

ACCESS TO THE MEDIA AND HIV KNOWLEDGE IN NEPAL

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Quintus Drennan

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Quintus Drennan

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### **Abstract**

This paper aims to better understand the role of media in the understanding of HIV in Nepal. This paper uses a compiled probit regression to understand the effect media such as newspapers, radio, and television plays upon the six factors relating to HIV attitudes and awareness on how it spreads. This is done separately for men and women. This study uses the DHS data from 2011 for Nepal. Access to media has an effect of between 1% and 32% on HIV related knowledge. This provides an insight on how to reduce its spread effectively in Nepal.

KEYWORDS: (HIV, AIDS, Probit, Nepal)

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Quintus Lovell Drennan IV

Signature

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## 1. Introduction

HIV/ Aids is a global epidemic. The prevention and reduction of the spread of HIV/ AIDS is noble goal. This spread of this disease is drastically increasing the societal cost in Asia, Africa, and developing countries across the world. It is also increasing the cost of living for individuals and lowering their quality of life. (Fox) It has spread rapidly in the developing countries and now constitutes a threat to their continued development. Asia and Sub Asia are both seeing a large portion of their populations infected. The Nepal is a valuable country to look at since it is situated in the middle. It has a large amount of population diversity. Nepal has a large amount of variance in religion, population density, language, education, and economic status. As such media could potentially bridge these gaps in both distance and culture. If there is a strong correlation between access to the media and better HIV/AIDS knowledge it will provide a cheaper way to reduce its spread. Nepal has two very distinct population types. It possesses both high density cities and remote villages. This might provide a situation in which radio, television, or newspapers might have a significant influence on the knowledge level in the population. Newer social media might also provide an avenue for further study. This study looked at how often individuals accessed newspaper, radio, and television, and their knowledge of different HIV/AIDS knowledge quantifiers.

The first HIV case in Nepal was reported in 1988(*Worldbank*). “As of December 15, 2011, 19,118 cases of HIV infection were officially reported; however, given the limitations of Nepal’s public health surveillance system, the actual number of infections is thought to be higher.”(*Worldbank*) The rapid spread within the country is due to 4 main factors the large migrant worker population, and the high rates of migration from the rural areas to urban areas, then to new rural areas for work. This presents a challenge for the government on how to track the actual spread of HIV. This also means that spreading information on the spread is difficult as well.

Nepal has been developing its government departments in a hope of not falling into the same large rise of HIV infected that has been seen in India and China (*National Intelligence Council*).

“In 2002, a National AIDS Council (NAC) chaired by the Prime Minister was established to raise the profile of HIV/AIDS. The NACC reports to the NAC. The NAC was meant to set overall policy, lead national level advocacy, and provide overall guidance and direction to the program. The NACC, on the other hand, was expected to lead the multi-sector response, and to coordinate active participation of all sectors in the fight against HIV. However, both the NAC and the NACC have essentially been non-functional.”(World Bank) This would suggest that there might be a better way to raise HIV aids awareness in Nepal. The media in Nepal is more trusted than the government according to surveys conducted in 2011. (Plathe) This higher level of trust suggests that a government program might be less effective than using the media to spread awareness. The average trust response for newspaper, radio, and television was between 5.7 and 6.5 and a 1-10 scale. While the trust for government offices was 2.6 and 4.5.

There have been similar studies looking at media and HIV knowledge in Sub-Asian countries. This study found that the incorporation of media such as television are helpful in increasing AIDS related knowledge, but newspapers and radio were less effective. (Argawal) Nepal is similar to India in a few ways. First Nepal shares two major religions in Hindu and Buddhism. Second Nepal has a large migrant worker population, and third it is geographically local. Nepal also suffers from a lower adult literacy rate 57% for adults about 15 years of age (UNESCO). At the same time this UN program has been successful in raising the literacy rate in 15-24-year-old population to 85%. Since studies have shown this group is one of the higher risk groups. (World Bank)

## 2. Theory

Does access to the media have a significant correlation with increased HIV/AIDS knowledge regarding prevention and transmission in Nepal? This specifically looks at how Television, Newspapers, and Radio and how often a person uses those sources of media is correlated with five factors of aids awareness.

