For nutrition problems of children below five (in percentages) the indicators shows that 18 percent of children below five are undernourished, whereas average for poor countries is 49 percent. Maternal mortality rate is relatively high it scores 80 deaths per 100 000 births, with average for low income countries is 653 deaths, but for developed countries this number equals to only 38. Mortality rate of children under 5 years old equals to 42 deaths, with average for low income countries equaling to 128 and average for developed world 28 deaths per 1000 babies. Average life expectancy at birth equals to the average in developed world and constitutes 68 years, as opposed to 56 years average for low income countries (World Bank 2011). Overall the country’s Second Progress Report on Achievement of MDGs makes a note on the growth in the maternal and child mortality rates in Kyrgyzstan (Hasanov et al. 2010).

Dietary habits in Kyrgyzstan

As it was said above Kyrgyzstan is a multiethnic country with Kyrgyz ethnicity representing majority of the population. Each ethnicity represented in the country learned and adopted of each others culinary tastes. In general it can be said that people especially in rural areas love meat, bread, milk, and dairy products. Fresh fruits and salad consumption is limited to summer time. During winter only apples and pears are consumed which can be stored for a lengthy period of time. There is no habit of making salads from available vegetables during winter. For me it seems that Russians have healthier dietary habits, but I can not confirm it, since there are no studies on this subject. Anyways it is of little relevance since the focus of the paper is dietary habits in rural areas whereas Russians reside only in urban areas. During Soviet Union their settlements were around industrial productions which were concentrated in urban areas. In general in the country there is lack of fish and sea products, since Kyrgyzstan is a landlocked country. By religious beliefs majority of population are Muslim, so most of them stick to Muslim dietary habits. Consequently, the consumption of pork meat is considerably less than in countries where majority are Christians, although the Islamic beliefs does not reduce the consumption of alcohol beverages.

The table below summarizes food consumption by type per month in Kyrgyzstan and compares them with Russian norms for food consumption. In consumption of bakery products, residents in Kyrgyzstan consume about 4 kg more of bakery and wheat products. Consumption of potatoes is close to the norm. In Kyrgyzstan the consumption of vegetables and melons is 4 kg more than the minimum norms developed by the Russian Food Institute. Consumption of fruits and berries is 0.5 kg less than the norms. Sugar and confectioneries are within the norm. Meat and meat products' consumption is also within the norm. Milk and dairy products' consumption is 2 kg less than the norm. Consumption of eggs per month is 10

pieces less than the norm. Consumption of vegetable fats is also within the norm. The consumption of fish in the country is virtually absent.

Table 1. Food consumption (per capita, kg per month)

	2011 ¹	Norms of food consumption by type ²
Bakery products (expressed in grain) ¹	15,8	133,7 kg per year ² /12=11,14 kg per month
Of which wheat and wheat processed products (expressed in grain) ¹	14,1	-
Potatoes ¹	8,2	107,6 kg per year ² /12=8.9 kg per month
Vegetables and melons ¹	12,5	97 kg per year ² /12=8 kg per month
Fruits and Berries ¹	2,4	23 kg per year ² /12=1,9 kg per month
Sugar and confectioneries ¹	1,8	22,2 kg per year ² /12=1,85 kg per month
Meat and meat products ¹	3,2	37,2 kg per year ² /12=3,1 kg per month
Milk and dairy products ¹	17,8	238,2 kg per year ² /12=19,85 kg per month
Eggs, pieces ¹	6,8	200 pieces per year ² /12=16,6 kg per month
Vegetable fats ¹	1,0	13,8 kg per year ² /12=1,15 kg per month
Fish ²	-	16 kg per year ² /12=1,3 kg per month

Source:

1. "Food Security and Poverty Information Bulletin of the Kyrgyz Republic: 4/2012." 2013. Bishkek: The National Statistical Committee of the Kyrgyz Republic. (Accessed June 01, 2013) <http://stat.kg/images/stories/docs/tematika/living/INF.BULL%204%202012%20eng.pdf>.
2. Kalabekov, I.G. 2010. *Rossiyskie Reformi v Tsifrah i Faktah (Russian Reforms in Statistics and Facts)* (trans.Sultanova, Nargiza). 2nd ed. Moscow: Izdatelstvo Rusaki.

Similar picture is observed in analyzing food balance which is the difference between consumption norm and what is actually being consumed (National Statistical Committee of the Kyrgyz Republic 2013). In 2012 the general food balance in terms of calories was positive, and equaled to 78 calories (relatively insignificant), in terms of proteins measured in grams per day it was negative indicating lack of 15 grams; and in terms of fat in grams per day it was also negative and equaled to 13 grams deficit of fats (National Statistical Committee of the Kyrgyz Republic 2013).

At such this general glance shows no specific problem with dietary habits (except the absence of fish and sea products in the picture). However, further more detailed research is

needed in order to see the eating patterns at a more individual level. All these numbers show average consumption for the whole nation, and considering the poverty level it could be that some of the indicators (like meat consumption) get milder. Another problem is seasonality of food. In Kyrgyzstan there are four seasons. Some vegetables as well as fruits and berries are available only during summer time. Perhaps the discussion on diseases in Kyrgyzstan can shed more light into the possible hidden problems related with poor dietary habits.

Diseases related to poor diet

Poor diet is a risk factor for a number of diseases. These diseases include but not limited to “Coronary Heart Disease, high blood pressure, non-insulin dependent diabetes, constipation, joint pain, being out of breath” (BBC World Service 2012). BBC Scientific article on *The Risks of Poor Diet* provides following recommendations (BBC World Service 2012). The consumption of excess amount of animal fat brings to a lot of troubles in health condition. It is advised that people should try to decrease consumption of animal fat. Dairy products are good, but they also contain a good amount of animal fat, so people are also advised to watch over their consumption. People should try to consume dairy products with less animal fat. At the same time, consumption of more fish and sea products is advisable. Most people also consume less fruits and vegetables than necessary, so it is advised that people should consume more of these (BBC World Service 2012).

The number cardiovascular diseases and diseases of the digesting system each constitute about one fourth of all the revealed diseases in Kyrgyzstan (National Statistical Committee of the Kyrgyz Republic 2012b). See Table 2 for classification of population diseases in 2009 per 100 000 people.

