Research Article

The effectiveness of behavioral change communication (BCC) program to change HIV/AIDS-related behaviors on construction workers

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Abstract

Background: Health education remains the main measure to prevent and control HIV/AIDS particularly in low resource setting. Among vulnerable groups, construction workers are one of the high-risk group infected by this virus. This research was conducted to investigate the construction workers' behavior before and after the intervention behavioral change communication (BCC) to explore the influencing factors of the high-risk behaviors.

Objective: To test the effectiveness of BCC to change the behavior of construction workers toward HIV occurrence.

Materials and Methods: The methodology that guided the study was operational research. Sampling was purposeful and consisted of 150 construction workers. The data were collected in questionnaire; the analysis were performed using correlational statistical test. Internal motivation, external motivation, and knowledge, attitude, and practice of construction workers were tested.

Result: Construction workers showed less knowledge, positive attitude, and less practice toward the risk of HIV transmission. Spearman correlational test showed a low correlation between internal motivation and utilization behavior-related HIV. On the other hand, external motivation showed a sufficient correlation toward utilization behavior-related HIV. Stakeholders concerned with HIV program also reveal that construction workers belong to the vulnerable groups.

Conclusion: The result of this study calls for further intervention in supporting minority group such as construction workers to develop program that support them to become less-vulnerable population. BCC can be an exit way to reach this group by coordinating with local stakeholder to implement this program.

KEY WORDS: Construction worker, HIV, BCC

Introduction

The East Java province showed higher prevalence of with AIDS. On the basis of data from East Java Health Office, 2011, the number of HIV-infected people in East Java province until September 2011 reached 11.069 (40%) for HIV-positive cases and 5.091 (18.8%) for patients with AIDS. On the basis of the prevalence AIDS, East Java was ranked fourth after DKI Jaya, West Java, and Papua. A percentage of the number of cases of HIV/AIDS based on the types of jobs in East Java in 2011 suggests that construction workers held the second ranking of the top five groups with a total of 249 people (31%), after commercial sex workers group (PSK).[1]

The initial survey by the researcher in December 2011 showed the area distribution of the 50 construction workers in Surabaya (randomly selected) to be 12% from Surabaya, 62% from outside the city of Surabaya in East Java areas, and 26% from Central Java. The frequency of the construction workers

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meeting their family were as follows: 36% once in every 2 week; 26% once in a month; and 16% in more than a month. On our initial survey data also revealed that as much as 44% of construction workers said they never got information about HIV and are also not able to access information from the mass media because it was not available in the workplace. Three of the workers reported deaths of their friend because of AIDS. On the basis of our observations, from the seventh place construction workers, there were two stalls located around the workplace of construction workers who provide female sexual workers (WPS) to peddle on the construction workers. These data indicate that the workers are also vulnerable to HIV because of exposure to the situation and conditions in the environment where they work. The workers require not only information about HIV but also mentoring to change their behavior so that there is no exposure to HIV or to access HIV services if the commit behavior is at risk.

One of the efforts that have been made in lowering the number of people from being infected with HIV/AIDS is prevention and education against the disease for groups at risk. To support programs that have been undertaken by both the government and the private sectors, one solution is to use the approach to behavioral change communication (BCC). BCC is an interactive process with the community (as integrated with the overall program) to develop a message that should be adjusted using different approaches and goals of communication channels to develop a positive behavior; promote and maintain change in individual behavior, community, and society; and maintain appropriate behavior.[2]

In the context of the AIDS epidemic, the BCC is an important part of a comprehensive program that includes services (medical, psychological, social, and spiritual) and commodities (such as condoms and syringes). Before the risk level reduction or behavioral change in individuals and communities, first, they must be aware of fundamental facts about HIV and AIDS, adopt the approach of key, acquire a set of skills, and gain access to proper products and services. They must also see their neighborhoods as supporting behavior change and maintenance of safe behavior and supporting the right to seek treatment for the prevention, care, and support.

Behavior change is an interactive process for developing a message that has been prepared and employ a variety of communication approaches to develop a positive behavior: increase and sustain individual behavior change, community, and maintain good behavior.[3] When considering AIDS epidemic, behavioral change is an essential part of a all-inclusive program that covers all services and commodities. Before the risk level reduction or behavioral change in individuals and communities, first, they must be aware of fundamental facts about HIV and AIDS, implement good behavior, and learn a skill that can produce products and services. They must also accept their surroundings that provide support, maintain safe behavior, such as support, and seek appropriate action for prevention, care, and support. This is a form of strategic orientation and communications group to view the desired changes in the behavior of the target group.

