

# Social determinants of vulnerability to ill-health: Evidences from Mendi Town, Western Ethiopia

Amanti Baru<sup>1</sup>, Padmanabhan Murugan<sup>2</sup>

*Affiliations:*

<sup>1</sup> Department of Sociology, Jimma University, Jimma, Ethiopia.

<sup>2</sup> Department of Sociology, Addis Ababa University, Addis Ababa, Ethiopia.

*Corresponding author:*

Amanti Baru, Department of Sociology, Jimma University, Jimma, Ethiopia,  
E-mail: amantibaru@gmail.com.

## Abstract

**Introduction:** The premise of this study is that disparity in individuals' degree of susceptibility to physical and mental ill-health is determined by the amount of structurally (socially) distributed resources ('capitals'). Based on Pierre Bourdieu's theory of capitals, the study identified and employed economic, social and cultural capitals acting as structurally distributed resources that determine the health outcomes of people in Ethiopia.

**Methods:** This study used a cross-sectional survey design to collect quantitative data from 276 randomly selected respondents in Mendi Town, Western Ethiopia to ascertain the role of capitals in determining individuals' level of vulnerability to physical and mental ill-health. Moreover, qualitative data collected through in-depth interviews, focus group discussions, and key informant interviews have been used to deeply understand the pathways in which 'capitals' affect health outcomes.

**Results:** Our study revealed that inequality in the level of vulnerability to ill-health among individuals across different social-strata is based on unequal distribution of capitals. The study found that the poorest individuals, women, elderly, widowed, divorced, and individuals with poor education are the most vulnerable groups to ill-health in the study area. These groups are deprived of adequate economic, social, and cultural capitals that would enable them to avoid ill-health. Majority of the study population are highly vulnerable to ill-health and they are found to have poor health status due to deprivation of capitals. Nevertheless, only little targeted interventions have been made to increase the levels of capitals available for people and to enhance their health status.

**Conclusion:** This study is aligned with an economic perspective of the social determinants of health; it showed that social factors are fundamental agents for protecting individuals from ill-health or to make them vulnerable. The authors recommend public health interventions that consider the social context of individuals in order to reduce vulnerability to ill-health and improve their health status.

**KEY WORDS:** capital; economics; social determinants of health; socioeconomic factors; health policy; Ethiopia.

## Riassunto

**Introduzione:** La premessa di questo studio è che la disparità nel grado di suscettibilità degli individui alla malattia fisica e mentale è determinato dalla somma delle risorse (i “capitali”) così come sono distribuite dal punto di vista strutturale (sociale). Basato sulla teoria dei capitali di Pierre Bourdieu, lo studio ha identificato ed impiegato i capitali economici, sociali e culturali, quali risorse distribuite dal punto di vista strutturale capaci di influenzare le condizioni sanitarie della popolazione Etiope.

**Metodi:** Questo studio trasversale ha raccolto i dati di tipo quantitativo da 276 rispondenti selezionati in modo casuale dalla città di “Mendi Town”, in Etiopia occidentale, per verificare il ruolo dei capitali nel determinare il livello di vulnerabilità delle persone alla malattia fisica e mentale. Inoltre, sono stati usati dati qualitativi raccolti attraverso interviste semi-strutturate, gruppi di discussione ed interviste con informatori chiave per comprendere in modo approfondito le modalità con cui i “capitali” incidono sulle condizioni sanitarie.

**Risultati:** Il nostro studio ha evidenziato che la disuguaglianza nel grado di vulnerabilità alla malattia tra gli individui appartenenti a strati sociali differenti è basato sull’ineguale distribuzione di capitali. Lo studio ha evidenziato che gli individui più poveri, le donne, gli anziani, le vedove, i divorziati e gli individui con bassa scolarità sono i gruppi più vulnerabili alle malattie nell’area dello studio in questione. Questi gruppi sono privi di adeguati capitali economici, sociali e culturali che li rendono capaci di evitare la malattia. La maggior parte della popolazione dello studio è molto vulnerabile alla malattia ed in essa sono stati riscontrati scarsi livelli di salute dovuti alla mancanza di capitali. Ciò nonostante, solo piccoli interventi mirati sono stati fatti per migliorare i livelli dei capitali disponibili e per accrescere lo stato di salute delle persone.

**Conclusione:** Questo studio è in linea con la teoria economica dei determinanti sociali di salute. Esso ha evidenziato come i fattori sociali siano agenti fondamentali nell’aumentare i livelli di protezione degli individui dalla malattia o, al contrario, per renderli più vulnerabili ad essa. Gli autori dello studio raccomandano che gli interventi di sanità pubblica considerino il contesto sociale degli individui per diminuire la loro vulnerabilità alla malattia migliorandone lo stato di salute.

### TAKE-HOME MESSAGE

*Inequality in the level of vulnerability to ill-health among individuals across different social-strata is based on unequal distribution of capitals. In Mendi Town, Western Ethiopia, the poorest individuals, women, elderly, widowed, divorced, and individuals with poor education are the most vulnerable groups to ill-health.*

**Competing interests** - none declared.

Copyright © 2016 Amanti Baru et al. FerrariSinibaldi Publishers

This is an open access article distributed under the Creative Commons Attribution (CC BY 4.0) License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. See <http://www.creativecommons.org/licenses/by/4.0/>.

**Cite this article as** -Cite this article as: Baru A, Murugan P. Social determinants of vulnerability to ill-health: Evidences from Mendi-Town, Western Ethiopia J Health Soc Sci. 2016;1(3): 263-278