Table 2. Classification of the population diseases (in 2009 per 100 000 people) (National Statistical Committee of the Kyrgyz Republic 2012b)

	2009 (per 100 000 people)	Including the number of people who were diagnosed for the first time 2009
All diseases	47640,4	27307,9
Diseases related to dietary habits		
Cancer	496	151,6
Sugar diabetes	581,3	63,2
Cardio-vascular diseases	4547	784
<i>Including Myocardial infarction</i>	30	20,6
<i>Including Stenocardia</i>	258,4	37,2
Diseases of digesting system	4661,4	2413,8
<i>Including Peptic ulcer</i>	267,5	38,4

Table 3 shows the amount of deaths classified by the cause. Cardiovascular diseases are the leading “killers” of people (Bazarbaeva and Nurmanbetov 2013). Fifty people die per day from cardio vascular diseases making up to 18 000 deaths per year (Bazarbaeva and Nurmanbetov 2013). Second ranking belongs to death from external factors (accidents), whereas cancerous diseases are the third cause of death in Kyrgyzstan (National Statistical Committee of the Kyrgyz Republic 2012a).

Table 3. Classification of deaths by cause (National Statistical Committee of the Kyrgyz Republic 2012b)

	Total			Including part of labour force		Number of deaths per 100000 people
	Both sexes	female	male	female	male	
Total death number (below see distribution by type)	35898	15773	20125	2899	8438	666,9
Cardio vascular diseases	17578	8773	8805	698	2600	326,5
formations	3267	1511	1756	557	758	60,7
Diseases of the digesting system	2385	803	1582	343	1140	44,3

In addition, there is a “hidden malnutrition” problem related to children. It is when children receive enough calories, but unfortunately lack some important vitamins in the products that they consume. This is also a problem related to the dietary habits in Kyrgyzstan,

which in turn influenced by culture, as well as socio-economic situation of the family and external environments (IRIN 2010).

Chapter 2. Theoretical discussion

This chapter provides theoretical basis for conduction of public health reforms on changing dietary habits. The area of public health is yet another difficult area for public policy decision makers because it is hard to establish causal links and calculate costs and benefits necessary for decision making. The benefits of improved health for the population are relatively clear. It is argued that the healthier the nation, the better is their productivity, which leads to the improvement of living standards of people in general. Health promotion/education is seen as a beneficial activity for the individual from the state's perspective. Healthy individuals construct society, and together as a collective entity the health status of the nation is important for its future. The global Ottawa Charter of World Health Organization (WHO) for global actions on health promotion provide following comprehensive definition of health promotion. This definition is important because it encompasses all aspects health care, and it also touches upon the concept of healthy life style, which will be covered further in the theoretical discussion.

Health promotion is the process of enabling people to increase control over, and to improve, their health. To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment. Health is, therefore, seen as a resource for everyday life, not the objective of living. Health is a positive concept emphasizing social and personal resources, as well as physical capacities. Therefore, health promotion is not just the responsibility of the health sector, but goes beyond healthy life-styles to well-being (WHO Ottawa Charter 1986).

Theories on health promotion/education

There are numerous theories and approaches to public health promotion/education (Caplan 2003, WHO Ottawa Charter 1986, Tannahill 2003). The underlying theory employed by this thesis will be a theory developed by Caplan (2003). Caplan's main (2003) arguments is that any of the existing approaches to health promotion can be placed within the theoretical framework that he has developed. He basically harmonizes and categorizes existing theories

into one picture in order to avoid chaotic vision of the theoretical approaches to public health promotion (Caplan 2003).

Caplan (2003) points out that in general there are two different reasons to initiate public healthcare reform. First is an objectivist approach, when the links between the illness and the general population health status are determined (Caplan 2003). However, it is often hard to scientifically establish such links (Caplan 2003). Thus, the second approach is a subjectivist approach when conclusions about the links between general population health status and the particular reasons behind it are made based on the subjectivist knowledge of the surrounding environment and behavior of people (Caplan 2003). This problem of lacking exactness complicates decision making in the public health area.

Furthermore, it is based on these two approaches policy makers can introduce certain policy changes in the healthcare area (Caplan 2003). These changes can be anywhere in between “social regulation”, meaning some mild social change or a “radical change” (Caplan 2003). Caplan distinguishes four theoretical approaches to health promotion which differ in the degree of subjectivism/objectivism and in the degree of proposed reform scope (Caplan 2003). *Radical health education* and *humanist health education* theories are in the category of subjective dimension, and they vary in the degree of proposed reforms (Caplan 2003). *Radical health education* reflects subjective views that the world is highly oppressive and hierarchical (Caplan 2003). The change should be radical challenging hierarchical system. Humanist health education (Caplan 2003). *Humanist health education* also reflects subjective views that the world is socially constructed by the people themselves (Caplan 2003). In order to promote health, people should improve communication in order to make changes (Caplan 2003).

Radical structuralist health education and *functionalist health education* belong under the category of objective dimension, both also vary in the degree of regulation required (Caplan 2003). *Radical structuralist health education* reflects objective views that existing economic distribution results in appearances of differences in economic well being of people, leading to inequality in health statuses. The changes should analyze inequality patterns and challenges to health and address those problematic areas which market economy could not address efficiently. *Functionalist health education* builds on the view that everything in the society is constructed to benefit people. However, there are some problems which exist due to individual negligence or incorrect work of social organizations. The changes can be made through introduction of changing the rules, but in this case individuals should stick to the decisions made by the “institutions of liberal democracy” (Caplan 2003).

There is another theory that does not take into account the scope of the reforms. It rather focuses on how to approach health promotion issue. It is valuable because it highlights the importance of holistic approach to health promotion and the need to focus both on reducing risks and aiming at curing diseases. Thus, Tannahill (2003) highlights two approaches to the health promotion. One of them is a disease oriented approach. It requires identification of a certain disease and targeting it through health reform. Such disease oriented approach takes risks into consideration only as of secondary importance, and thus has a narrower view point. Another is risk oriented approach, when health reform is aimed at minimizing risk factors which might lead to diseases. He argues that a combined health approach taking into consideration both approaches should be developed, which will ensure a comprehensive picture aiming at both risk factors and the diseases (Tannahill 2003). At the same time, Davison, Smith, and Frankel (2003) point out that in the modern times as opposed to previous centuries there has been a change in centralizing the focus on the risks while choosing approaches to health promotion.