Objective

The specific aim was to test effectiveness of BCC to change the behavior of construction workers toward HIV occurrence.

Materials and Methods

An operational research was done to understand the effectiveness of BCC in changing human behavior. Operational research is closely connected with the operational activities of behavior change in the construction workers. This research was conducted on the effectiveness of behavioral change in the construction workers toward the prevention of HIV transmission, that is, by comparing the behavior of the construction workers before and after the intervention. Internal validity of this research has been considered through several steps: first, using standardized BCC intervention from FHI, and second, all researcher received training on BCC. External validity of BCC have been reported by other studies as shown in BCC guideline.[4]

Participants and Settings

Different study design need different method of sample size.[5] Respondents were recruited by purposive sampling method,[6] with 150 construction workers included this study. The inclusion criteria were that works as construction workers and live separated from the family. Recruitment was carried out on three places that were doing development on a large scale with the number of laborers more than 50 people to increase the power size. The participants were contacted through their office to inform the purpose of the study. Upon accepting the invitation, the potential respondents were given oral and written information about the study, and after the consent signed, an appointment was scheduled for an intervention.

Data Collection

Data collection included the use of individual questionnaire. The interview duration ranged from 15 to 30 min. The interviews were audiorecorded, transcribed verbatim, and validated by relistening to the record. After data collection was done using questionnaires and interviews with the respondents, focus group discussion (FGD) that discusses the improvements to HIV–AIDS prevention programs on a group of construction laborers with stakeholders was conducted. The second year of the study focused on the results of BCC intervention; therefore, we did not describe the steps on BCC.

Data Analysis

For quantitative part, the data were analyzed using correlational statistic (Spearman rho), and for qualitative part, data from the FGD were collected and then processed using the thematic analysis using six stages.[7]

Ethical Considerations

Ethical clearance was approved by the Health Ethics Committee, Airlangga University Surabaya. Respondents were informed that the study was voluntary and that they could withdraw at any time without permission. All participants provided informed consent. They were assured of the confidentiality and anonymity of their data, and all the data related to this research can only be accessed by the researchers.

Result

A total sample of 150 construction workers were included from the three sites of construction places of giant projects around Surabaya.

According to Table 1, the majority of the construction workers were 18–35 years old, which is categorized as productive age. Majority of them revealed the level of education to be junior high school and senior high school.

According to Table 2, it can be seen that the results of statistical tests using Spearmen rho with significance value $p = 0.000$, less than specified, that is, <0.05 (H1 accepted), and 0.480 correlation values obtained enough category.

According to Table 3, it can be concluded that the results of statistical tests using Spearmen rho with significance p value = 0.011 and $r = 0.358$ correlation values obtained low correlation strength category.

Discussion

On the basis of the data obtained, most of the respondents were at productive age (18–35 years). The risky behavior of HIV transmission of the workers impact not only them but also

Table 1: Demographic data of the respondents

Demographic data	Number (%) in A site project	Number (%) in B site project	Number (%) in C site project
Age (years)			
<18	1 (2)	3 (6)	28 (56)
18–35	36 (72)	36 (72)	15 (30)
36–55	12 (24)	9 (18)	4 (8)
>55	1 (2)	2 (4)	3 (6)
Origin place			
Surabaya	10 (20)	46 (92)	30 (60)
Outside of Surabaya	90 (80)	4 (8)	20 (40)
Level of education			
Elementary school	10 (20)	10 (20)	16 (33)
Junior high school	21 (43)	17 (34)	20 (41)
Senior high school	17 (35)	20 (40)	7 (13)
University degree	1 (1)	3 (6)	7 (13)
Others	1 (1)	0	0
Number of family			
0–1	20 (40)	20 (40)	25 (50)
2–3	21 (41)	21 (41)	19 (39)
≥4	9 (19)	9 (19)	6 (11)
Salary			
<UMR	34 (68)	34 (68)	38 (75)
UMR	10 (19)	10 (19)	8 (15)
>UMR	6 (13)	6 (13)	4 (10)
Health insurance			
Has insurance	24 (47)	24 (47)	28 (55)
No insurance	26 (53)	26 (53)	22 (45)
Source of information			
Never had before	13 (26)	18 (36)	20 (40)
Mass media	31 (62)	26 (52)	26 (52)
Health education	3 (6)	3 (6)	4 (8)
Health personnel	2 (4)	3 (6)	0
Others	1 (2)	0	0

UMR, regional wage salary.

Table 2: The relationship between external motivation and utilization of HIV services

External motivation	Utilization of HIV/AIDS services				Total	
	Yes		Never			
	n	%	*n*	%	*n*	%
Strong	19	38	6	12	25	50
Weak	7	14	18	36	25	50
Total	26	52	24	48	50	100

Spearmen rho, $p = 0.000$, $r = 0.480$.