DOI 10.19204/2016/sclsd27

Received: 18/08/2016

Accepted: 07/11/2016

Published: 15/11/2016

## INTRODUCTION

**D**isparity in health outcomes of individuals is an universal phenomenon [1, 2]. Within health outcomes surveys, there is an ongoing debate about the relative importance of different types of risk factors (genetic and biochemical versus environmental pathway) to explicate inequality in susceptibility to ill-health [3]. The medical model of health emphasizes both genetic risk factors and biochemical process, and proposes treatments provided by the healthcare system [4, 5]. Hitherto, the medical model of disease causation has been the dominant approach within health research and practices [6]. However, the inadequacy of medical model to capture the complex causal web of chronic and other illnesses paves the way for the application of a multilevel risk factors (environmental, individual and microbiological) approach of disease [7]. The multilevel paradigm reinforces evidence that many factors lead to vulnerability to ill-health. However, testing a comprehensive hypothesis of a gene-environment interaction would complicate research. According to Rose, 'many diseases will long continue to call for both approaches' (genetic and social environment centered), 'and unfortunately competition between them is usually unnecessary' [9]. Therefore, Maziak suggests identifying and working up on certain pathways without unravelling the whole complexity of the relation among social environment, genes and diseases [7]. Several epidemiologists [3, 8] suggested the importance of giving primacy to the social environment or social determinants of vulnerability to diseases. According to Pierce et al., genetic research would lead to important discoveries and new forms of treatment with potential benefits for a few high-risk individuals and researchers [3]. However, emphasis on genetic explanation seldom promotes the health of the majority despite the large investments it demands. On the other hand, social determinants of health perspective have a large potential to improve population health since they emphasize radical approach that removes the underlying causes of ill-health [8]. Accordingly, social de-

terminants of vulnerability to ill-health came forth as priority concern in this study. The increasing body of research indicates that social factors play a determinant role in population health [9, 10]. For this reason, the Director General of the WHO set up a global Commission on the Social Determinants of Health (CSDH) in 2005 [11]. Since Durkheim's classic work on suicide, research has emphasized the importance of social integration and social capital for population's health and well-being [12]. However, a full understanding of the specific social factors and how they affect the health status of individuals has still to be achieved [1, 13]. To design effective policy framework and intervention strategies aimed at improving people's health related quality of life, it is important to understand how socially or structurally distributed resources come to influence people's health causing the onset of diseases. In this context, Pierre Bourdieu's theory of capital interaction holds huge potential to link social vulnerability to poor health [14]. Bourdieu argues that people from different social positions differ from each other with regard to their possession of three forms of capital: social, cultural and economic [15]. The interplay among these capitals is the dynamics that determine people's vulnerability to risks and, as a consequence, their health status [16]. While the role of both economic and social capitals has been studied for a long time in various public health disciplines, less attention has been given to cultural capital [10]. Moreover, the endeavour to examine the interaction among economic, social and cultural capitals and its implication for health inequality has lagged behind [16]. However, literature indicates that there is an inextricable linkage among these three forms of capitals [13]. Furthermore, the vast majority of prior studies on the social determinants of vulnerability to ill-health and health inequality are from developed countries. These studies failed to explain the underlying causal factors and pathways of health inequality in the world's poorest countries. Therefore, it is needed to understand country-specific conditions to design appropriate health related policies [17].

Specifically, there is a pressing need to study the social determinants of vulnerability to ill-health in Ethiopia, where people are still facing high rates of morbidity and mortality [18]. In Ethiopia, some studies [19, 20] have examined the relationship between specific social factors (mainly poverty) and vulnerability to specific diseases (mainly HIV/AIDS). Nevertheless, social factors are numerous and interlocked [13], and they determine the level of vulnerability to diseases in general rather than to specific illnesses [21, 22]. The general susceptibility hypothesis, for instance, argues that social factors influence health by creating a vulnerability to disease in general rather than to any specific disorders [21]. Similarly, fundamental cause theory states that socio-economic factors are associated with numerous risks and protective factors for illnesses [22]. Therefore, this study employed social, economic, and cultural capitals at the same time (social determinants in their holistic form) to study vulnerability to ill-health of adult population in Mendi Town, western Ethiopia by using diversified sources of data and methodological triangulation. Our study was conducted with the general objective of examining the impacts of economic, social, and cultural capitals on vulnerability to ill-health.

### ***Theoretical framework***

In this study we used both the Aday's 'Framework for Studying Vulnerable Population' (FSVP) and the Bourdieu's 'Theory of Capital Interaction'. Vulnerability to ill-health can be conceptualized as the degree to which people's social situation leaves them susceptible to health problems [23]. According to World Health Organization (WHO), health risk factors are attributes, characteristics or exposures that increase the likelihood of a person developing a disease or health disorder. Behavioural risk factors are those that individuals have the most ability to modify. Biomedical risk factors are bodily states that are often influenced by behavioural risk factors. Vulnerability stems from the disjunction between the resources available for individuals and

communities and the challenges that they have to face in their lives [24]. Vulnerability is a complex concept and it is a result of various levels of influence [23, 24]. Indeed, vulnerability to health risk factors is determined by political, economic, and institutional people's capabilities [14]. For this reason, we developed a framework in order to consider this complexity and all above mentioned levels. The 'Framework for Studying Vulnerable Population' (FSVP) offered by Aday (2001) takes into account the correlates of vulnerability to ill-health that operates at both community (macro) and individual (micro) level. Aday identified three key concepts that are important to examine the social determinants of vulnerability to poor physical, psychological and social health [25]. These concepts are: a) relative risk; b) resource availability; and, c) health status. Risk is one of the keys to vulnerability in the Aday's model. Risk factors refer to attributes or exposures associated with the occurrence of health-related outcomes. The concept of 'relative risk' assumes different vulnerability of different groups to poor health. 'Resource availability' is defined as opportunities, and material, and nonmaterial resources associated with the social characteristics (age, gender and ethnicity) of the individuals. This concept (material availability) can be enriched through the adoption of Bourdieu's theory of capital. FSVP bases the measurement of 'health status' (physical, mental and social) on the patient's perceptions, clinician's judgments or reported level of functioning [25]. The potential utility of Bourdieu's theory of capitals for understanding the logic of healthy and unhealthy practices has received extensive support [10]. According to Bourdieu, the unequal distribution of structurally based resources (capitals) can be understood as part of the fundamental system of inequality in a given society. His concept of capital is based on the distinction of three forms: social, economic and cultural capital. These three forms of capital are interrelated and inextricably linked [13]. Combining Aday's FSVP with Bourdieu's theory of capitals, we assumed a global perspective to understand

vulnerability that encompasses different unit of analysis (micro-macro) and multiple social factors (economic, social and cultural). This study used resource availability concept of Aday as a starting point and incorporated Bourdieu's economic, social and cultural capitals. Resource availability influences relative risk and relative risk in turn influences health status (vulnerability to ill-health). This perspective is thoroughly pivotal to understand the dynamics of vulnerability.