There is a certain controversy in the focus on risks. The focus on minimizing risks belongs to the area of prevention. It is commonly believed that prevention is cheaper than the cure, or prevention helps to stay healthy. However, there is a lack or inability to make evidence based conclusions about such generalized beliefs. Actually the problem of measurement is one of the key problems in the area of healthcare for policy makers. Godfrey (2003) states that the question “Whether prevention is better than cure or lifestyle change is better than other prevention activities remains to be fully investigated”.

In the context of this thesis, changing unhealthy diet towards healthier one belongs to the area of prevention. Prevention includes all activities aimed at health promotion. Currently healthcare workers recommend “A low meat, low cholesterol, high fibre diet” which possibly helps to minimize risks of heart and blood diseases and cancer (Labonte 2003). There is also an emphasis on consumption of more organic agricultural production (Labonte 2003).

Community Development Model

There are literally numerous models for health promotion. However, overall similar to the shift on risk factors in public health there was a shift to adopt more community based approaches in targeting healthcare issues. It is also linked to the overall attempts to decentralize governments, move decision making closer to individuals. One of the main global documents on health promotion is a WHO Ottawa Charter (1986). It identifies five main areas for action and the focus on community is one of the central points in this Charter.

- 1) *Build healthy public policy* – develop comprehensive public policy aimed at improving health of the population
- 2) *Create supportive environments* –take into consideration the interlinkage of health with other aspects of life and create environments conducive for better health
- 3) *Strengthen community actions* – target and empower specific communities in health promotion activities

- 4) *Develop personal skills* – Enable learning of individuals about health related topics
- 5) *Reorient health services* – Expand understanding that healthcare goes beyond scope of work of health care sector. Health services should be directed towards broader understanding of the need to promote health in general (World Health Organization 1986).

R. G. Robinson (2005) develops a community development model. The model consists of three main areas: “community competence, community development, and community prevention” (R. G. Robinson 2005). This is an assessment tool for analyzing existing communities and developing specific measures aimed at improving capacity building of the particular community against certain risks or diseases taking into consideration cultural aspects. There are two constructs in this model. First is a need to acknowledge diversity of the population and identify similarities between certain groups of populations. Second is a need to address this population through various channels (R. G. Robinson 2005).

Community development acknowledges that there is need to have community development actions targeting specific community (R. G. Robinson 2005). Usually statistics provide general information on the population without recognizing their community belonging. It comprises two constructs: “(a) capacity and infrastructure; and (b) social capital” (R. G. Robinson 2005). Thus the first component means “research and researchers, programs and services, leaders, organizations, and networks” (R. G. Robinson 2005). This components basically means the ability of the locals to govern its resources. Capacity and infrastructure are more important than the social capital. Social capital implies the degree of cohesiveness within the community required for making consensual decisions (R. G. Robinson 2005). Overall it means that the community will have to learn to interact jointly in reaching common goals.

Community prevention expands old views of “prevention and control to include an explicit focus on community, reflecting the underpinnings of history, culture context, and geography, in contrast to populations defined either as groups or strata or individuals” (R. G. Robinson 2005). It includes education at the official schooling system as well as education based on particular diseases. The author adds that this is something on top of usual prevention it has a specific target of focusing on particular communities.

Community Development Model in practice

Cardiovascular Health Awareness Program (CHAP) as a good practice

Cardiovascular Health Awareness Program (CHAP) as one of the good practices. It is a good example in terms of effectiveness of health promotion program because it was able to reach the desired outcomes. It has links with national healthcare agenda, has links with healthcare institutions and successful in community mobilization and has a relatively extensive coverage leading to the health promotion at the community and at the individual level. Cardiovascular Health Awareness Program (CHAP) is a large scale Canadian initiative called (Kaczorowski et al. 2008; Kaczorowski, Del Grande, and Nadeau-Grenier 2013; Goeree et al. 2013). This case study is built based on the articles published by elaborators of this Program (Kaczorowski et al. 2008; Kaczorowski, Del Grande, and Nadeau-Grenier 2013; Goeree et al. 2013). CHAP has been elaborated through extensive study, small pilots and still is an initiative which regularly undergoes evaluation and update based on the previous experiences (Kaczorowski et al. 2008). CHAP is aimed at increasing awareness of the community members on the risk factors which lead to the diseases of cardiovascular system.

Needs assessment/baseline: High blood pressure was identified as one of the causes of cardiovascular diseases as well as number of other diseases. Raising awareness of people on high blood pressure and appropriate behavioral changes can significantly limit appearance or complications of cardiovascular diseases, atherosclerosis and other related diseases.

Planning: Community based program approach has been selected for executing the promotion of healthy lifestyle. 39 settlements were selected as target communities in Ontario, Canada. Target audience of CHAP was elderly above 65 years old which is the segment of population most prone to the risks from high blood pressure. The population of these settlements equaled to almost 1 mln inhabitants where more than 10% constituted elderly people at the age of 65 or older (Goeree et al. 2013).

Implementation: The overall intervention period lasted for over 10 weeks during spring 2006. During each time, each participant underwent 3 hour assessment process on high blood pressure and cardiovascular disease as well as special training on leading healthy lifestyle. This work was carried out by volunteers by specialized staff or were representatives of the healthcare system themselves.

Monitoring and Evaluation: Outputs of the program resulted in the following numbers: “1265 sessions [were] held with the assistance of 577 volunteer peer health educators; more than 13,000 unique participants aged 65 years and older [were] assessed” (Kaczorowski, Del Grande, and Nadeau-Grenier 2013).

Outcomes: One year after the completion of the trainings, “statistically significant 9% reduction in adjusted annual rates of hospital admission for cardiovascular diseases” was viewed in the target communities in comparison to the communities which were not part of the program (Kaczorowski, Del Grande, and Nadeau-Grenier 2013). Moreover, there was “statistically significant increase in newly prescribed antihypertensive drug treatments and trend toward lower in-hospital CV mortality in intervention communities” (Kaczorowski, Del Grande, and Nadeau-Grenier 2013).

In addition, this case can serve as one of evidences for the argument that prevention is cheaper than the cure. A more comprehensive study based on the results of this Program has

revealed that such preventive intervention is cost effective (Goeree et al. 2013). Overall finding is that this preventive programme has led to the decrease of costs at the community level, moreover, it did not bring to the general growth of healthcare expenditures (Goeree et al. 2013).