## 3. Data and descriptive statistics

The data source for this paper was the 2011 DHS Program survey. DHS is the Demographics and Health Surveys. They have a “worldwide reputation for collecting and disseminating

accurate, nationally representative data on fertility, family planning, maternal and child health, gender, HIV/AIDS, malaria, and nutrition”. (Ministry of Health and Population) The Nepal data was specifically collected by the Nepal Ministry of Health and Population, but was overseen by the DHS and conducted according to DHS procedures. The variables used for this study are listed in Table 1

Table 1

| Variable                      | Description                      | Details  |
|-------------------------------|----------------------------------|--|
| <i>HIV awareness</i>          |                                  |  |
| v751                          | AIDS awareness                   | = 1 if respondent has ever heard of AIDS; = 0 otherwise  |
| <i>HIV specific knowledge</i> |                                  |  |
| v754cp                        | Knowledge of condoms             | = 1 if respondent knows that one can reduce chances of AIDS by using condoms during sex; = 0 otherwise                   |
| v754dp                        | Knowledge of sexual partners     | = 1 if respondent knows that one can reduce chances of AIDS by having 1 sex partner with no other partner; = 0 otherwise |
| v754jp                        | Knowledge of mosquito bite       | = 1 if respondent knows that one believes they can get AIDS by being bitten by a mosquito; = 0 otherwise                 |
| v754wp                        | Knowledge on sharing food        | = 1 if respondent knows that one believes they can get AIDS by sharing food with infected person; = 0 otherwise          |
| v756                          | Healthy looking person           | = 1 if respondent knows that a healthy looking person can have AIDS; = 0 otherwise                                       |
| <i>Media variables</i>        |                                  |  |
| v157                          | Frequency of reading newspapers  | = 1 if respondent reads newspaper at least once a month; =2 if at least once a week; = 0 otherwise                       |
| v158                          | Frequency of listening to radio  | = 1 if respondent listens to radio at least once a month; =2 if at least once a week; = 0 otherwise                      |
| v159                          | Frequency of watching television | = 1 if respondent watches television at least once a month; =2 if at least once a week; = 0 otherwise                    |

| <i>Other variables</i> |                        |   |
|------------------------|------------------------|---|
| v107                   | Education level        | Four categories: no education, primary, secondary, and higher education   |
| v190                   | Wealth index           | Five categories (quintiles): poorest, poorer, middle, richer, and richest   |
| v525                   | Age of first sex       | Age person first had sex  |
| v501                   | Marital status         | Three categories: never married, currently married, and formerly married  |
| v769                   | Can get a condom       | = 1 if respondent can get a condom; = 0 otherwise   |
| v130                   | Religion of respondent | Eleven categories: Hindu, Muslim, Christian, Sikh, Buddhist/Neo-Buddhist, Jain, Jewish, Parsi/Zoroastrian, Donyi Polo, Other, and no religion |

### 3.1 Media in Nepal

As globalization continues to spread it is expected that the prevalence of newspapers, televisions, and radios grow. “In mid 2011, Nepal had at least 15 operating TV stations, over 300 radio stations and several hundred newspapers and magazines” (ASAID). The most used media source in Nepal was Radio for both men and women. With a mean of 1.3 for women and 1.4 for men, meaning most of the population listens to the radio at least once a month and with a significant portion listening to it at least once a week. This indicates that the over 300 radio stations reach a large portion of both the rural and urban populations. Newspapers have the lowest mean, suggesting that the wildly diverse languages in Nepal prevent many from accessing them. These figures are shown in Table 2

