



RURAL YOUTH PERSPECTIVES ON THE SEVERITY OF HIV AND AIDS IN GHANA

**Kennedy Nyeseh Ofori¹ⁱ,
Michael Mensah Gyasi²**

¹Department of Education,
Wesley College of Education,
Kumasi, Ghana

²Department of Education,
St. Joseph College of Education,
Bechem, Ghana

Abstract:

The study aimed at examining youths in rural perspectives on the severity of HIV and AIDS compared to other diseases. The study conducted in Fanteakwa District of Ghana involved youths between the ages of 15 – 24 years. The quantitative approach was employed based on the Health Belief Model. Purposive sampling was used to select the district and area councils. Then the communities through simple random technique and finally individual respondents were conveniently selected. Structured questionnaires were used to obtain data which were processed using Statistical Package for Social Sciences (SPSS) version 23. Majority of the respondents (55.7%) were scared of HIV testing and counselling. Also, 59.2% preferred to die from other diseases rather than HIV and AIDS. In addition, sex ($p=0.0208$) and level of formal education ($p=0.000$) had significant relationship with one preferring to die from other diseases rather than AIDS. The study recommended the effective use of social as a tool targeted at reducing the fear associated HIV and AIDS among the rural youth. Further studies should be conducted to determine factors that hinder persons in rural areas from participating in HIV Testing and Counselling.

Keywords: severity, perception, health belief model, HIV and AIDS, youth, HIV testing and counselling

1. Introduction

Human Immunodeficiency Virus (HIV) infection which causes Acquired Immune Deficiency Syndrome (AIDS) if untreated is a major public health challenge which demands aggressive prevention programmes to control it (Brenchley, David, Schacker,

ⁱ Correspondence: email kennyofori@yahoo.com

Tedi, Guido, Srinivas, Zachary, Ethan, Lambotte, & Altmann, 2006; Fauci, 2003). Its ability to cripple its host leads to a loss of T-helper or CD4 cells, a specific type of immune cell that helps the human body to fight against diseases (Arango & Guillermo, 2014). A study in Zimbabwe has also established the association between HIV/AIDS and psychological distress. It is reported that between 42% to 63% of HIV and AIDS cases lead to increased psychiatric morbidity, which is a major depressive disorder (Collins, Melvyn, & Vikram, 2006).

Notwithstanding these devastating effects, studies by Lauren, Jordan, Aisha & Nichole (2018) and Dinai-Koci, Chen & Devcaux (2012), have demonstrated that youths are resilient in risk taking because of the dramatic changes they experience in abstract thinking. However, according to the Health Belief Model (HBM), people will only take preventive action against a disease, when they feel a significant level of threat from the disease and that depends on their perception of severity of the disease and their susceptibility to it (Lostao, Joiner, Pettit, Paloma, & Bonifacio, 2001; Rosenstock, Strecher & Becker, 1994). Increased access to antiretroviral (ARV) treatment is making HIV infection a chronic condition rather than an inevitable death sentence, it seems people do not take HIV and AIDS as seriously as was done in the past (Hoen, Berger, Calmy, & Suerie, 2011; Pinto, Witte, Filippone, Choi, Wall, 2018).

HIV and AIDS have been found to be highly prevalent among the youth. According to "Young People and HIV", a fact sheet published by the joint United Nations Population Fund (UNFPA) and UNAIDS, the youth (age 15 to 24 years) accounted for 40% of all new global HIV infections in the year 2011 (Beaglehole, et al. 2011; UNAIDS, 2011). Again, the UNAIDS Gap report of 2016 indicates that women aged between 15-24 years account for 15% of all women living with HIV globally. In a developing country such as Ghana, HIV and AIDS raises concern for the youth. UNAIDS HIV and AIDS estimate for Ghana for 2016 showed that, there were 284,860 adults and 28,203 children living with HIV and AIDS. The survey also indicates that 15,792 people died annually from AIDS and its related illnesses. These deaths as recorded comprised 12,792 adults and 2,905 children (Baghianimoghadam, Hossein, Razie, Zohre & Parisa, 2010).