Lessons learned: Elaborators of this Program note on the following lessons learned which would be useful for future interventions (Goeree et al. 2013). They note that the success of the program depended on the number of factors. Firstly, this Program is a result of various other interventions which existed before and were duly evaluated. It includes all of the main components such as ‘improved clinical information systems, decision support, improved delivery system design, self-management support, and community and organizational leadership’ (Goeree et al. 2013). Secondly, similar models can be implemented in any random community, moreover, it will lead to a more community cohesiveness. Thirdly, the program had low organizational costs, due to the involvement of volunteers although it managed to have extensive coverage. Fourthly, the overall length of trainings and the intervention itself was relatively extensive. The limitations of the Program are as following: it is hard to track causal links between components of intervention; it is not known whether the program will be resultative if applied in a bigger communities; volunteer contribution has not been accounted in evaluation of costs; the cost effectiveness was determined at the general community level and not the individual level (Goeree et al. 2013).

Community based elements

In practice elements of community development approach are encouraged in health promotion. K. L. Robinson and Elliott (2000) point out that existing data shows that “the practice of community approaches across the study sample can be characterized by a continuum of levels of partnering and distinct forms of inter-relations among community

agencies”. There are different terms used to name such community development efforts, such as community based program, community integrated approach, community capacity development program. They are all built on the same principles as outlined in the Community Development Model, but most of them are aimed at increasing capacity of local communities in defining problems and addressing them independently and often times are not as ambitious as Community Development Model.

For example, community based implies “the process of agency development of solutions for health problems which incorporate community consultation and input thus allowing adaptation of the implementation to suit local needs/circumstances” (R. G. Robinson 2005). Usually “the community is primarily defined geographically and is the location in which interventions are implemented” (World Health Organization 2009). However, community may also imply a group of certain people regardless of their geographical location. There are also projects on Community Capacity Development to tackle health issues like Alberta Heart Health Project (Dressendorfer 2005). Or projects on community development in general “Community development is the practice of helping residents to act together to improve their conditions” (Chanan 2012).

Possible challenges in implementation of such community based projects were studied by Merzel and D’Afflittl (2003) who have conducted 32 evaluations of various community based projects. They have noted that despite the popularity of community based approaches there are quite many cases when the program did not work out as intended. Several programs on HIV were among the most successful ones in their evaluation. Based on this evaluation they were able to identify following causes for lack of good performance such as lack of comprehensive reviewing of the design and assessment process, or results which turned out to be less than expected Merzel and D’Afflittl (2003). They account the success of the HIV prevention activities to sufficient preliminary research and highlight on shifting social

thinking Merzel and D’Afflittl (2003). Overall they note, that community based approach can have many advantages, it can be a way to reach everyone on the ground (Merzel and D’Afflittl 2003)

In practice the design of such community development programs on health promotion are similar to the general program planning (needs assessment/baseline, planning, implementation, monitoring and evaluation, lessons learned stage) with one important feature which is an emphasis on interaction and involvement of representatives of local community. Public Agency and Community Empowerment Strategies (PACES) organization in the United Kingdom recommend following steps (Chanan 2012). They recommend to make a focus on community mobilization, which is a driving factor behind almost each stage of programming activities in community based approach (Chanan 2012). Dressendorfer (2005) adds that one of the keys for success of community based programs is assurance of their “extensive reach, adoption and engagement” as well there is a need to wait for some time before the changes become evident. World Health Organization based on its practice of working in African countries and integrating the community into health promotion efforts developed the following framework (see Box 1). This preliminary framework can be applicable in developing countries as a starting point.

Box 1. Framework for Developing Model Integrated Community-Level Health Promotion¹

- Step 1: Consultation at the national level
- Step 2: Establishment of coordinating structures at national and district levels
- Step 3: Advocacy at the district level
- Step 4: Community engagement
- Step 5: Formation of a coordination structure at the community level
- Step 6: Undertaking a community diagnosis/situation analysis and needs assessment, with due consideration for existing programme tools
- Step 7: Consensus building
- Step 8: Developing a strategic plan
- Step 9: Development of an operational plan
- Step 10: Implementation according to the operation plan
- Step 11: Monitoring and consultative meetings
- Step 12: Evaluation of year 1 and development of year 2 operational plans
- Step 13: End-term evaluation and dissemination of results

Step 14: Scaling up

1. WHO. “Framework for Developing Model Integrated Community-Level Health Promotion Interventions in Support of WHO Priority Programmes”. Brazzaville: World Health Organization/Regional Office for Africa.

Gender differences and healthy diet

Doyal (2003) rightly points out that “health promotion policies in particular need to be gender sensitive if their messages are to be heard”. It is so because the existing wage gap between men and women can influence the health status (Doyal 2003). Gender inequality poses problems not only for women but also for men. For example, one of the dangers of socially constructed masculinity is higher death rates among men due to accidents at work place and various diseases (Doyal 2003). Understanding such differences between genders in relation to health promotion can help to avoid discrimination of one gender or contribute to gender equality promotion.

Developing countries are characterized by high gender inequality. These are traditionally patriarchal societies. Women have been traditionally given the domestic sector, whereas men dominate in the social sector. This gender inequality becomes even larger in rural areas, since there is a lack of opportunities for women in general. It is evident that gender equality is not an objective which can be reached overnight. In 2011 OECD conducted a comparative study of thirteen Asia-Pacific countries of mixed development level on how men and women spend their time (OECD 2011). It has been revealed that in general women have more working hours than men (OECD 2011). It is due to the fact that women spend more time doing unpaid work in households (OECD 2011).

However, the fact that women belong to the household sector can be a positive factor in trying to change dietary habits of a certain population. Basically women are in charge of cooking. Of course men are often breadwinners and carry responsibility for bringing income to the family. However, in rural areas women are also often in charge of what is planted in

their plot of land. There are estimates that more than half of the women in the labor force are involved in farming (Lal and Khurana 2013). In this light it is key to target women in attempts to change dietary habits of households in developing countries.