Table 2

| Variable | Female Data |           |           | Male Data |           |           |
|----------|-------------|-----------|-----------|-----------|-----------|-----------|
|          | Obs.        | Mean      | Std. Dev. | Obs.      | Mean      | Std. Dev. |
| V751     | 12,674      | 0.8911946 | 0.3114072 | 4,121     | 0.9737928 | 0.1597705 |
| v754cp   | 11,295      | 0.8693227 | 0.337062  | 4,013     | 0.9182656 | 0.2739937 |
| v754dp   | 11,295      | 0.924834  | 0.2636707 | 4,013     | 0.9279841 | 0.2585465 |

|        |        |           |           |       |           |           |
|--------|--------|-----------|-----------|-------|-----------|-----------|
| v754jp | 11,295 | 0.5873395 | 0.4923345 | 4,013 | 0.534762  | 0.4988523 |
| v754wp | 11,295 | 0.3459938 | 0.4757122 | 4,013 | 0.2561675 | 0.4365698 |
| v756   | 11,295 | 0.8678176 | 0.3387039 | 4,013 | 0.8873661 | 0.3161842 |
| v157   | 12,674 | 0.518463  | 0.725921  | 4,121 | 0.9968454 | 0.8268784 |
| v158   | 12,674 | 1.305428  | 0.7413291 | 4,121 | 1.472215  | 0.7052282 |
| v159   | 12,674 | 1.238441  | 0.818464  | 4,121 | 1.34215   | 0.7704444 |
| v107   | 7,798  | 3.121826  | 1.907111  | 3,623 | 3.072592  | 1.572815  |
| v190   | 12,674 | 3.117406  | 1.452618  | 4,121 | 3.24727   | 1.451232  |
| v501   | 12,674 | 0.8515859 | 0.6439929 | 4,121 | 0.6869692 | 0.6126083 |
| v130   | 12,674 | 1.298564  | 2.027356  | 4,121 | 1.374181  | 3.053369  |

The use of television (v109) is close to the same rate as Radio for both Men and Women in Nepal, suggesting that it could possibly have a similar range of influence. The lower use of newspapers suggests that aids programing in them will be much less effective than similar programs in radio and television broadcasts. The lower number of television stations suggests that per dollar it might be easier to spread programing over televisions.

### 3.2 Knowledge on AIDS

In this study, there were six variables used to attempt to capture men and women's knowledge on AIDS. They were v751, v754cp, v754dp, v754jp, v754wp, and v756. Only people who had ever heard of AIDs and answered v751 in the affirmative were asked about the questions pertaining to the other variables. This will then allow us to test both awareness of AIDs and specific knowledge. With 89% of surveyed women and 97% of surveyed men having heard of aids we can assume that the knowledge is already widespread in the country, and that the more important goal is increasing knowledge on AIDs prevention. With approximately 50% of both the male and female populations not knowing if mosquitos can transmit AIDs it suggests that there is definitely a lack of accurate information regarding its spread in Nepal(Paoli) Knowledge related to its spread can be found in the variables v754cp, v754dp, v754jp, while beliefs regarding people are more accurately related in v754wp and v756. The variables v754cp, v754dp, and v756 are binary variables with 0 representing an incorrect belief or no knowledge and 1 representing a correct belief. While the inverse is true for the variables v754jp, v754wp. So in the results we should expect to see negative variables on media if it helps to reduce incorrect beliefs. 34.5% of women in Nepal believe that they can get aids from sharing food, this suggests

that the general attitude towards those who are infected is poor, or there could be substantial segregation. It is nice to see that over 80% of the population know that a healthy looking person can have HIV.

### 3.3 Control Variables

These variables were kept the same in all regressions to account for variation in aids related knowledge based upon education, wealth, marital status, age of first sex, and religion. With a mean of approximately 3 for both men and women in Nepal, it suggests that the average person has completed at least their primary education. This means that they have received at least some sexual education. Nepal has a large verity in religion as we can fully see in the standard deviation above 2.

## 4. Empirical Model and Methodology

To understand the relationship between Media and HIV awareness and attitude in Nepal a probit regression was performed for each of the different AIDS awareness and knowledge variable changing the form of media. There was no regression performed for the awareness of AIDS(v751) since 97% of the male population and 89% of the female population had already heard of the disease. So multiple probit regressions were used to estimate the different knowledge variables. “In order to capture the association between knowledge quality and media, we estimate an ordered probit... where the dependent variable is a count variable in which we add the correct responses to all specific knowledge questions. That is, if the sum is zero, the respondent has no specific knowledge about HIV. If the sum is equal to [5], then the respondent has very good specific knowledge about HIV. Hence, moving from zero to [5] represents an increase in the quality in which respondents have about specific HIV-related knowledge questions.” (Agarwal) For my model I would also need to transform the variable of v754jp, v754wp by using their inverse, since they are inversely set up as a binary variable. The next section reports and discusses the results.

