International Journal of Physical and Social Science
Vol. 8 Issue 11, November 2018
ISSN: 2249-5894 Impact Factor: 6.644
Journal Homepage: http://www.ijmra.us, Email: editorijmie@gmail.com
Double-Blind Peer Reviewed Refereed Open Access International Journal - Included in the International Serial Directories Indexed & Listed at: Ulrich's Periodicals Directory ©, U.S.A., Open J-Gage as well as in Cabell's Directories of Publishing Opportunities, U.S.A

INFLUENCE OF PHONE TRACING ON RETENTION AMONG PEOPLE LIVING WITH HIV/ AIDS IN MBITA SUB COUNTY HOSPITAL, HOMABAY COUNTY, KENYA

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Abstract.

The aim of this study was to assess the influence ofphone tracing on retention among PLHIV in Mbita Sub – County Hospital in order to help policy makers and program managers address the challenge of patient retention in ART programs. The target population was PLHIV who are enrolled on ART in the 12-month cohort of 2016 accessing care at Mbita Sub – County Hospital and involved 75 participants. The research design was descriptive survey, in which data was collected through questionnaires. Participants was obtained through purposive sampling from the 2016 -12-month cohort and the simple random sampling technique was used to ensure all members in the sampling frame have an equal chance of being included in the sample.Descriptive statistics was employed as the method for data analysis, since data collected would be based on the questions generated from both qualitative and quantitative information. Datawas thenanalyzed with the help of the Statistical Packages of Social Sciences (SPSS) package. The data was edited, coded, classified and presented as frequency and percentage distribution to examine the relation between the independent and dependent variables. A narrative explanation was also offered in addition to the analyzed data. The findings indicated that Phone tracinginfluences retention among people living with HIV/AIDS. The hospitalmanagement should sensitize the HCWs on the effects of phone tracingon retention among people living with HIV/AIDS. This can be done through seminars that will educate them on the advantages of phone tracing. This study only focused on the influence of phone tracing on retention among people living with HIV/AIDS; phone tracingso another study should be done on other strategies.

***Key words: Phone Tracing, retention, People Living with HIV/AIDS.**

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Introduction.

Kenya is one of the four HIV 'high burden' countries in Africa – about 1.5 million people were living with HIV infection at the end of 2015(Kenya HIV County Profile 2016). The epidemic is geographically diverse, ranging from a high prevalence of 26 percent in Homabay County in Nyanza region to a low of approximately of 0.4 percent in Wajir County in North Eastern region. The high burden of HIV and AIDS in Kenya accounts for an estimated 29 per cent of annual adult deaths, 20 per cent of maternal mortality, and 15 percent of deaths of children under the age of five. The epidemic has also negatively affected the country's economy by lowering per capital output by 4.1% (Kenya HIV County Profile 2016).

The programmatic cohort analysis conducted in 2014 in Kenya showed that the overall retention of patients on ART has declined over the years. As end 2014, 689,155 adults were receiving ART and currently there are over 780,000 PLHIV on treatment with an overall treatment coverage of 52% ART retention at 12 months in 2011 was estimated at 92%, while retention over the same 12 months in 2013 declined to an average of 76%.

HIV prevalence in Homabay County is nearly 4.5 times higher than the national prevalence at 26.0% (Kenya HIV Estimates 2015). Homabay County contributed to 10.4% of the total number of people living with HIV in Kenya, and is ranked the second highest nationally. Approximately 548 children and 2,759 adults died of AIDS-related conditions in 2015 (Kenya HIV County Profile 2016). For patients already on ART, retention is required for optimal clinical outcomes. The national HIV programming revolves around the 90 – 90 – 90 strategy which entails that 90% of the population are identified as HIV positive, 90% of those identified are linked to ART and retained while 90% of those on ART achieve complete viral suppression (UNAIDS 2014).However, there are still challenges in retaining clients on ART in Mbita Sub County Hospital located in Homabay County. There was a worrying decreasing trend in retention rates from 96% in 2014 to 78% in 2015 and to 77% in 2016 (Kenya DHIS, 2014, 2015, 2016).

Statement of the Problem

Mbita Sub – County has a HIV prevalence rate at 23% against the national prevalence rate of 26% (Kenya HIV Estimates 2015). For patients who have started ART in Mbita Sub – County

Hospital, the retention rate in 2014 was 96%, followed by 78% in 2015 and 77% in 2016 (Kenya DHIS). This decline clearly indicates that there is a challenge in retaining clients in ART which is a pressing public health issue since it affects multiple populations in the region. Besides, the decline goes against implementation of the 90 – 90 – 90 strategy and the goal of achieving epidemic control by the year 2030.

The effectiveness of ART is directly related to patient adherence to medications which requires a continuous relationship with a health care provider whether with a single practitioner or with a clinic-based team. However, Failure of retention has led to medication cessation and once interrupted, the effects of ART have rapidly reversed and additional harms have accrued through the emergence of drug resistant mutations which if spread to the general population, will limit future drug options and hence increase mortality rate (Horstmann et al., 2010). Therefore, this study sought to assess the influence of phone tracing on retention among people living with HIV/AIDS in Mbita Sub County Hospital, Homabay County, Kenya.