It is also clear that women tend to spend their income more for household needs and on their children. There are numerous studies on this topic indicating that in spending habits gender plays its role. For example, a recent program on cash transfers in Mexico distributes cash to women on conditions that they will be spend on members of the family. Monitoring of the Program has actually confirmed that women spend money as intended “for food, children’s clothes and school supplies” (Zelizer 2011). Another observation was made in Philipines that when women are in charge of the family budget, they spend notably more on household appliances (Zelizer 2011). There are two cases which illustrate how interventions on health promotion and involvement/targeting of women can be effective in terms of reaching the desired outcomes:

Case: Educational program on nutrition for women in Bangladesh

The first case represents an educational program for lactating women in Bangladesh (Brown et al. 1994). The following summary of the program is entirely build on the article by Brown et al (1994) on *Evaluation of the impact of messages to improve the diets of lactating rural Bangladeshi women on their dietary practices and the growth of their breast-fed infants*. This educational approach has clearly showed that it is beneficial to direct attention to women because it directly affects the condition of the children. At the same time it shows the limitation that in case of poverty women have difficulties applying the knowledge they receive during health promotion project (Brown et al. 1994).

Needs assessment/baseline: During baseline study it has been revealed that women and children in Bangladesh have poor health. Children start lagging behind in their weight

sometime after they are born. At the same time unlike in other countries, women lived shorter than men. Lack of proper nutrition has been revealed, which negatively affects the health of the mother and thus negatively influences the development of the fetus during pregnancy and well being of the baby after delivering.

Planning: The target group were lactating women in Bangladesh. The aim was to improve the nutrition condition of women and thus children. As a result a community based program was developed which targeted 48 mothers and aimed at improving dietary habits of a mother.

Implementation: In 1987 for 10 months a community based intervention was carried out in Harirampur subdistrict in the Manikganj district of Bangladesh. This place was selected because the situation with malnutrition was especially worrying in this area. At the beginning some careful trial version with involvement of a few Bangladesh mothers was carried out. After that the experience was spread out to other women in the community. The education included variety of things such as encouraging “lactating mother to eat an extra serving of all foods she normally ate at each meal, consume adequate fluids, wash hands and utensils before eating, and offer both breasts to the baby when breast-feeding”. Several volunteers were trained to disseminate information among lactating mothers. At the same time male trainers were involved in training men about healthy diet.

Monitoring and Evaluation: At the end of the project, it underwent appropriate quantitative evaluation activity. Missing data were primarily due to the child or mother being absent on follow-up visits (e.g., visiting maternal relatives) or the family's out-migration from the study area. In addition, one treatment child died from an acute illness early in the study. **Lessons learned:** The evaluation exercise has revealed that in the condition of lack of relevant income or appropriate conditions, such education programs alone cannot make a

significant change. For example, in the case of this project in Bangladesh they were distributing vitamin intakes for children (Brown et al. 1994)

Case: Increasing consumption of salt with iodine in Kyrgyzstan and the role of women

The second case is actually a project implemented in Kyrgyzstan. The needs assessment in Kyrgyzstan showed lack of iodine among the population of the country. Overall, it is one of comprehensive programs on health promotion carried out in Kyrgyzstan. It actually consists of several projects targeting different regions or having different objectives. First was to conduct a media campaign to promote consumption of salt with iodine. Second was to make sure that salt with iodine is actually available for the general population. Overall, the efforts of the governmental and non governmental sector were united for achievement of one goal which was to ensure adequate level of iodine among the population.

It has resulted in curious outcomes, upon evaluation of the program effectiveness in 2007, it has been revealed that iodine levels in children are at the normal level, whereas pregnant women had lack of iodine in their organisms (Sultanalieva, Mamutova, and van der Haar 2009). At the same time community based activities on empowering communities to control the presence of iodine in the salt and thus control producers has showed itself as an effective measure (Schuth et al. 2005). Thus, it can be assumed that women made sure that they used salt with iodine during cooking process which explains why children had sufficient level of iodine. It is at the same time unclear why pregnant women were lacking iodine.

Needs assessment/baseline It has been revealed that after the collapse of the Soviet Union producers stopped adding iodine into the salt. As a result the diseases related to iodine deficiency re-appeared in the sovereign country.

Planning: There are two sides in the project of such type. First of all there is a need to ensure legal provisions so users will have an access to the salt with iodine. Secondly, there is a need to encourage families to start using salt with iodine. At the same time there is a need to follow up whether the legal regulations are being followed by the producers.

Implementation The government has adopted a law mandating producers to add iodine into the salt. A national campaign with the help of mass media has been carried out encouraging people to add salt with iodine into their food. A number of projects were carried out by Kyrgyz-Swiss Health Reform Support Project under the agenda of promoting use of salt with iodine and ensuring that producers actually add iodine into the salt (Schuth et al. 2005). One of the projects were in particular directed towards ensuring community control for enactment of regulation on mandatory adding of the iodine into salt. In this project they have distributed special test tools so that household members (usually women) will be able to check the presence of iodine in salt and make purchase decision (Schuth et al. 2005).

Monitoring and Evaluation: Measurements in 2007 showed that children at school have normal level of iodine. At the same time some percentage of pregnant women were lacking iodine (Sultanalieva, Mamutova, and van der Haar 2009). At the same time the results of the project on training family members to test salt for the presence of iodine showed that empowering local communities with control tool actually helps to encourage producers to actually add iodine into salt for food (Schuth et al. 2005). The percentage of salt with iodine has increased by statistically significant amount in the project pilot areas.

Lessons learned: The study on the level of iodine levels in women and children have showed that Kyrgyzstan should not face the case of excess of iodine in the body(Sultanalieva, Mamutova, and van der Haar 2009). One of the main outcomes of this project is that “Testing salt in a large percentage of households is an effective, low-cost approach to increasing the

percentage of households using iodized salt to satisfactory levels in a very short time”(Schuth et al. 2005).

Chapter 3: Implications for Kyrgyzstan

Although in the first Chapter I tried to make and show linkages between culturally structured dietary habits of people in Kyrgyzstan and diseases related with poor diet it is evident that there is lack of study on this topic. In the absence of such studies related to dietary habits in my country I have made judgments based on my own experience as a citizen of Kyrgyzstan myself. Statistics have confirmed one of my observation that people in Kyrgyzstan do not consume much fish or sea products. Another obvious fact, Kyrgyzstan has high rates of cardio-vascular, digestive system and cancerous diseases. Therefore it is recommended to make a study on the links between dietary habits and these diseases in the context of Kyrgyzstan. It will not be able to identify exact causal links, but at least it can provide evidence based picture on the culturally structured dietary habits of people in Kyrgyzstan.