## MATERIALS AND METHODS

### *Study design*

This study was carried out in Mendi Town, located in the western part of Ethiopia at a distance of about 570 kilometers away from Addis Ababa. Based on figures from the town's municipality, Mendi Town holds a total population of 45,700, of which 21,300 are men and 24,400 are women. According to the data collected by Mendi Town Health Center, the top ten diseases occurred in adults, diagnosed in the year 2014 (Gregorian calendar) and indicated in a decreasing order of prevalence from the largest to the smallest, were malaria, gastritis, rheumatism, typhoid fever, lower respiratory tract infection, pneumonia, intestinal parasite, sexually transmitted infections, hook worm and hypertension. A cross-sectional research with a concurrent mixed method design "QUAN-qual" type were employed for conducting this study. Study samples were identified based on multistage cluster sampling method. Mendi Town was classified into four, more or less homogeneous, 'kebeles' with the corresponding list of households being available from each kebele office. Kebele is the smallest administrative unit in Ethiopia. Kebele 01 has been randomly selected from the four kebeles to represent Mendi Town. The minimum sample size that represents the town was calculated based on the size of households in the selected kebele. An estimate of the sample size was made based on specification of the following parameters: total household size of the sampled kebele, confidence interval, type one error rate and response distribution. Since there is

no prior study on Mendi Town upon which estimation of response distribution should be based, 50% response homogeneity (statistically recommended conservative assumption) was assumed. The number of households in the kebele was 971. At 95% confidence interval, 5% type I error rate and 50% response heterogeneity, Raosoft Sample Size Calculator estimated the sample size to be 276 households [26]. The list of households in kebele 01 was obtained from the kebele office and simple random sampling of the households was made by using SPSS version 20. Then, respondents were identified in each targeted household. Eligibility requirements for selecting respondents from each household were age (at least 18 years old) and consent to provide information. Within each household, names of all eligible adults (people aged 18 and older) were listed in a descending order of age on a sampling kish grid. One respondent from each targeted household was selected using kish grid to ensure that all eligible persons in the household were given an equal chance of being included.

### *Instruments*

Quantitative data were collected using questionnaires. A study-specific questionnaire was specifically designed for this study. Items were derived from the three constructs (economic, social, and cultural capital) that compose the Bourdieu's general concept of capitals. We also examined the following socio/demographic variables: age, sex, education background, marital status and income. To measure physical and/or mental health status we used the Short Form 12 (SF-12) modified by authors. The SF-12 is a multi-item generic health survey that measures general health concepts not specific to any age, disease or treatment group. The Short form 12 (SF-12) is a widely used tool for monitoring population health, comparing and analyzing disease burden and predicting medical expenses and provides a valid assessment of health in a general population. Indeed, this instrument provides two aggregate summary measures: a) Physical Component Scale (PCS) and,

b) Mental Component Scale (MCS). In our study, we used an interviewer-administered form (approximately 3 minutes). The general physical health status was measured by the following question: 'In general, how would you rate your general physical health today?' The scale ranged from 1 ('Excellent/Very Good') to 3 ('Poor'). Similarly, the general mental health status was measured by the following question: 'In general, how would you rate your general mental health today?' The scale ranged from 1 ('Excellent/Very Good') to 3 ('Poor'). Finally, the overall health status was measured by the following question: 'In general, how would you rate your both psychological and physical health as a whole, today?' The scale ranged from 1 ('Excellent/Very Good') to 3 ('Poor') [27–29]. To measure the self-rated level of individual 'worrying' we used the Worry Domains Questionnaire (WDQ) modified by authors. WDQ of Tallis et al. was developed as a general measure of non-pathological worry for nonclinical adult samples and covers a broad range of everyday worries, including financial worries. It seems the most promising instrument to study individual differences in the level of non-pathological worry and it is applicable to a wide range of different populations [30–31]. In our study, we used only one item of the WDQ, modifying it in order to focus on some specific types of worrying regarding both adequacy of own income and financial problems in the society of the participants. The self-rated level of financial 'worrying' was measured by these two following statements: 'Adequacy of income makes me worry', and 'Financial status in my society makes me worry'. To measure the self-rated level of individual 'worrying' we developed for each item a five-point likert scale. A score of '1-2' was correspondent to 'Low Worry', a score of '3' to 'Moderate Worry', and a score of '4-5' to 'High Worry'.

The hidden connections between capitals and individuals' vulnerability to ill-health were studied by using a narrative research design. Qualitative data related to the lived experiences of individuals were collected by means of in-depth interviews, key informant interviews

and focus group discussions (FGDs). Prompting questions to collect qualitative data were prepared from the concepts included under the theoretical framework. A total of seven in-depth interviews (four with men and three with women) were conducted with adults who were identified as the most vulnerable to ill-health. These individuals were purposively chosen with the help of FGDs participants. Interviews with most vulnerable individuals focused on the linkage between capitals deprivation and vulnerability to ill-health. Key informant interviews were held with knowledgeable community members, health professionals and kebele administration staff in order to gain insights and experiences about the impacts of cultural capitals on the health of people. A total of eight key informant interviews were conducted (3 with community members, 4 with health professionals and 1 with kebele chairman). In addition, all three FGDs (two with women and 1 with men) were conducted with seven participants. Participants of FGDs were purposively selected with the help of kebele officials on the basis of the likelihood that they would be willing to participate and on their capacity to well communicate with other members of group discussion.

### **Statistical analysis**

Descriptive statistics (frequency, percentage, mean and standard deviation) were used to present socio-demographic profile and health status of the respondents. Moreover, variety of statistical tests (ANOVA, t-test, Chi-square and Spearman correlation test) was computed to test the association between self-reported physical and/or mental health status and each construct of independent variables (economic, social, and cultural capitals). Qualitative data was analyzed using thematic analysis. After making thorough rereading of all of the transcribed qualitative data, regularity and contradictory explanations were identified, and finally each explanation was categorized under coherent thematic topics to generate meanings.

### *Limitation of the study*

Although the nexus of all the components of economic and social capitals with health outcomes is presented, our research has limited the analysis of cultural capitals to only one of their components, the so called 'institutionalized cultural' capital.