According to the 2015 Country AIDS Response Progress Report for Ghana, the trend of prevalence in youth aged 15-24 years which is used as proxy for new infections was 1.7% in 2011, dropped to 1.3% in 2012, 1.2% in 2013 and rose again to 1.8% in 2014 meaning that one should not become complacent when there is a decline in the prevalence rate since it can rise again. The Ghana National Youth Policy recognizes "*high vulnerability to sexually transmitted infections (STIs/STDs), including HIV/AIDS*" (pg. 22) among the challenges faced by Ghanaian youths and seeks "*to improve the knowledge of the youth about preventive health care and to assist them avoid practices such as engaging in early and irresponsible sexual activities and exposing themselves to STDs such as HIV and AIDS.*" (pg. 30) Hence, since these young persons (aged 15-24 years) form part of the youth, they could probably be accounting for the increase in the prevalence rate among the youth. Interestingly, adolescents and the youth have more sexual desires and are also more likely to engage in unprotected sexual intercourse (Tanye, 2013). Therefore, young people remain at the centre of the epidemic in terms of transmission, vulnerability, impact and

also potential for behaviour change. This implies that young people will determine the course of the epidemic and therefore they are a critical focus for HIV prevention and behaviour change programmes (Ofori, 2017).

The youth are therefore an important group to target when designing HIV prevention programmes. It is useful to know their perception of severity of HIV and AIDS so that prevention programmes can be designed in ways that can capture their attention. The aim of this study among the youth of Ghana, was to determine the level of severity they attach to HIV and AIDS compared to other diseases. Knowledge of the level of severity of HIV and AIDS among the youth will enable prevention programmers adopt the right strategy in presenting HIV and AIDS prevention messages to the youth. Therefore, the study aimed at obtaining answers to the questions: How do the youth rate the severity of HIV and AIDS against other diseases? How ready are the youth to undertake HIV test as against that of other selected medical tests?

2. Theoretical Framework

The study was underpinned by the health belief model (HBM). This model was proposed in the 1950's by three social psychologists namely, Hochbaum, Rosenstock and Kegels. It originally had only four constructs, which were perceived severity or seriousness, perceived benefits, perceived barriers and cues to action. Self-efficacy, which has now become one of the constructs of the model, was added later (Berker, 1974). This type of psychological model is used in predicting whether a person will perform an activity necessary for preventing a disease or not, depending on the belief or perception of the person about the seriousness of the disease, the merits and demerits of the prevention activity and their own ability to perform the activity. The person's perceived susceptibility to the disease, perceived severity of the disease, perceived benefits of the preventive action, perceived barriers against the preventive action, self-efficacy and certain cues to perform the preventive action all interact within the person to determine the person's readiness to perform the preventive action (Downing-Matibag & Geisinger, 2009., Baum, 1997).

This study falls within the second construct (perceived severity) of the health belief model. Perceived severity connotes how people believe contracting HIV and AIDS will be detrimental to their life if it is left untreated. At this point the individual engages in a self-evaluation of the medical effects as against the social effects (Ofori, 2017). For instance, matching the effects of one dying, becoming disabled or the pains one will have to endure as against the effects of the conditions on his/her work, friends and family relations and so forth. The model here recognizes that individuals may not take action to change behaviour by merely seeing themselves as susceptible to a disease condition but would have to further view it as serious or life threatening (Becker, 1974; Downing-Matibag & Geisinger, 2009). This suggests that the youth in the Fanteakwa District would not just take action to change their sexual behaviour just because they see themselves as susceptible to HIV and AIDS but the youth are more likely to take steps to change their sexual behaviour if they view it as serious or a life threatening disease.