The application of the Community Development Model has several benefits in the context of Kyrgyzstan. First, definitely, communities know better what they need. It helps to reach individuals in a better way, because the specific actions will be targeted towards specific communities with similar needs. Thus, ideally Community Development Model is “the process by which a community identifies its needs, develops an agenda with goals and objectives, then builds the capacity to plan and take action to address these needs and enhance community well-being” (R. G. Robinson 2005).

Second, it is one of the models which can satisfy the interests of the majority of people. Caplan places this community development model in the area of Humanist Health Education (Caplan 2003). Thus it belongs to a theory emphasizing social regulation. He argues that it will reflect interests of the majority because the center of the attention is a community united by some commonalities. At the same time if the model would have

belonged to radical change theories, it could not have “reflect(-ed) the overall interests of everyone” because radical change implies non-unity (Caplan 2003).

Third, it has the component of community empowerment to be less dependent on the government. Kyrgyzstan is a former Soviet country and it had a highly centralized governance structure. This creates high dependency of the people on the government. Decentralization efforts are taking place from the Government side. But such community based projects can help to change minds of people that they can also do something for the benefit of the entire community.

In Kyrgyzstan’s context it will be hard to expect that there will be a full fledged Local Community Model like specified in the theory that is why implementation of projects with some community based elements is advisable. It is just simply hard to imagine now that the community will define its own health problems and start dealing. Decentralization, community involvement is still an ongoing process even in the developed countries with extensive experience of democracy with developed infrastructure. It is hard to expect such sophisticated community activity in Kyrgyzstan. Thus it is more viable in Kyrgyzstan’s case to develop a model with community development elements, preferably a community based intervention. Such interventions may include various interventions, for example “disease prevention and control, management and promotion activities that involve individuals, families, social networks, organizations and public policy (World Health Organization 2009).

Most importantly the practice of projects on health promotion through lifestyle change showed that education of individuals on health promotion can be effective and bring to less people getting sick. Making change in the dietary habits means changing behavior of people which might seem hard from the first sight. However, cases in the previous chapter showed that such projects can be effective with appropriate planning and designing of the project. In

addition, the organizations in Kyrgyzstan (like WHO, Red Cross, Ministry of Health of the Kyrgyz Republic) can learn from the extensive experience of conducting similar interventions in other countries of the world with similar development level. This can help to expand learning process from low income country to low income country which can be beneficial experience considering that there will be similar level of social capital among two countries. Developed countries usually have communities which are capable of identifying, raising and addressing their own problems, which is often not a case for developing countries. *Framework for Developing Model Integrated Community-Level Health Promotion Interventions in Support of WHO Priority Programmes in Africa* can be applied as a starting point (World Health Organization 2009).

The experience of CHAP programme as well as findings of Merzel and D’Afflittl. 2003 illustrate the importance of very through analysis before and after the completion of the project. In the case of CHAP it was illustrated how continuous improvement of existing projects through constant monitoring and proper evaluation can at the end result in a creation of an effective program that reached all the intended results. Moreover, it illustrates how even an effective program can be continuously improved because evaluators provide information on not only why their program was effective but also where the limitations might be. In regards to this it is also advised that such projects should start from small pilots in selected rural communities in Kyrgyzstan. This will allow to gradually expand and extend the project allowing for correcting during implementation process or prior to the new stage of the project.

Focusing on rural women in Kyrgyzstan in regards to changing dietary habits of the community can be beneficial for reaching results. Kyrgyzstan is a patriarchal community where women are responsible to deal with kitchen related chores including purchase of food items and cooking. In addition, households in the rural areas usually own small plot of land near the house and it is usually women who determines what will be planted on the plot of

land. Whereas it is important to be gender sensitive in health programs (Doyal 2003) in my opinion this is the right way to use advantages in division of responsibility between men and women in patriarchal societies in relation to changing dietary habits. Moreover, as showed in the case studies in the second chapter it has been demonstrated that in relation to nutrition programs (targeting lactating women and encouraging more salt with iodine consumption) women can have an impact on overall results. Of course, in targeting the women the “do not harm principle” should be followed, meaning that it should not bring to worsening gender inequality in the community, may be there should some activities targeting men planned as well.

Conclusion

The dietary habits in Kyrgyzstan are affected by the socio-economic and culturally constructed food choice. Taking into account that Kyrgyzstan is a developing country and poverty levels are high it is evident that it influences the food consumption in Kyrgyzstan. However, the attention of this paper was to show that there might be a connection also between unhealthy food choice driven by culturally constructed dietary habits and the level of diseases potentially resulting from poor diet in Kyrgyzstan. In my opinion, people in Kyrgyzstan consume excess amount of meat, and products containing animal fat and they consume insufficient amount of fruits and vegetables, which can be accounted both to seasonality as well as culture that does not often make fresh salads.

I have compared the statistical results published by the National Statistical Committee and the norms of food by type. The general view revealed only one major problem which confirmed my observation, people in Kyrgyzstan do not eat sufficient amount of fish and sea products due to being land locked country. At the same time it is hard to make an inference on the dietary habits of people in Kyrgyzstan based on those statistical numbers only.

At the same time statistics show alarming numbers on the diseases which could be caused by unhealthy lifestyle and unhealthy diet. Cardiovascular diseases and cancerous diseases are among the top three leading causes for the deaths in Kyrgyzstan. Thus, there is a gap in a scientific research which could look at the links between culturally structured food consumption and these diseases. Based on the available information it can be somewhat inferred that there is a great chance that dietary habits characteristic to people in Kyrgyzstan can be a reason for these diseases along with external factors.

In order to change dietary habits of people there is a need to undertake preventive activities on reducing these risks through health/promotion and education. In case of Kyrgyzstan it is recommended that Community Development Model or rather elements of

community development should be adopted in organization of such intervention. It has several benefits applicable and beneficial for the context of Kyrgyzstan. Such community based model satisfies interests of the majority of the community, communities know better of their own needs and it also helps to empower people and reduce their dependency on the government.