## **RESULTS AND DISCUSSION**

### *Socio-demographic data*

The study involved 276 respondents, of whom 135 were male (48.9%) and 141 (51.1%) were female. The mean age of the participants was 38.8 years ( $SD = 12.79$ ). Majority of respondents (80.8%) were in the 18-49 age range and only 10.9 % of the respondents were aged 60 and older, indicating a high adult mortality rate in our study area. Participants were married (63%), unmarried (21.4%), widowed (10.1%) or divorced (5.4%). With regard to educational status, majority of respondents (40.9%) were educated up to primary school, others were educated up to secondary school (22.1%), or to the post- secondary school level (28.6%).

### *The impact of capitals on the health status of people*

This study analyzed the impact of economic, social and cultural capitals as a whole on health outcomes of our population study. In the following paragraphs, we examined how these types of capitals may influence people's vulnerability to ill-health. The role of economic capital in determining individuals' level of vulnerability to ill-health has been examined in terms of three key pathways: the psychosocial impact, the health behaviour-related and health-seeking behaviours.

### *The impact of economic capital on health: A psychosocial and health behavior pathway*

The psychosocial theory emphasizes the etiological role of psychological distress generated by an inadequacy and inequality income. As Table 1 shows, only about one third of the respondents reported a 'low worry' level (30.8%) about adequacy of their income to get

access to basic needs. On the contrary, more than two third of the respondents (69.2%) reported a 'high' (36.2%) or 'moderate worry' (33%) level that their income could not be sufficient to cover expenses for basic needs. Therefore, majority of the respondents were potentially exposed to psychosocial risk due to income inadequacy. Analysis of qualitative data was also performed in order to identify the ways in which such an income inadequacy may affect both mental and physical health. In our study, three different pathways have been identified. Firstly, individuals lack access to necessity goods such as food, clothing, house and healthcare that they cannot live without. Secondly, income inadequacy can expose individuals to psychological distress that may generate physical, mental and behavioural disorders. Indeed, stress generated by money troubles or fears can lead to the 'Adjustment Disorders' that is an abnormal and excessive reaction to an identifiable life stressor. It is characterized by psychological (anxiety and/or depression), and, sometimes, physical (insomnia, muscle twitches, fatigue, body pain, indigestion) symptoms; it can arise with disturbance of emotions and/or conduct, including behavioural symptoms such as, for example, alcoholism and drugs dependence, and can result in a significant impairment in social or occupational functioning and in an increased risk of suicide and suicide attempts. Moreover, in literature it was found an association between psychological distress and coronary heart disease [32]. In our study, the Chi-square test highlighted a significant difference ( $P < .001$ ) in the level of vulnerability to ill-health among people with different level of 'worry' (see Table 1). Indeed, people who had a 'high' or 'moderate' level of worrying about own income adequacy had also a lower self-reported health status score. Finally, insufficient economic capital could push individuals to adopt unhealthy behaviors as a dysfunctional coping strategy. For instance, a 38 years old male told his life experience, by an in-depth interview, as following: "*I was a porter before becoming frail. I had no regular income and the income was also meager. I couldn't*

*rent a house and, thus, I became homeless. In order to be resistant to the challenges of homelessness I started to drink alcohol. Drinking alcohol was the most important thing for me. I was forgetting to eat and I was spending all my money to obtain alcohol. Since I began homeless, I was paying low attention to my hygiene and, for all these reasons, I became ill".* Therefore, as a consequence of income inadequacy or absolute deprivation, worrying could lead to a higher vulnerability to ill-health among people. The above interview means that insufficient economic capital, as a meager and/or irregular income, hampers individuals from practicing healthy behaviors (comfortable housing, health conscious diet and sanitary practices) and drives them to follow unhealthy behaviors such as, for example, alcoholism. Not only absolute deprivation, but also relative deprivation can contribute to people's vulnerability to ill-health. According to the relative deprivation hypothesis, a perception of high level of income inequality lead to psychological distress which, in turn, generates mental and physical health disorders [33]. Data from our sample show that majority of respondents with high worrying levels about their economic status in the society had 'poor' levels of (psychological and physical) health status (72%), while only a third of them reported 'excellent/very good' (5.4%) and 'good/fair' (22.6%) health status, respectively. On the other hand, 40.5% of the respondents with a 'moderate' level of worrying and 28.4% of respondents with a 'low' level of worrying reported a 'poor' health status. All the participants with 'moderate' or 'low' levels of worrying about their economic status in the society had 'good/fair' (77.6%) or 'excellent/very good' (53.4%) psychological and physical health status (see Table 1). Hence, Chi square test showed a significant ( $P < .05$ ) association between self-rated health status of respondents and levels of worrying related to their income adequacy ( $X^2(2) = 102.34, P < .001$ ) and their economic status in the society ( $X^2(2) = 55.52, P < .001$ ). The onset of stress-related health disorders as a consequence of perception of inequality in own economic status in the society was also

confirmed by qualitative data. Indeed, one of the female key informants stated as following: "*In my neighborhood, there is deeply, and ingrained feeling of begrudging among individuals because of the success of other people in their business. This dissatisfaction is specifically prevalent among those who are engaged in the same type of business. Those who are worried about the success of others have not a lovely face. They always complain that they are suffering from headache and gastritis. They are not healthy because they hate success of others, especially friends and colleagues*". Therefore, participants of FGDs stated that psychological distress is higher among people occupying lower sectors of the economic ladder in the society. They reported a resultant latent hostility that, in turn, predisposed them to drive unhealthy behaviors such as excessive alcohol consumption or smoking. For example, a male participant of a focus group discussion declared that: "*very often the struggle to manage owns income is, probably, the major cause of psychological distress among people occupying lower socioeconomic positions. Indeed, the mismanagement of money leads to attribute success of others to some types of witchcraft or something else. Then, they become alcoholics in order to cope their tensions*". Consistent with our study, also literature shows that level of economic inequality within a society significantly predicts the level of people's vulnerability to ill health. Indeed, according to Abbott when people occupying lower strata of economic hierarchy compare their status with the well-to-do people, they experience psychological distress that affects their mental and physical health [34]. Wilkinson argues that economic inequality generates anxiety disorders that threaten individuals' health [33]. Therefore, vulnerability to ill-health appears to be correlated not only with absolute levels of income but, it appears to be more strongly associated with the unequal distribution of income within a society. Indeed, a cross-sectional ecological study conducted by Waldmann showed that an increment of 1% of national income held by the 5% richest of a given population could lead to an increase in the infant mortality rate of about 2 infant deaths per 1,000

**Table 1.** Psychosocial effects of economic capital on both psychological and physical health ( $n = 276$ ). \*  $P < .05$ ; \*\* $P < .001$ 

'Worry'	Responses	Percentage	Self-Rated Overall (Psychological and Physical) Health Status			$\chi^2$
			Excellent/	Good/Fair	Poor	
			Very good			
'Worry' about adequacy of own income	High	36.2	4(4.0%)	13(13.0%)	83(83.0%)	102.34**
	Moderate	33.0	19(20.9%)	40(44.0%)	32(35.2%)	
	Low	30.8	35(92%)	37(81.6%)	13(26.4%)	
'Worry' about difficult financial status in own society	High	33.7	5 (5.4%)	21(22.6%)	67(72%)	55.52*
	Moderate	26.8	11(14.9%)	33(44.6%)	30(40.5%)	
	Low	39.5	42(38.5%)	36 (33%)	31(28.4%)	

live births [35].