3. Methods

3.1 Location of the Study

Ghana, a West African country, is divided into ten administrative regions. The regions are also divided into metropolises, municipalities and districts, which are also further divided into area councils depending on their population and geographical size. Fanteakwa is one of the districts in the Eastern Region of Ghana. It is largely a rural district and the people mainly engage in farming and petty trading as their occupation. With a total land size of 1,150 square kilometers, it is the third largest district out of the 26 districts in the Eastern Region (Boakye-Gyan, 2002).

Fanteakwa is noted to be a place which is able to attract many people from several parts of the country during the farming seasons due to its fertile lands. Most of the youth both in-school and out-of-school engage in these farming activities as a means of raising income for themselves and sometimes their families. At the end of the farming season, some of the young rural girls get pregnant and it will therefore not be surprising if some of these youths get infected with HIV (Derby, 2016).

3.2 Population

The 2010 population and housing census of Ghana estimates the population of the study area to be 108,614 while the number of youths within the ages of 15-24 years was 14,670 (Abuaku, Duah, Ouaye, Neils, & Koram, 2012). The population for the study included all youths within the ages of 15-24 years resident in the Fanteakwa District of Ghana.

3.3 Sample and Sampling Technique

Youth whose ages were within 15 to 24 years and who had lived in Fanteakwa District for at least twelve months were eligible to partake in the study. In this regard, purposive sampling technique was first used to select the district and then the five area councils out of the ten in the district, representing 50 per cent of the entire population. Simple random sampling was then used to select the 20 communities from the five area councils. Finally, 450 individual respondents within the ages of 15-24 years were conveniently sampled from houses within the selected communities.

3.4 Research Instrument

The instrument for the data collection was self-administered questionnaire. The questionnaires consisted of 20 items made up of both open and closed-ended questions. The questionnaire was made up of three main sections on thematic areas including, bio-data of the respondents, severity of HIV and AIDS against other diseases and the readiness to take HIV test in comparison with that of other medical diseases.

3.5 Pilot Study

The instrument was first piloted at Ahomahomaso, a community close to but not included in the main study. This was to establish its content in terms of validity and reliability. It was pre-tested within in the same community after two weeks interval.

Afterwards, Cronbach's alpha of 0.78 was recorded after the processing of the pilot test. The results obtained shows that the reliability was high and therefore the instrument was very appropriate for the study.

3.6 Ethical Approval

Ethical clearance was obtained from the Ethics Committee for Humanities of the University of Ghana. Permission was also obtained from Fantakwa District Health Directorate, household heads and all individual respondents (youth).

3.7 Informed Consent

Each of the respondents was made to sign a consent form. For respondents who were below the age of 18 years, the consent of their parents or guardians were obtained.

3.8 Data Analysis Procedure

Data collected from the survey were analysed quantitatively. The data were cleaned, coded, and processed using Statistical Package for Social Sciences (SPSS) soft-ware package version 22. Frequencies, means, standard deviation (SD) and percentage distributions were used to summarise the data and to discover the magnitude and direction of the responses.

4. Results

The socio-demographic background of respondents in terms of sex, age, place of residence, formal educational level, marital status and ethnicity are shown in the Table 1.

Table 1: Demographic background of respondents

| Variables | Frequency (N=450) | Percentage (%) |
|---------------------------------|----------------------|-------------------|
| Sex | | |
| Male | 217 | 48.2 |
| Female | 233 | 51.8 |
| Age | | |
| 15-19 | 288 | 64.0 |
| 20-24 | 162 | 36.0 |
| Place of Residence | | |
| Rural | 243 | 54.0 |
| Urban | 207 | 46.0 |
| Religion | | |
| Christians | 346 | 79.9 |
| Moslems | 77 | 17.1 |
| Traditionalist | 17 | 3.8 |
| No religion | 10 | 2.2 |
| Formal Educational Level | | |
| None | 44 | 9.8 |
| Basic | 202 | 44.9 |
| Senior High School | 170 | 37.8 |

| | | |
|-----------------------|-----|------|
| Tertiary | 34 | 7.5 |
| Marital Status | | |
| Single | 225 | 50.0 |
| Married | 48 | 10.7 |
| Divorced | 10 | 2.2 |
| In a Relationship | 167 | 37.1 |
| Ethnicity | | |
| Akans | 231 | 51.3 |
| Ga-dangmes | 114 | 25.3 |
| Ewes | 63 | 14.0 |
| Northern tribes | 32 | 7.1 |
| Others | 10 | 2.2 |