It is also key to make an extensive preliminary study and through design before launch of such program as well as to have proper monitoring and evaluation mechanisms. Such program can start from a small pilot which can be expanded later taking into consideration lessons learned from the previous experience. It is also equally important to remember that community mobilization and community is integral in implementation of such projects. Proper mechanisms should be in place for carrying out community mobilization.

Such community interventions in the context of Kyrgyzstan should specifically target women because of the role they play in households. Existing cases show that women can influence the nutrition in their family, and more directly can influence nutrition of their children. Kyrgyzstan is a patriarchal society and women are responsible for cooking. Changing their views on benefits of healthy food habits can help to have quicker impact on what women and their family members will be eating.

References

- Bazarbaeva, Damira, and Almaz Nurmanbetov. 2013. "V Kirgizstane Ot Serdechno-sosudistih Zabolevaniy Ejednevno Umiraet 50 Chelovek, a Ejegodno - Bolee 18 000 Chelovek (There Are About 50 People Per Day and 18000 Per Year Who Die from Cardiovascular Diseases in Kyrgyzstan) (trans.by Sultanova, Nargiza)." *Time.KG*, January 25. (Accessed May 25, 2013) <http://www.time.kg/vremya-lechit/5280-v-kyrgyzstane-ot-ot-serdechno-sosudistyh-zabolevaniy-ezhednevno-umiraet-50-chelovek-a-ezhagodno-bolee-vosemnadcati-tysyach.html>.
- BBC World Service. 2012. "The Risks of a Poor Diet/Health." *BBC World Service*. (Accessed May 25, 2013) http://www.bbc.co.uk/worldservice/sci_tech/features/health/healthyliving/dietrisk.shtml.
- Brown, Laurine V., Marian F. Zeitlin, Leisa H. Weld, Beatrice L. Rogers, Karen E. Peterson, Nasreen Huq, and Stanley N Gershoff. 1994. "Evaluation of the Impact of Messages to Improve the Diets of Lactating Rural Bangladeshi Women on Their Dietary Practices and the Growth of Their Breast-fed Infants." *Food & Nutrition Bulletin* 15 (4): 320–334.
- Caplan, Russel. 2003. "The Importance of Social Theory for Health Promotion." In *Debates and Dilemmas in Promoting Health*, edited by Moyra Sidell, Linda Jones, Jeanne Katz, Alyson Peberdy, and Jenny Douglas, 2nd ed. New York&Basingstoke, Hampshire: Palgrave Macmillan.
- Chanan, Gabriel. 2012. "Community Development - Improving Population Health (Smart Guides to Engagement)". Guide. UK: Public Agency and Community Empowerment Strategies (PACES). (Accessed May 25, 2013) http://www.networks.nhs.uk/nhs-networks/smart-guides/documents/Community%20development%202013%20improving%20population%20health.pdf/at_download/file.
- Davison, Charlie, George Davey Smith, and Stephen Frankel. 2003. "The Limits of Lifestyle: Re-Assessing 'Fatalism' in the Popular Culture of Illness Prevention." In *Debates and Dilemmas in Promoting Health*, edited by Moyra Sidell, Linda Jones, Jeanne Katz, Alyson Peberdy, and Jenny Douglas, 2nd ed. New York&Basingstoke, Hampshire: Palgrave Macmillan.
- Doyal, Lesley. 2003. "Gendering Health: Men, Women and Well Being." In *Debates and Dilemmas in Promoting Health*, edited by Moyra Sidell, Linda Jones, Jeanne Katz, Alyson Peberdy, and Jenny Douglas, 2nd ed. New York&Basingstoke, Hampshire: Palgrave Macmillan.
- Dressendorfer, R. H. 2005. "A Conceptual Model of Community Capacity Development for Health Promotion in the Alberta Heart Health Project." *Health Promotion Practice* 6 (1) (January 1): 31–36. doi:10.1177/1524839903259302.
- Gilbert, Penelope A, and Santosh Khokhar. 2008. "Changing Dietary Habits of Ethnic Groups in Europe and Implications for Health." *Nutrition Reviews* 66 (4) (March 26): 203–215. doi:10.1111/j.1753-4887.2008.00025.x.
- Godfrey, Christine. 2003. "Is Prevention Better Than Cure?" In *Debates and Dilemmas in Promoting Health*, edited by Moyra Sidell, Linda Jones, Jeanne Katz, Alyson Peberdy, and Jenny Douglas, 2nd ed. New York&Basingstoke, Hampshire: Palgrave Macmillan.
- Goeree, Ron, Camilla von Keyserlingk, Natasha Burke, Jing He, Janusz Kaczorowski, Larry Chambers, Lisa Dolovich, J. Michael Paterson, and Brandon Zagorski. 2013.