### *Economic capital and health seeking behavior*

The amount of economic resources (cash and assets) available from individuals play a pivotal role in determining the lag time between the onset of a disease and people's access to healthcare services. Table 2 shows that only 41.7% of respondents, in their life, visited health centers for diagnosis or treatment as soon as symptoms of illness appeared. Majority of respondents visited health centers only when their health disorders became unbearable (47.8%) or they rarely visited health centers despite serious diseases (10.5%). Table 2 indicates a significantly positive association between a (self-reported) poor physical health status and lower levels of health-seeking behaviours ( $\chi^2(2) = 99.588$ ,  $P < .001$ ). Indeed, low levels of health-seeking behaviours have the potential of making people more vulnerable to ill-health, while higher levels of health-seeking behaviours allow people to take immediate remedial action before their health status decrease. Moreover, in our study, Chi Square test showed a significantly positive association between gender male and health-seeking behaviours, because males seek health cares earlier than females ( $\chi^2(2) = 5.713$ ,  $P < .001$ ). Probably, this difference can be attributed to the unequal access to the household's economic resources, because wo-

men are usually denied of utilizing economic resources that belong to their household. In order to insight these associations and identify causal factors of their health-seeking behaviours, we performed some in-depth interviews. Among respondents who reported that they were visiting health centers 'rarely' or 'only when diseases become severe' (58.3%), majority of them (79.5%) declared that the reason for that was 'fear of medication cost'. The remaining 20.5% of respondents declared 'absence of trust in the effectiveness of treatment' (9.3%), 'unfriendly nature of physicians' (1.2%), 'absence of companionship' (5%) and 'time constraints' or 'refusal of permission from household head or employer' (5%) as other causal factors impeding an early health-seeking behaviours. Our research is consistent with several studies in other developing countries that highlighted 'fear of medication cost' as the most significant barrier of health-seeking behaviours. For instance, according to the 2007 Kenya Household Health Expenditure Survey (KHHES), those who reported to be affected by some illness (17 % of study population) declared that they didn't seek healthcare because of lack of money (50%) [36]. According to the Ethiopian health-care system, the payment for health-care services is primarily out-of-pocket. However, our health-care system provides a special assistance for people who cannot afford to pay. At the kebele level, the poorest are eligible

for free health care services by kebele's facilitation. However, a key informant interview with a kebele leader indicated that the quota for the poorest allotted per year for a kebele doesn't exceed three to four despite the existence of a large population of poor people. Therefore, the Kebele's facilitation could not serve all entitled poor individuals. In a In-depth interview, a 38 years-old-male stated: "I tried to access free medical service with the help of kebele officials. However, kebele officials asked me whether I had identity card, but I had

*no identity card since it is given on the precondition that you have a private or rent house in the kebele. As I was a homeless, I couldn't get free medication". Moreover, there is no an equal treatment by kebele's officials. A 42 years old woman stated: "Kebele officials humiliate your difficult situations. You go to a kebele to seek credentials that testify that you are poor in order to get free medication. However, officials are cordial only with people who are decently clothed. This issue pushes the poorest to renounce the help of kebele".*

**Table 2.** Association between types of health seeking behaviours and physical health status ( $n = 276$ ). \* $P < .05$ ; \*\* $P < .001$  (a) the stage of health seeking behavior vs sex (b) the stage of health seeking behavior vs health status.

Type of Health-seeking behaviours: <i>'I try to access health care services'</i>	Percentage	Sex of respondents			Physical Health status (SF 12)			
		Male	Female	$\chi^2$	'Very good'	'Good'	'Poor'	$\chi^2$
1. 'As soon as symptoms of disease appear'	41.7%	48.1%	35.5%	<sup>a</sup> 5.713*	45 (40%)	55 (47.8%)	14 (12.2%)	<sup>b</sup> 99.588*
2. 'Only when illness become severe'	47.8%	44.4%	51.1%		11 (8.3%)	31 (23.5%)	90 (62.2%)	
3. 'Rarely I seek the help of physicians'	10.5%	7.4%	13.5%		1 (3.4%)	4 (11.2%)	24 (82.8%)	

### Social capital and vulnerability to illness

Social capital is one of the key social factors that determine health outcomes. In this study, for analytical purpose, social capital was classified into 'structural level', 'household level', and 'individual level' social capitals. The amount of different and available forms of 'individual social capital' (ISC) that can be instrumental, informational, and emotional, is important in order to determine health outcomes. Each of these three components of ISC was measured with only three questions and was correlated with self-rated physical and mental health in order to analyze their roles in determining vulnerability to ill-health. The Spearman's Correlation Test showed a mode-

rate positive correlation between low physical or mental health levels and high levels of instrumental (Table 3, Spearmen's  $\rho = .483$  and  $.448$ , respectively), informational (Table 3, Spearmen's  $\rho = .512$  and  $.352$ , respectively), and emotional (Table 3, Spearmen's  $\rho = .298$  and  $.581$ , respectively) ISC ( $P < .001$ ). Therefore, individuals with higher levels of ISC were less vulnerable to mental and physical health problems than individuals with less individual social resources. Therefore, assessing the available amount of the three components (instrumental, informational and emotional) of ISC can be useful in order to identify the most vulnerable social groups to ill-health. We studied in our sample levels of three dif-