## 5. Results and Discussion

### 5.1 Newspapers

Nepal has a literacy rate of 57% for all adults and 85% in 15-24 year-olds, with these moderate rates, newspapers had a significant role in increasing AIDs awareness in Nepal based upon the 2011 DHS survey data. According to the probit model reading newspapers at least once a month is associated with a 21.6% in males and a 23.4% in females better understanding of AIDS across all awareness criteria. For females there was a 32.3% increase in their understanding of limiting to a single sexual partner if they read the newspaper once a month. Females also showed a 29% increase in their knowledge that sharing food cannot spread AIDs if they read at least once a month. For males there was a 25% increase on knowledge on if sharing food could spread AIDs, and also if a healthy looking person can carry the disease if they read the newspaper at least once a month. Amongst Nepalese men and women reading the newspaper at least once a month is associated with a greater than 20% increase in knowledge relating to AIDs along with a reduction in the stigma associated with it, as seen by the large increase in awareness of the diseases inability to spread through food. The other variables individual percentages can be seen in Table 3.

Table 3

|            | Female   |          |          |          |          |        | Male     |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|--------|----------|----------|----------|----------|----------|----------|
|            | v754cp   | v754dp   | v754jp   | v754wp   | v756     | Sum    | v754cp   | v754dp   | v754jp   | v754wp   | v756     | Sum      |
| Newspaper  | 0.235744 | 0.323136 | 0.183902 | 0.290573 | 0.135132 | 1.1685 | 0.187161 | 0.19236  | 0.195927 | 0.258424 | 0.250383 | 1.084255 |
| Radio      | 0.158203 | 0.229654 | 0.024723 | 0.116736 | 0.04839  | 0.5777 | 0.155131 | 0.203292 | 0.072479 | 0.052017 | 0.116451 | 0.599369 |
| Television | 0.121919 | 0.080743 | 0.029971 | 0.091657 | -0.0192  | 0.3051 | 0.081816 | 0.061643 | 0.029492 | 0.047216 | 0.038153 | 0.258319 |

## 5.2 Radio

Radio presents a possibility for a much larger range of access than Newspapers in Nepal, partially since its consumers do not need to be literate, but it also faces a possible problem for widespread use. Nepal is a mountainous country with a large portion of the country in the Himalayan foothills, this mountainous terrain would lower the broadcast range of the close to 300 certified radio stations in the country. Also, the variety of different languages could present another problem. At the same time the limited range of radio stations in the country could provide a source that is presented in their dialect, and is relevant to their tribe. Furthermore, radios require significantly less electricity to run than a television, thus they are more prevalent in the mountains and foothills where villages have limited electricity.

With these considerations, it is still impressive that for both men and women listening to the radio at least once a month is associated with close to a 12% increase in AIDS knowledge and reduction in stigmas across all categories. There were a few notable exceptions. Again, there was a 20% or greater increase in knowledge about limiting yourself to a single sexual partner reduces your risk of infection in both men and women. There were a few notable underperforming categories for each sex. Only 2% of women and 7% of male radio listeners were know that mosquito bites cannot spread HIV. Also, only 4.8% of women radio listeners know that a healthy-looking person can have AIDS. Men who listened to radio at least once a month were only 5% more likely to know that one cannot get aids from sharing food. The other individual variable coefficients can be found in Table 3.