- “Economic Appraisal of a Community-Wide Cardiovascular Health Awareness Program.” *Value in Health* 16 (1) (January): 39–45. doi:10.1016/j.jval.2012.09.002.
- Hasanov, Rafkat, Mira Karybaeva, Kemal Izmailov, Baktygul Akkazieva, and Ainagul Isakova. 2010. *The Second Progress Report on the Millenium Development Goals*. 2nd ed. Bishkek: United Nations Development Programme.
- IRIN. 2010. “Kyrgyzstan: The Hidden Threat of Micronutrient Deficiency.” *IRIN Humanitarian News and Analysis: UN Office for the Coordination of Humanitarian Affairs*. November 17. (Accessed May 25, 2013)
<http://www.irinnews.org/printreport.aspx?reportid=91119>.
- Isaev, Kuseyin, Sabyrkul Borsokbaeva, and Jenishgul Moldokeeva. 2004. “Sotsiologiya Zdorov’ya i Meditsini: Osobennosti Sostoyaniya Zdorov’ya Naseleniya Kirgizstana v Sovremennih Usloviyah (Sociology of Health and Medicine: Specificity of Population Health Status in Kyrgyzstan in Modern Conditions).” Translated by Nargiza Sultanova. *Sotsiologicheskie Issledovaniya (Sociological Research)* (011): 100–104.
- Kaczorowski, Janusz, Larry W. Chambers, Tina Karwalajtys, Lisa Dolovich, Barbara Farrell, Beatrice McDonough, Rolf Sebaldt, et al. 2008. “Cardiovascular Health Awareness Program (CHAP): A Community Cluster-randomised Trial Among Elderly Canadians.” *Preventive Medicine* 46 (6) (June): 537–544.
 doi:10.1016/j.ypmed.2008.02.005.
- Kaczorowski, Janusz, Claudio Del Grande, and Véronique Nadeau-Grenier. 2013. “Community-Based Programs to Improve Prevention and Management of Hypertension: Recent Canadian Experiences, Challenges, and Opportunities.” *Canadian Journal of Cardiology* 29 (5) (May): 571–578.
 doi:10.1016/j.cjca.2013.02.011.
- Krull, Abe Sarah, Andrew Stickley, Bayard Roberts, Erica Richardson, Pamela Abbott, David Rotman, and Martin McKee. 2013. “Changing Patterns of Fruit and Vegetable Intake in Countries of the Former Soviet Union.” *Public Health Nutrition* 1 (9) (May 23).
- Labonte, Ronald. 2003. “Econology: Integrating Health and Sustainable Development. Guiding Principles for Decision Making.” In *Debates and Dilemmas in Promoting Health*, edited by Moyra Sidell, Linda Jones, Jeanne Katz, Alyson Peberdy, and Jenny Douglas, 2nd ed. New York&Basingstoke, Hampshire: Palgrave Macmillan.
- Lal, Roshan, and Ashok Khurana. 2013. “GENDER ISSUES: THE ROLE OF WOMEN IN AGRICULTURE SECTOR.” Accessed June 5. (Accessed May 25, 2013)
http://www.zenithresearch.org.in/images/stories/pdf/2011/Oct/ZIJBEMR/4.zibemr_vol-1_issue-1.pdf.
- Merzel, Cheryl, and Joanna D’Afflittl. 2003. “Reconsidering Community-Based Health Promotion: Promise, Performance, and Potential.” *American Journal of Public Health* 93 (4) (April): 557–574.
- National Statistical Committee of the Kyrgyz Republic. 2010. “Zdorov’e Naseleniya i Zdravooхранenie v Kirgizskoi Respublike 2005-2009 (Health of the Population and Healthcare Provision in the Kyrgyz Republic)”. Bishkek: National Statistical Committee of the Kyrgyz Republic. (Accessed May 25, 2013)
<http://stat.kg/images/stories/docs/tematika/social/Health%202005-2009.pdf>.
- . 2012a. “Social Trends of the Kyrgyz Republic 2006-2010”. Bishkek: National Statistical Committee of the Kyrgyz Republic. (Accessed May 25, 2013)
<http://stat.kg/images/stories/docs/tematika/svod/Soz.%20Trendy%202006-2010.pdf>.
- . 2012b. “Zabolevaemost naseleniya po osnovnim klassam boleznei (Classification of Population Diseases) (trans. by Sultanova, Nargiza)”. National Statistical Committee of the KR. (Accessed May 25, 2013)
<http://stat.kg/images/stories/docs/Yearbook/Health/health%2010.pdf>.

- . 2013. “Food Security and Poverty Information Bulletin of the Kyrgyz Republic: 4/2012”. Bishkek: The National Statistical Committee of the Kyrgyz Republic. (Accessed May 25, 2013) <http://stat.kg/images/stories/docs/tematika/living/INF.BULL%204%202012%20eng.pdf>.
- Nugent, Rachel. 2008. “Chronic Diseases in Developing Countries.” *Annals of the New York Academy of Sciences* 1136 (1) (July 25): 70–79. doi:10.1196/annals.1425.027.
- OECD. 2011. “How Do People in the Asia/Pacific Region Spend Their Time?” Society at a Glance: Asia/Pacific. OECD. (Accessed May 25, 2013) <http://www.oecd.org/els/soc/49306957.pdf>.
- Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat. 2009. “World Population Prospects: The 2008 Revision and World Urbanization Prospects: The 2009 Revision.” *Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat*. <http://esa.un.org/wup2009/unup/>.
- Robinson, Kerry L., and Susan J. Elliott. 2000. “The Practice of Community Development Approaches in Heart Health Promotion.” *Health Education Research: Theory and Practice* 15 (2): 219–231.
- Robinson, R. G. 2005. “Community Development Model for Public Health Applications: Overview of a Model to Eliminate Population Disparities.” *Health Promotion Practice* 6 (3) (July 1): 338–346. doi:10.1177/1524839905276036.
- Schuth, Tobias, Tolkun Jamangulova, Shaken Janikeeva, and Temir Tologonov. 2005. “Power from Below: Enabling Communities to Ensure the Provision of Iodated Salt in Kyrgyzstan.” *Food & Nutrition Bulletin* 26 (4): 366–375.
- Sultanalieva, R., S. Mamutova, and F. van der Haar. 2009. “The Current Salt Iodization Strategy in Kyrgyzstan Ensures Sufficient Iodine Nutrition Among School-age Children but Not Pregnant Women.” *Public Health Nutrition* 13 (5) (November 16): 623–630.
- Tannahill, Andrew. 2003. “Planning and Delivering Health Promotion: Integration Challenges.” In *Debates and Dilemmas in Promoting Health*, edited by Moyra Sidell, Linda Jones, Jeanne Katz, Alyson Peberdy, and Jenny Douglas, 2nd ed. New York&Basingstoke, Hampshire: Palgrave Macmillan.
- World Bank. 2011. “The Kyrgyz Republic: Poverty Profile and Overview of Living Conditions”. Bishkek: World Bank: Poverty Reduction and Economic Management Unit, Europe and Central Asia Region. (Accessed May 25, 2013) http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2013/04/10/000333037_20130410101828/Rendered/PDF/765090ESW0Whit00Box374382B00PUBLIC0.pdf.
- World Health Organization. 1986. “Ottawa Charter for Health Promotion.” First International Health Conference. Geneva: World Health Organization.
- . 2009. “Framework for Developing Model Integrated Community-Level Health Promotion Interventions in Support of WHO Priority Programmes”. Brazzaville: World Health Organization/Regional Office for Africa.
- . 2013. “Kyrgyzstan: Health Profile.” *World Health Organization*. May 13. (Accessed May 25, 2013) <http://www.who.int/gho/countries/kgz.pdf>.
- Zelizer, Viviana A. 2011. “The Gender of Money.” *WSJ Blogs - Ideas Market*. (Accessed May 25, 2013) <http://blogs.wsj.com/ideas-market/2011/01/27/the-gender-of-money/>.