ferent ISC in respect to different socio-demographic variables (Table 4). Our analysis revealed that older, illiterate, divorced, widowed and lower income people had lower levels of (instrumental, informational and emotional) ISC. On the contrary, the relationship between gender and ISC was different, because, if females had more emotional ISC than males, the latter had more informational ISC than females. These gender-related differences could be explained because of a higher level of education of males and, as a consequence, a more extensive access to resources from males through their networks composed by high level educated friends. Moreover, males' participation in the social and occupational activities of the community plays an important role in getting a better access to informational social capital. On the contrary, with regard to instrumental ISC, in our sample there were no significant differences between males and females. In addition to ISC, 'household social capital' can also affect informational, emotional and instrumental social support. In this way we report the experience of a divorced woman (56 years old age) that in an in-depth interview stated: "*I live alone. I have not any children. When I come back home, there is a terrible silence. My home seems to be a desert. I lost hope in my life. So, I began to drink 'arakie' (it is a locally alcoholic beverage) in order to sleep and forget my desperation. Physicians told me to keep away from alcohol consumption since I am suffering from severe hypertension, but I didn't mind about medical prescription.*". 'Structural social capital' involves neighborhood cohesion and solidarity. A strong neighborhood collective efficacy could prevent health-damaging conditions. In our study, out of the total respondents ( $n = 276$ ), 6.9% of them stated that their neighbors, usually, don't take any collective action to avert or prevent the occurrence of health-damaging conditions, such as poor sanitation. In addition, 23.6% of respondents declared that their neighbors' collective efficacy was 'weak' and the remaining two third of the subjects (69.6%) reported that collective efficacy in their neighborhoods ranged from 'moderate' to 'strong' (37.7%

and 31.9% respectively). Participants of focus group discussions pointed out the absence of strong collective efficacy that warrants prevention of infectious diseases like malaria. A female FGD participant stated: "This area is malarial. However, residents are reluctant to take collective measures. Moreover, my neighbors are not careful in what they do. For instance, I pour out irresponsibly sewages that flood the premises of my neighbors. My uphill neighbors do the same to me".

Participants of FGDs also highlighted that trend in the level of neighborhood collective efficacy is declining due to poverty, while preoccupation of residents with economic activities is increasing. According to participants, the old Oromo byword 'ollaafi waaqatti gadi ba'u' (it can be roughly translated to mean 'God and neighbors are close at hand in times of troubles') is becoming futile. Moreover, participants stated that declining state of neighborhood cohesion is also resulting in massive engagement of youths in health-damaging behaviours like smoking, drinking, chewing khat and engaging in premarital sex. In addition, the past, strong, communal life that served to maintain social norms and morality for a long time, now is devaluating. Consistent with our research, in several studies [37, 38] a positive effect of neighborhood social capital on health has been reported. For example, Sun et al., showed the importance of neighborhood social capital with the Chinese motto 'a neighbor that is near is better than a brother faraway'. In addition, Sun et al., reported a dwindling trend in the level of neighborhood social capital and the consequential health disorders [38].

#### ***Cultural capital and vulnerability to ill-health***

There are many components or variables of cultural capital. In our study, we used 'institutionalized' cultural capital that is easy to measure, for evaluating to what extent cultural capital affects people's health. Indeed, institutionalized cultural capital involves skills and knowledge that are important to reduce vulnerability to ill-health. Moreover, institu-

**Table 3.** Spearman Correlation Test (Rs) between social capital components and health (physical and mental) status indicators ( $n = 276$ ). \*\* $P < .001$ 

	Physical health	Mental health
Instrumental social capital	.483**	.448**
Informational social capital	.512**	.352**
Emotional social capital	.298**	.581**

tionalized cultural capital, especially education, influence also both social and economic individuals' capitals, and indirectly affects people's health status. As we have shown earlier, vulnerability to ill-health decreases with a higher educational level. However, there is a difference between 'institutionalized cultural capital' and 'informational social capital'. The first includes the fund of health-related knowledge that individuals have accumulated. The second refers to the existence of people in one's network who encourage healthy lifestyle. However, health-related cultural capital can also be reached from other informal sources of education, in addition to schooling. Our data indicate that 83.3% of the study population has access to one or more sources of health literacy while the remaining 16.7% indicated to have no access to any sources of health literacy. In our study area, the source of health literacy, was mass media (tv, radio) for the majority of respondents (51.8%). Moreover, informal conversation with colleagues and friends was the second most cited source of health literacy (40.9%). Only 21.7% of respondents got access to health-related information from physicians. Finally, 'reading' was the least source of health literacy (11.2%). Therefore, apart from mass media, which were supplying information to more than half of the total respondents, all other sources of health literacy, such as 'reading newspapers', 'getting advices from physicians' and 'take informal conversations with friends', were useful for the minority of respondents. Provision of health-related knowledge to the community received little attention in the study area despite its health protective value. Participants involved in our study revealed that the FGD sessions organized by researchers

were the first platform that enabled them to acquire health-related information. Similarly, participants unanimously indicated that local authorities usually assemble them to discuss about issues related to security instead of health-related issues. Nevertheless, the Ethiopian health policy accords prominence to the dissemination of health-related information, education and communication to enhance health awareness [39]. A review of literature about healthy behaviours by Dupas and Nber stated lack of information related to illnesses as a factor for underinvestment of developing countries' households in preventive healthcare [40]. Our study found that access to health literacy is also gender related. With the exception of informal conversations, male respondents had higher access to different types of health literacy, such as media, physicians and reading than female respondents. This difference might be due to higher occupational level and higher educational status of males than females. For this different level of access to health-related information, the women's vulnerability to ill-health is higher than males. This finding is opposite to several findings from developed countries in which women are reported to have a better access to health literacy [41, 42]. For instance, a research conducted in Finland by Ek, showed that women are more aware of health-related information than men [41]. Therefore, more attention should be given to these issues in developing countries in order to increase and diffuse a better health-related information. About mass media as the most important source of health-related cultural capital for the majority of our population, respondents were asked to rate the frequency of watching or listening to the health-related informations

from mass media (Table 5). Respondents stated that they were accessing health-related informations from mass media 'often' (5.8%) and 'sometimes' (38.4%). Nevertheless, more than half of respondents (55.8%) indicated that they 'rarely' or 'never' (32.6% and 23.2%, respectively) watched or listened to health-related informations on media. Limited access to media broadcasting health-related messages, lack of interest in attending health related programs, time constraints and inability to understand the languages in which health related programs are transmitted are the main reasons that restrict access to health-related informations. People's more inclination

to listening to songs and watching spiritual programs or soccer than attending other programs on radio or TV are the other factors hindering access to health-related informations on our media. This study showed that access to health-related informations on media (institutionalized cultural capital) would be useful in order to reduce the level of people's vulnerability to ill-health. Those people who 'rarely' or 'never' did not get health-related programmes on media are more vulnerable to health-disorders than those who have better access. As Asp et al. [43] showed in a study conducted in Southwestern Uganda, using mass media provides health promoting

**Table 4.** Determinants of the amount of instrumental, informational and emotional social capital possession (n = 276). \*P < .05 \*\*P < .001.