From Table 1, majority of the respondents (51.8%) were females. In terms of age distribution, more than half (64%) were relatively young, between the ages of 15-19 years. Most of the respondents (54%) included in the survey lived in the rural areas. Also, a high proportion of the respondents (79.9%) were Christians. There were some Moslems (17.1%). A few of the respondents were either Traditionalist or not affiliated to any religion (3.8% and 2.2% respectively). While about a tenth had no formal education, majority (82.7%) either had basic or secondary education with the remainder (7.5%) having tertiary education. In terms of marital status, half of the respondents were not married although 37.1% were in some form of relationship. Finally, with regards to ethnicity, majority (51.3%) of the respondents were Akans, followed by Ga-dangmes (25.3%), Ewes (14%), Northerners (7.1%) and 2.2% constituted other ethnic groups.

4.1 Severity of HIV and AIDS in Comparison with other Diseases

Perceived severity of HIV and AIDS against the other diseases is a determinant of the respondents' health seeking behavior and attitude toward HTC services. Table 2 presents the results of how respondents perceive thoughts of HTC and their preference to die from diseases other than AIDS.

Table 2: Description on perception of HIV test and preference to die from other diseases

| Variables | Frequency | Percentage | \bar{x} | SD |
|--|-----------|------------|-----------|------|
| Thoughts of HTC scares me | | | | |
| Strongly agree | 87 | 20.7 | 3.2 | 1.33 |
| Agree | 148 | 35.2 | | |
| Don't know | 49 | 11.7 | | |
| Disagree | 88 | 21 | | |
| Strongly disagree | 48 | 11.4 | | |
| Rather die from any other disease than AIDS | | | | |
| Strongly agree | 127 | 30.2 | 3.41 | 1.47 |
| Agree | 122 | 29 | | |
| Don't know | 52 | 12.4 | | |
| Disagree | 41 | 9.8 | | |
| Strongly disagree | 78 | 18.6 | | |

\bar{x} = Mean, SD= Standard Deviation

The results indicate that most of the respondents ($\bar{x}=3.2$; S.D 1.33) were scared of HIV Testing and Counselling (HTC). The reality is that while the majority were affected by the thoughts of HTC, others were not. Again, it was evident that most of the respondents preferred to die from other diseases rather than AIDS ($\bar{x}=3.41$; SD 1.47). The standard deviation confirmed that there was less dispersion of the responses from the respondents. This means majority of the individuals involved in the study did not see death from all diseases as same, hence their desire to die from other diseases rather than AIDS.

The Chi-square analysis of respondents who had scary thoughts of HTC was cross-tabulated with personal characteristics as shown in Table 3.

Table 3: Chi-square analysis of respondents who had scary thoughts of HTC by personal characteristics

| Personal Characteristics | x2-value | df | N | Sign |
|--------------------------|----------|----|-----|-------|
| Sex | 15.756 | 5 | 450 | 0.008 |
| Age | 5.274 | 10 | 450 | 0.872 |
| Place of residence | 5.88 | 10 | 450 | 0.825 |
| religion | 16.419 | 15 | 450 | 0.355 |
| Formal Educational Level | 22.428 | 25 | 450 | 0.611 |
| Marital Status | 10.256 | 25 | 450 | 0.996 |
| Ethnicity | 29.567 | 25 | 450 | 0.241 |

Note: df=degree of freedom, N=Number, Sign=Significance level

From Table 3, it was evident that the sex of the respondents had significant relationship ($P=0.008$) with scary thoughts of HTC. This shows that one's sex (that is, being a male or a female) had influence on the perception of HIV testing and counselling being scary or not to an individual. However, all the other socio-demographic characteristics were found not to have any significant relationship with any scary thoughts of HTC. The indication is that the personal background of the respondents such as age, place of residence, religion, formal educational level, marital status and ethnicity had no significant relationship with scary thoughts of HTC.