### 5.3 Television

Television has seen a massive increase in viewership globally, but has “arrived late in Nepal, but it is now the main source of broadcast news and entertainment in urban areas. The reach of television in rural areas is limited by the availability of electricity. Where an electricity supply exists, most households own a TV set, even in relatively poor areas. But overall, radio still dominates broadcasting in the countryside.” (ASAID, p63) There is also a large amount of western programing available for satellite and cable consumers. This means that there will be more sexually liberated programs showing women having more autonomy. Television has provided the worst improvement in HIV awareness and knowledge in Nepal. Women who watch at least once a month are only 6% more knowledgably about Aids, and men are only 5%

Television was actually the only media source to have a negative impact on HIV perceptions in Women, that are 1.9% less likely to believe that a healthy-looking person can have aids. Though this is less than the standard error of 3.6% for this variable. For men this is also the only regression to have a standard error value larger than its percentage change. Overall television is the worst performing of all of the media variables, and that is likely do to its consolidated use in the cities.

## 6. Conclusions

The results illustrate the effect that the media can have on Aids awareness. This being a second study looking at the effect of media on awareness there were expectations that television

would be the most effective at increasing awareness in the population. The fact that television is newer to Nepal than India, and unlike India is localized to urban locations explains why it is less effective. Nepal having a higher literacy rate explains why newspapers were massively more significant in both the male and female populations. Furthermore, radio was more effective than television since it was also used by both rural and urban populations like newspapers. Also, a factor to consider is that newspapers are a more durable good than can be carried by porters to even the most remote regions, where there is no electricity for radios or televisions.

Previous studies have looked at similar questions in India. Those studies mentioned that it could be informative to hold all socioeconomic variables constant to investigate the effect of media on general sexual tendencies as well as looking how HIV knowledge plays into those tendencies. It could be beneficial to repeat this study and separate the data further and look at how the media's effectiveness varies between urban and rural setting. This would be very effective since it would allow a more direct comparison with a study conducted for India.

More studies would be possible if a series of questions were added to the DHS survey. The proposed questions would deal with new media and access to the internet. There are a significant number of internet cafes in some of the more remote areas. The presence of these cafes allows people to access more global news as well as interact with relatives who have moved/ migrated for work.

Unlike in India, Nepal has a greater gain in understanding of Aids from newspapers and radio due to its more remote nature. There is still a large portion of the population that has incorrect ideas on the spread of HIV/Aids and further studies can help to reveal how to inform that portion of the population.

## Works Cited

- Agarwal, Smriti, and Pedro De Araujo. "Access to Media and HIV Knowledge in India." *Economies* (2014): 124-46. MDPI. Multidisciplinary Digital Publishing Institute, 18 June 2014. Web. 14 Mar. 2017.
- ASAIID, ed. "Federal Democratic Republic of Nepal Media and Telecoms Landscape Guide." (n.d.): n. pag. May 2011. Web. 2 May 2017.
- "HIV/AIDS | Nepal." *U.S. Agency for International Development*. N.p., n.d. Web. 2 May 2017.
- "HIV/AIDS in Nepal." *World Bank*. N.p., n.d. Web. 2 May 2017.
- Learning, UNESCO Institute for Lifelong. *Effective Literacy Programmes* . N.p., 07 Sept. 2016. Web. 15 May 2017. <<http://litbase.uil.unesco.org/?menu=1>>.
- Ministry of Health and Population - MOHP/Nepal, New ERA/Nepal, and ICF International. *Nepal: DHS, 2011 - Final Report (English)*. Rep. N.p., 01 Jan. 2011. Web. 3 May 2017. <<http://dhsprogram.com/publications/publication-fr257-dhs-final-reports.cfm>>.
- "." *National Intelligence Council: The Next Wave of HIV/AIDS*. N.p., n.d. Web. 14 May 2017.
- Paoli, Julia. "Why Can't Mosquitoes Transmit HIV?" *Nature News*. Nature Publishing Group, n.d. Web. 16 May 2017. <[https://www.nature.com/scitable/blog/viruses101/why\\_cant\\_mosquitos\\_transmit\\_hiv](https://www.nature.com/scitable/blog/viruses101/why_cant_mosquitos_transmit_hiv)>.
- Plathe, Ax. "Assessment of Media Development in Nepal." *The International Programme for the Development of Communication* (n.d.): n. pag. United Nations. Web. 10 May 2017. <<http://unesdoc.unesco.org/images/0022/002254/225486e.pdf>>.
- "The Situation of HIV/AIDS in Nepal." *Global Conversation*. N.p., n.d. Web. 2 May 2017.