		Instrumental social capital		Informational social capital		Emotional social capital	
		Mean	T-Test	Mean	T-Test	Mean	T-Test
<b>Sex <sup>a</sup></b>	Male	9.21	1.961	7.90	3.714**	7.76	2.000*
	Female	8.58		6.75		8.37	
<b>Age <sup>b</sup></b>	18-29	8.71	4.818**	7.37	2.677*	8.44	3.091*
	30-39	9.39		7.45		8.45	
	40-49	8.90		7.46		7.84	
	50-59	8.00		7.04		8.00	
	60+	7.23		5.93		6.73	
<b>Education <sup>b</sup></b>	Non-literate	6.22	14.208**	4.96	25.488**	6.57	10.121**
	Elementary education	8.50		6.41		7.46	
	High school	9.38		7.98		8.49	
	Post-secondary education	9.86		8.78		9.05	
<b>Marital status <sup>b</sup></b>	Never married	8.44	11.948**	7.49	3.235*	8.05	4.699**
	Married	9.51		7.52		8.39	
	Divorced	7.00		6.87		6.93	
	Widowed	7.00		5.93		6.71	
<b>Income <sup>b</sup></b>	>750	6.61	50.082**	5.26	31.067**	6.57	15.712**
	751-1500	8.25		7.12		7.76	
	1501-2250	9.42		7.75		8.63	
	<2250	10.77		8.75		9.07	

**Table 5.** Institutionalized cultural capital and vulnerability to ill-health. \*\* $P < .01$  (a) F-value for PCS (Physical Component Score) (b) F-value for MCS (Mental Component Score).

	Response	Frequency	Percentage	Health status		ANOVA Test
				PCS	MCS	
Listening to or watching health-related informations on mass media	Never	64	23.2	35.37	37.28	<sup>a</sup> 40.733**
	Rarely	90	32.6	42.19	44.81	<sup>b</sup> 17.558**
	Sometimes	106	38.4	49.10	46.68	
	Often	16	5.8	51.29	46.49	

awareness, knowledge, attitudes, social norms, and healthy behaviours.

## CONCLUSION

The purpose of this study was to investigate the influence of social factors on vulnerability of Ethiopian people to physical and mental health disorders. Our study found that people's positioning across the hierarchical socio-demographic and socio-economic structures of society strongly determine their level of vulnerability to ill-health. Our study shows that economic, social, and cultural capitals play a pivotal role in buffering susceptibility of individuals occupying different social positions to health disorders. Besides contributing to the increased evidence that vulnerability to ill-health is significantly determined by the social contexts in which individuals' life is embedded, this study challenges the conventional biomedical approach of conceptualizing etiology and treating illnesses, and contrasts with the dominance of 'geneticization' in health studies, a process which consists of an increasing tendency to use genetic explanations to describe health status differences between individuals and groups [44]. Furthermore, this study invalidates the con-

ventional public health intervention in which health-risks are individualized and rational choice theory is emphasized for medical decision making. Finally, our study calls for the application of critical public health in which the broader social factors are considered for promoting public health. Specifically, the study recommends public health interventions in order to enhance the economic, social and cultural capital of people to reduce people's vulnerability to ill-health.

## Acknowledgements

The authors are thankful to Yonas Bekana, Edosa Abebe and Abdi Belay for their victorious undertaking of data collection through withstanding adverse climatic conditions. Furthermore, they are grateful to Tekle Abeera, a chairperson of Kebele 01 of Mendi town, for facilitating Focus Group Discussions and key informant interviews. Their indebtedness also go to respondents who took time to complete the questionnaires and the interviewees and FGD participants who provided honest and detailed accounts about their experiences.