Again, a Chi-square analysis of respondents who prefer dying from diseases other than AIDS by personal characteristics is shown in Table 4.

Table 4: Chi-square analysis of respondents who prefer dying from diseases other than from AIDS by personal characteristics

| Personal Characteristics | x ² -value | df | N | Sign |
|--------------------------|-----------------------|----|-----|--------|
| Sex | 7.175 | 5 | 450 | 0.0208 |
| Age | 8.674 | 10 | 450 | 0.563 |
| Place of Residence | 9.192 | 10 | 450 | 0.514 |
| Religion | 14.626 | 15 | 450 | 0.479 |
| Formal Educational Level | 59.918 | 25 | 450 | 0.000 |
| Marital Status | 31.652 | 25 | 450 | 0.168 |
| Ethnicity | 20.790 | 25 | 450 | 0.704 |

Note: df=degree of freedom, N=Number, Sign=Significance level

It is evident from the results in Table 4, that sex ($P=0.0208$) and ones' level of formal education ($P=0.000$) had significant relationship with preferring to die from other diseases rather than AIDS. The calculated chi-square test values give the evidence that; age ($P=0.563$), place of residence ($P=0.514$), religion ($P=0.479$), marital status ($P=0.168$) and ethnicity ($P=0.704$) had no significant relationship with one preferring to die from other diseases rather than AIDS This indicates that respondents who preferred dying from other diseases rather than AIDS were not influenced by their age, place of residence, religion, marital status and living arrangement.

Furthermore, the respondents were asked to rank their readiness to undertake some selected medical tests (Malaria, Hepatitis B, Cancer, Ebola and HIV Test) based on how they perceive their severity or threat. The results are presented in Table 5.

Table 5: Ranking of respondents' readiness to undertake selected medical tests

| Name of Test | Mean | Standard Error | Rank |
|--------------|------|----------------|------|
| Malaria | 3.78 | 0.059 | 1st |
| Hepatitis B | 3.38 | 0.063 | 2nd |
| Cancer | 3.29 | 0.06 | 3rd |
| Ebola | 2.63 | 0.062 | 4th |
| HIV | 1.86 | 0.055 | 5th |

In terms of ranking respondents' readiness to submit themselves for some selected medical tests, Table 5 indicates that respondent's ranked malaria first and HIV last.

5. Discussion

Perceived severity of HIV and AIDS remains a problem for many young people with negative consequences on their health and personal well-being. The first research question of this study sought to compare how the youth rate the severity of HIV and AIDS against other diseases in order of seriousness. It was found during the study that, 55.9% of the respondents altogether strongly agreed or agreed with the statements that, "the thoughts of HTC scare me" while those in disagreement were 32.4%, implying that majority of respondents consider HIV and AIDS as serious. A similar result was obtained when a research was conducted to examine the attitude of youth towards HIV Testing and Counselling. That study concluded that one of the reasons the youth refused to undertake HIV testing and counselling was because of the fear of the possibility that their test results could turn out to be positive (Baghianimoghadam et al. 2010). Again, the results raise the argument that the socio-cultural belief among the respondents' perception of high severity, which could affect their "well-being" should not be swept under the carpet. This belief must be demystified through continuous educational interventions.

Also, majority of the respondents (66.2%) stated their preference to die from any other disease other than HIV and AIDS. The respondents' preference to die from any other disease than HIV and AIDS is because of the belief that HIV and AIDS is a deadly terminal disease which has neither a cure nor a vaccine. In previous studies carried out

among some college students, AIDS was similarly confirmed as a disease with high perceived severity among young individuals (Downing & Geisinger, 2009). The advent of Antiretroviral Therapy has helped persons living with HIV and AIDS to look healthy and live normal lives. From these developments, one would have expected the youth to exhibit a less fearful attitude towards HIV and AIDS, however, this is not the case. This finding from the respondents is very significant to planners of HIV programmes and hospitals need to be resourced from governmental and non-governmental organisations with medications for HIV and AIDS and its related illnesses.