Table 3: The relationship between internal motivation and utilization of HIV services

Internal motivation	Utilization of HIV/AIDS services				Total	
	Yes		Never			
	n	%	*n*	%	*n*	%
Strong	19	38	9	18	28	56
Weak	7	14	15	30	22	44
Total	26	52	24	48	50	100

Spearmen rho, $p = 0.011$, $r = 0.358$.

their family and the community. According to Social Learning/ Social Cognitive Theory, behavioral change is determined by environmental, personal, and behavioral elements. Each of these factors interplay with one another. Environmental factors in this case are the place of working of construction laborers and not available of place to settle commercial sex workers near the region of localization or around their workplace. The study also found that the stalls provide commercial sex workers; so, the laborers were exposed by the risky behavior of contracting HIV.

Age factor is also important in determining a person's attitude. The study showed that the higher age of the respondents was related to positive attitude toward risky behavior of contracting HIV and willing to use HIV–AIDS services after a risky factor. However, a small proportion showed negative attitude even with increasing age: that is, negative attitude toward risk behavior and HIV transmission and not willing to use HIV–AIDS services after a risky behavior.

Respondent who were married showed a strong internal motivation in behavior and use of HIV–AIDS services available. According to the theory of reasoned action of individual states, "consider the consequences of behavior that applied prior to the new behavior." The results of this research were in accordance with the theory that the married respondents revealed strong internal motivation not to involve in risky behavior of contracting HIV. However, few married respondents revealed weak internal motivation that lead them to behavioral risk of HIV transmission. This condition is one of the main causes of HIV transmission that continues to increase in the family domain. Factors that affect the behavior of which is also very educational because fragile and lack of information regarding HIV-AIDS problem.

Most of the respondents came from outside Surabaya city and can meet their family only once in a month. The respondents work outside the city in order to fulfill the responsibility as the head of the family and to meet the needs of the families. Moreover, economic factors play a vital role as the reason for them to meet their family only once in a month. High mobility means a prolonged period away from couples and families, isolation, loneliness, access to alcohol (and other drugs), and access to sex workers, which is a factor supporting sexual behavior risk that endangers worker, spouse and his family.[8] Construction laborers are one of the sectors of the work, which goes into the category of migrant mobile population, which often move and settle somewhere, away from couples or families, and are generally ill-informed about HIV/AIDS.[9] Increased risk for HIV infection in a population migration has been associated with increased risk associated with sex. The research results showed that respondents with frequency of home visit once in a month possess weak internal and external motivations and so indulge in the risky behavior of contracting HIV. To change the behavior of the laborers in such situations, we can use the approach of social learning/ social cognitive theory; behavioral change is determined by environmental, personal, and behavioral elements. Each of these factors interplay with one another. The laborers must

be given relevant information problems if infected with HIV and helped to be able to access the services of HIV–AIDS. The amount of distribution of external motivation in building workers with strong and weak indicators were the same. Motivation is the state of a person who somebody encourages the desire of that individual to specific activities to achieve a goal. Motivation is psychological issue in a person that arises owing to the urge to meet the needs of a particular desire.[10]

The majority of respondents showed that they can benefit from HIV/AIDS-related services if their external motivation increases to seek help from the HIV/AIDS services after they indulge in risk behaviors. External motivation is an activity performed to obtain a certain result but is separate from the activity itself, for example, to get rewards and avoid punishments and improve self-esteem.[11] Other factors related to the external motivation are the desires to get help in solving problems, share the experience, perform consulting, and get support if HIV-positive diagnosed.

The results showed that the majority respondents never experienced free sex behaviour. The results of a research in Malawi explains that the majority of clients are motivated to come to the HIV/AIDS services when influenced by the perception of the risk of HIV infection/AIDS behavioral risk.[12] One possibility that may be stated to have a powerful vulnerability to HIV/AIDS is such individuals who possess a history of behavior at-risk for HIV/AIDS transmission.[13] The existence of 10 respondents who never done free sex can affect other building workers to follow the behavior that is at risk for HIV/AIDS. Role of the peers or peer group is important in the formation of a person's behavior.[14] The influence of HIV/AIDS risk behaviors can be affected because of the prevalence of conditions such as far from family and development projects underway would take long time to complete.

Conclusion

The overall knowledge, attitude, and practice of construction workers were less sufficient to protect them from HIV transmission. This situation put them as a vulnerable group to get infected by HIV. Internal and external motivations of construction workers were less to utilize any resources to prevent HIV transmission.

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