## References

1. Raphael D. Social Determinants of Health: Canadian Perspective. Toronto: Canadian Scholars Press; 2009.
2. Amzat J, Oliver R. Medical Sociology in Africa. Switzerland: Springer International Publishing; 2014.
3. Pearce N, Sunia F, Andrew S, Chris C. Genetics, race, ethnicity, and health. *Br Med J*. 2004;(328):1070-1072.
4. White K. An Introduction to the Sociology of Health and Illness. London: SAGE Publications; 2002.
5. Stephen C. Health promotion: a psychosocial approach. England: Open University Press; 2008.
6. Locker D. Social determinants of health and disease. In: Graham S. (eds.) Sociology as applied to medicine. London: W.B Saunders; 2008. pp.18-37.
7. Maziak W. The triumph of the null hypothesis: epidemiology in an age of change. *Int J Epidemiol*. 2011;(38):393-402.
8. Rose G. Sick individuals and sick populations. *Int J Epidemiol*. 2001;(30):427-432.
9. Cramm J, Nieboer A. The influence of social capital and socio-economic conditions on self-rated health among residents of an economically and health-deprived South African township. *Int J Equity Health*. 2011;10(51):1-7.
10. Pinxten W, Lievens J. The importance of economic, social and cultural capital in understanding health inequalities: using a Bourdieu based approach in research on physical and mental health perceptions. *Sociol Health Illn*. 2014;36(7):1095-1110. doi: 10.1111/1467-9566.12157.
11. Kelly M, Bonnefoy J, Morgan A, Florenzano F. The Development of the Evidence Base about the Social Determinants of Health. Geneva: World Health Organization Commission on Social Determinants of Health Measurement and Evidence Knowledge Network; 2006.
12. Islam K, Merlo J, Kawachi I, Lindström M, Gerdtham UG. Social capital and health: does egalitarianism matter? A literature review. *Int J Equity Health*. 2006;5(3):1-28. doi:10.1186/1475-9276-5-3.
13. Abel T, Frohlich K. Capitals and capabilities: linking structure and agency to reduce health inequalities. *Soc Sci Med*. 2012;(74):236-244. doi:10.1016/j.socscimed.2011.10.028.
14. Sakdapolrak P. Water Related Health Risk, Social Vulnerability and Pierre Bourdieu. In: Warner K (eds.) Perspectives on Social Vulnerability. Bonn: UNU- EHS; 2007. p. 50-59.
15. Bourdieu P. Distinction: A Social Critique of the Judgment of Taste. London: Routledge; 1984.
16. Abel T. Cultural capital and social inequality in health. *J Epidemiol Community Health*. 2008;62(13):1-5. doi:10.1136/jech.2007.066159.
17. Eshetu EB, Woldegebet SA. Are there particular social determinants of health for the world's poorest countries? *Afr Health Sci*. 2011;11(1):108-115.
18. Ethiopian Federal Ministry of Health. Health Sector Development Program IV: 2010/11 – 2014/15. Addis Ababa, Ethiopia: Ministry of Health; 2010.
19. Getnet T. Bleak prospects: Young men, sexuality and HIV/AIDS in an Ethiopian town. Leiden: African Studies Center; 2006.
20. Assefa T. Poverty, sexual experience and HIV vulnerability Risks: Evidence from Addis Ababa, Ethiopia. *J Biosoc Sci*. 2012;44(6):677-701. doi:10.1017/S0021932012000193.
21. Syme S, Berkman, L. Social class, susceptibility, and sickness. *Am J Epidemiol*. 1976;(104):1-8.
22. Phelan Jo, Link BG, Tehranifar P. Social conditions as fundamental causes of health inequalities: theory, evidence and policy implications. *J Health Soc Behavior*. 2010;51(S): S28-S40. doi: 10.1177/0022146510383498.
23. Andrew M, Keefe J. Social vulnerability from a social ecology perspective: a cohort study of older adults from the National Population Health Survey of Canada. *BMC Geriatrics*. 2014;14:90. doi: 10.1186/1471-2318-14-90.

24. Mechanic D, Tanner J. Vulnerable people, groups, and populations: societal view. *Health Aff.* 2007;26(5):1220-1230. doi:10.1377/hlthaff.26.5.1220.
25. Aday L. At risk in America: The health and health care needs of vulnerable populations in the United States. 2nd ed. San Francisco: Jossey-Bass publishers; 2001.
26. Raosoft Sample size Calculator [Internet]. Raosoft, Inc; 2014 [cited 2014 Dec 13]. Available from: <http://www.raosoft.com/samplesize.html>.
27. Subramanian SV, Huijts T, Avendano M. Self-rated health assessments in the 2002 World Health Survey: how do they correlate with education? *Bull World Health Organ.* 2010;88(2):131-138. doi:10.2471/BLT.09.067058.
28. Idler EL, Yael B. Self-rated health and mortality: a review of twenty-seven community studies. *J Health Soc Behavior.* 1997;38(1):21-37. doi:10.2307/2955359.
29. Olle L, Manderbacka K. Assessing reliability of a measure of self-rated health. *Scand J Public Health.* 1996;24(3):218-224. doi:10.1177/140349489602400314.
30. Tallis F, Eysenck MW, Mathews A. A questionnaire for the measurement of nonpathological worry. *Person Individ Diff.* 1992;13:161-168.
31. Joormann J, Stober J. Measuring facets of worry: A lisrel analysis of the worry domains questionnaire. *Person Individ Diff.* 1997;23(5):827-837.
32. Schneiderman N, Ironson G, Siegel SD. Stress and health: psychological, behavioral, and biological determinants. *Annu Rev Clin Psychol.* 2005;(1):607-628. doi:10.1146/annurev.clinpsy.1.102803.144141.
33. Wilkinson R. Unhealthy Societies: The Affliction of Inequality. London: Routledge; 2002.
34. Abbott S. The psychosocial effects on health of socio-economic inequalities. *Crit Public Health.* 2007;17(2):151-158.
35. Waldmann R. 1992. Income distribution and infant mortality. *QJ Econ.* 1992;(107):1283-302.
36. Kenya Household Health Expenditure Survey (KHES). Household health expenditure and utilization survey report [Internet]. Republic of Kenya. Ministry of Health; 2007 [cited 2015 Dec 13]. Available from:[http://www.ihpmr.org/wp-content/uploads/2012/10/Household-Health-Expenditure-Survey-Report-2007\\_FINAL-DRAFT\\_30-Jan-09\\_edLM.pdf](http://www.ihpmr.org/wp-content/uploads/2012/10/Household-Health-Expenditure-Survey-Report-2007_FINAL-DRAFT_30-Jan-09_edLM.pdf).
37. Stafford M, Bartley M, Boreham, R, Thomas R, Wilkinson R, Marmot M. Neighbourhood social cohesion and health: investigating associations and possible mechanisms. In: Morgan A, Swann C (eds.) Social capital for health: issues of definition, measurement and links to health. London: Health Development Agency; 2004. pp.111-131.
38. Sun X, Rehnberg C, Meng Q. How are individual-level social capital and poverty associated with health equity? A study from two Chinese cities. *Int J Equity Health.* 2009;8(2):1-13. doi: 10.1186/1475-9276-8-2.
39. Transitional Government of Ethiopia (TGE). Health Policy of the Transitional Government of Ethiopia. Addis Ababa, Ethiopia: Government of Ethiopia; 1993.
40. Dupas P, Nber U. Health behavior in developing countries. *Annu Rev Econ.* 2011;(3):1-39.
41. Ek S. Gender differences in health information behaviour: a Finnish population-based survey. *Health Promot Int.* 2015 Sep;30(3):736-45. doi:10.1093/heapro/dat063.
42. Lee H, Jiwoo L, Kim N. Gender difference in health literacy among Korean adults: Do women have a higher level of health literacy than men? *Am J Mens Health.* 2014;9(5):370-379.
43. Asp G, Karen P, Jacob S, Jerome K, Anette A. Associations between mass media exposure and birth preparedness among women in southwestern Uganda: a community-based survey. *Glob Health Action.* 2014;(7):1-9.
44. Hedgecoe AM. Geneticization: Debates and Controversies. London UK: University College London; 2009. doi: 10.1002/9780470015902.a0005849.pub2.