The results further show that sex ($P=0.0208$) and level of education ($P=0.000$) had significant association with preference to die from diseases other than AIDS. This suggests that the sex of an individual as well as an individual's educational level can influence a person's perception of AIDS being a risky disease. This observation corroborates the view that the severity of HIV and AIDS and the stigma attached to it could be complicated depending on an individual's sex, ethnicity, economic status, sexual orientation and education (Flickinger, Claire, Xie, Kosmacki, Grabowski, Waldman, Reynolds, Conaway, Cohn, & Ingersoll 2018). The general view is that dying from AIDS was different from dying from other diseases. This view supports an earlier study among the youth at Ejura-Sekyeredumase District of Ghana (Agyemang, 2009). It could therefore be concluded that sex and educational background of respondents had significant association with preference to die from other diseases than HIV and AIDS. It therefore important to target all persons during HIV and AIDS educational programmes. However, particular attention should be paid to the male and female differences as well as differences in educational attainment.

With respect to the second research question, it was revealed that respondents were least ready to undertake HIV test compared to the other selected medical tests. This revelation shows how individuals associate HIV test with their perception of HIV risk (Fylkesness & Siziya 2004; Gage & Ali 2005; Admassu & Fitaw 2006). The findings from this study is also an indication that although other deadly diseases such Ebola and cancer have killed people in recent times, many still perceive HIV and AIDS as a serious threat. Given this observation, it is important for all stakeholders to intensify campaigns on HIV and AIDS to the youth through all available media platforms (especially social media) to ease the fear among them.

The revelations from this study is a wakeup call for the Ghana AIDS Commission (the organization in charge of coordinating all HIV and AIDS programmes to put adequate measures in place with the aim of improving attitude of the youth towards perceived risk of acquiring HIV. Some of these measures include avoiding unplanned sexual activity with a non-regular partner and insisting on condom use especially by girls.

5.1 Recommendations for Policy and Health Practice

The revelations from this study is a wakeup call for the Ghana AIDS Commission, the organization in charge of coordinating all HIV and AIDS programmes to put adequate measures in place with the aim of improving attitude of the youth towards perceived risk

of acquiring HIV. Some of these measures include avoiding unplanned sexual activity with a non-regular partner and insisting on condom use especially by girls.

6. Conclusion

This study sought to compare how the youth rate the severity of HIV and AIDS against other diseases. The results indicate that the youth in Ghana have high perception of severity for HIV and AIDS. According to the Health Belief Model, this is a good indicator that they are more likely to act to prevent HIV and AIDS. It is necessary that further studies are done on the perception of susceptibility of HIV and AIDS to complement knowledge about perception of severity. Secondly, majority of the respondents felt least ready to undertake HIV test compared to other medical tests. This was irrespective of their level of formal educational level, religious believe, age, ethnicity or religious background. To erase this unreadiness to test for HIV, it is recommended that all stakeholders in HIV and AIDS should spearhead the campaign on social media (via; Facebook, WhatsApp, Twitter, Instagram, etc.), radio, television and print media targeted at reducing the scary nature of HIV/AIDS among the youth. The rural youth should also be made to understand that acquiring HIV is not a death sentence in that one could live long with the advent of Antiretroviral Therapy.

Acknowledgements

The authors express their appreciation to Dr. Christian Aduamah, the District Health Director for Fanteakwa District, Ghana and the entire staff of Begoro District Hospital for their support and varied contributions during the study period. We are also grateful to all the youth of Fanteakwa District who participated in the study.

Conflict of Interest

The authors declare no potential conflict of interest with respect to the research, authorship, and/or publication of this article, whether financial or commercial. We wish to also state that the paper has not been submitted elsewhere for consideration.

Funding

This research did not receive any grant from funding agencies in the public, commercial or not-for-profit sectors.

About the Author(s)

Kennedy Nyeseh Ofori is a Tutor and Counsellor at Wesley College of Education, Kumasi, Ghana. He is a product of the University of Education, Winneba, Ghana (BEd. Guidance and Counselling), University Cape Coast, Ghana (MEd. Guidance & Counselling) and the University of Ghana (MPhil in HIV & AIDS Management). He is currently pursuing a PhD in Psychology at the University of South Africa. He has research interest in Child and Adolescent Development, Teacher Education, HIV & AIDS, and Career Guidance.

Michael Mensah Gyasi works as a Tutor and Counsellor at St Joseph's College of Education, Bechem, Ghana. He holds both Bachelor and Master of Education from the University of Education, Winneba, Ghana. His research interest includes Students' indiscipline, Teacher Education and Assessment in Basic Schools.

References

- Abuaku, B., Duah, N., Ouaye, L., Neils, Q., & Koram, K. (2012). Therapeutic efficacy of artemether-lumefantrine contribution in the treatment of uncomplicated malaria among children under 5 years in 3 ecological zones in Ghana. *Malaria Journal*, 11(51), 107.
- Admassu, M., & Fitaw, Y. (2006). Factors affecting acceptance of VCT among different professional and community groups in North and South Gondar Administrative zones, North West Ethiopia. *Ethiopian Journal of Health Development*, 20(1), 24-31.
- Agyemang, S. (2009). Addressing HIV/AIDS pandemic in the Ejura-Sekyeredumase District: A study of knowledge, attitudes and sexual behavior among unmarried 15-24-year-olds. Kwame Nkrumah University of Science and Technology, Ghana.
- Arango, D., & Guillermo, D. (2014). Macrophage cytokines; Involvement in immunity and infectious diseases. *Frontiers in immunology*, 5(4), 91.
- Baghianimoghadam, M. H., Hossein, F., Razie, Z., Zohre, R., & Parisa, K. (2010). "Health Belief Model and HIV/AIDS among High School female students in Yazd, Iran." *Journal of Research in Medical Science* 15 (3):189-190.
- Baum, K. (1997). *Adolescents and AIDS*. Retrieved from www.kidsource.com. Accessed on 15 / 5 / 2016.
- Becker, M. H. (1974). The Health Belief Model and Personal Health Behavior. *Journal of Health Education Monographs*, 2 (4), 324-508
- Beaglehole, R., Bonita, R., Horton, R., Adams, C., Alleyne, G., Asaria, P., Baugh, V., Bekedam, H., Billo, N. & Casswell, S. (2011). Priority actions for the non-communicable disease crisis. *The Lancet*, 377(9775), 1438-1447.
- Boakye-Gyan, F. (2002). Socio-Economic Impact of Logging Activity in Fanteakwa District. University of Ghana.
- Brenchley, J. M., David, A. P., Schacker, T. W., Tedi, E. A., Guido, S., Srinivas, R., Zachary, K., Ethan, B., Lambotte, O. & Altmann, D. (2006). Microbial translocation is a cause of systemic immune activation in chronic HIV infection. *Nature medicine*, 12(12), 1365.
- Collins, P. Y., Alea, R. H., Melvyn, C. F., & Vikram, P. (2006). What is the relevance of mental health to HIV/AIDS care and treatment programs in developing countries? A systematic review. *AIDS (London, England)* 20(12), 1571.
- Derby, D. (2016). The Pattern of Antimalarial Drug Use among Miners in the Fanteakwa District. University of Ghana.
- Dinai-Koci, V., Chen, X., & Devcaux, L. (2012). Developmental Implications of HIV Prevention during Adolescence, Examination of the Long-Term Impact of HIV

- Prevention Interventions Delivered in Randomized Controlled Trials in Grade Six and in Grade Ten, *Youth and Society*, 47(2), 151-171
- Downing, M., Teresa, M. & Geisinger, B. (2009). Hooking up and sexual risk taking among college students: A health belief model perspective. *Qualitative Health Research*, 19(9):1196-1209.
- Fauci, A. S. (2003). HIV and AIDS: 20 years of science. *Nature medicine*, 9(7), 839.
- Flickinger, T. E., Claire, D., Xie, A., Kosmacki, A., Grabowski, M., Waldman, A. L., Reynolds, G., Conaway, M., Cohn, W. N., & Ingersoll, K. (2018). "Addressing Stigma Through a Virtual Community for People Living with HIV: A Mixed Methods Study of the Positive Links Mobile Health Intervention." *AIDS and Behavior*, 1(12).
- Fylkesnes, K., & Siziya, S., (2004). A randomized trial on acceptability of voluntary HIV counselling and testing. *Tropical Medicine & International Health*, 9(5), 566-572.
- Gage, A. J., & Ali, D. (2005). Factors associated with self-reported HIV testing among men in Uganda. *AIDS care*, 17(2), 153-165.
- UNAIDS & WHO, (2006). *AIDS epidemic update, December 2006*: World Health Organization.
- Hoehn, E., Berger, J., Calmy, A., & Suerie, M., (2011). Driving a decade of change: HIV/AIDS, patents and access to medicines for all. *Journal of the International AIDS Society*, 14(1), 15-26
- Lauren, G., Jordan, L., Hutchinson, A., & Nicole d. W. (2018). Risky Behaviour: A new framework for understanding why young people take risks. *Journal of Youth Studies*, 21(3), 324-339
- Lostao, L., Joiner, T.E., Pettit, J. W., Paloma, C., & Bonifacio, S. (2001). Health beliefs and illness attitudes as predictors of breast cancer screening attendance. *The European Journal of Public Health*, 11(3), 274-279.
- Ofori, K. N. (2017). HIV Testing and Counselling among the youth of Fanteakwa District of Ghana: An Application of the Health Belief Model. MPhil Thesis: University of Ghana. Retrieved November, 19, 2017 from <http://ugspace.ug.edu.gh/handle/123456789/23359>.
- Pinto, R. M., Witte, S. S. Filippone, P. L., Choi, C. J. Wall, M. (2018). Policy Interventions Shaping HIV Prevention: Providers' Active Role in the HIV continuum of Care. *Health Education and Behavior*. 45(5) 714-722.
- Rosenstock, I. M., Strecher, V. J., & Bercker, M. H. (1994). The health belief model and HIV Risk behavior change. *Preventing AIDS*, 3(2), 5-24. Springer.
- Tanye, V. K. (2013). *Exploring the attitude, knowledge and experience of the youth towards HIV counselling and testing*. MPhil Thesis: University of Ghana. Retrieved April 19, 2016 from <http://ugspace.ug.edu.gh.8080/xmlui/111/5928> or <http://hdl.handle.net/123456789/5928>
- UNAIDS (2011). Countdown to zero: Global plan towards the elimination of new HIV Infections among Children by 2015 and keeping their mother alive. UNAIDS.

Creative Commons licensing terms

Author(s) will retain the copyright of their published articles agreeing that a Creative Commons Attribution 4.0 International License (CC BY 4.0) terms will be applied. Under the terms of this license, no permission is required from the author(s) or publisher for members of the community to copy, distribute, transmit or adapt the article content, providing a proper, prominent and unambiguous attribution to the authors in a manner that makes clear that the materials are being reused under permission of a Creative Commons License. Views, opinions, and conclusions expressed in this research article are views, opinions, and conclusions of the author(s). Open Access Publishing Group and European Journal of Public Health Studies shall not be responsible or answerable for any loss, damage, or liability caused to/arising out of conflicts of interest, copyright violations, and inappropriate or inaccurate use of any kind content related or integrated into the research work. All the published works are meeting the Open Access Publishing requirements. They can be freely accessed, shared, modified, distributed, and used in educational, commercial, and non-commercial purposes under a [Creative Commons Attribution 4.0 International License \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/).