Research Objectives

The study sought to achieve the following specific objective

Specific Objective

To assess the influence of phone tracing on retention among people living with HIV/AIDS in Mbita Sub County Hospital, Homabay County, Kenya.

Information – Motivation - Behavior skills (IMB) Model

The IMB model originally proposed by Fisher and Fisher (1992) as an AIDS risk reduction model has since been utilized to intervene across diverse populations and complex health behaviors including HIV prevention for positives by Cornman (2008) and ART adherence (Fisher et al., 2011). The IMB model proposes a relationship between three main behavioral determinants that predict the target health behavior (e.g., retention in HIV care) and subsequent health outcomes (e.g., viral suppression). As outlined by Fisher and Fisher (2003), these behavioral determinants are information, motivation, and behavioral skills.

Information is comprised of accurate and inaccurate information regarding the health behavior in question and cognitive heuristics individuals use to guide their decisions to engage or not engage in the health behavior. Motivation includes both personal attitudes and beliefs about the behavior as well as the perceived social norms about engaging in or not engaging in the behavior. Behavioral Skills reflects both the objective skills and/or perceived self-efficacy to enact the behavior over time and across different situations.

It is hypothesized that these three determinants predict the behavior at focus as indicated by direct paths from each other; I-, M-, and B-construct to the target health behavior when the health behavior is relatively simple to enact. However, for more complex health behaviors, such as retention in HIV care, it is hypothesized that the direct paths from information and motivation to the health behavior are mediated by one's level of requisite behavioral skills.

The IMB model further posits that the engagement (e.g., successful retention in care) or non-engagement (e.g., poor retention in care) of the behavior will result in subsequent health outcomes that are expected to feed back into the I-M-B- related processes over time. For example, engaging in the behavior "successful retention in HIV care" should result in improved physical health outcomes (i.e., suppressed viral load, improved CD4 counts, better management of other chronic comorbidities) over time. This improvement in health would then reinforce an individual's HIV care information and heuristics as being accurate, facilitate positive attitudes and beliefs towards—and social reinforcement from providers and close others for attending care.

In terms of retention in HIV-care, the IMB model specifies that an individual's level of relevant information, motivation, and behavioral skills will determine his or her level of retention in care. Specifically, when an individual is well informed about HIV-care benefits and procedures, and is motivated to attend care within the recommended intervals, they enact critical skilled behaviors which result in retention in care per se. Deficits or weaknesses in information, motivation, and/or behavioral skills will result in poor retention in care, which will likely result in poor viral suppression and other suboptimal health outcomes.Interventions for poorly retained HIV positive patients that address these deficits in the core IMB determinants should generally increase

retention in HIV care (Amico, 2011). Alternatively, patients may be well-informed and well-motivated, but in the absence of critical behavioral skills, such as how to remember their clinic appointments, they will be less likely to achieve or sustain high levels of retention.

While it is predicted that these inter-relations between Information, Motivation and Behavior apply to retention in care, for most individuals under most conditions, the model also predicts that certain moderating factors, such as acute depression, homelessness, may alter the magnitude of the proposed relations between information, motivation, and behavioral skills.

Phone Tracing

Mobile telephones have transformed telephone communications dramatically in resource limited settings. In Kenya, mobile phones penetration has reached over 60% and Africa has the highest rate of new uptake in the world (Lester et al, 2006).The reach of cellular networks among HIV infected persons may be even higher than the general African population since both HIV and wireless network coverage are preference to areas of higher population densities such as urban areas and transport routes.

Currently, mobile phones are used intensely in personal lives and business transactions in the region. Structured mobile phones communications can substantially improve clinical management of HIV patients in resource-limited settings (Lester et al, 2008).

In a separate randomized trial in the United States, a structured telephone counseling intervention did improve adherence to HAART and there was a trend toward improved clinical outcomes (Reynolds et al, 2008). The benefits of mobile telephony in resource limited settings may be greater than in countries with developed economies, since they are more widely used in management of daily life activities, and mark a great contrast to pre-mobile phone era communication infrastructures.

In studies done by Asangansi et al, 2010, Mobile technology is increasingly used to promote health and prevent disease. Mobile health (mHealth) is the use of mobile phone technology to deliver health care. Mobile phone technologies that have been utilized for mHealth include, but

are not limited to, text messaging, video messaging, voice calling, and Internet connectivity. mHealth innovations have been developed that address an array of issues such as improving the convenience, speed, and accuracy of diagnostic tests; monitoring chronic conditions, medication adherence, appointment keeping, and medical test result delivery; and improving patient-provider communication, health information communication, remote diagnosis, data collection, disease and emergency tracking, and access to health records. For example, in South Africa, Project Masiluleke uses text messaging to increase rates of testing for tuberculosis and HIV and to provide counseling for patients.Another project in the United States uses mobile video messaging to deliver soap operas that model HIV prevention messages for young women. mHealth has been used because it offers interactive 2-way communication, which provides a wide range of opportunities from improving self-monitoring for those with chronic diseases to improving public health infrastructure in rural areas.

Text messaging is a short form of communication transmitted between mobile phones on a bandwidth lower than that of a phone call, and it is usually limited to 160 characters. An estimated 98% of cell phones worldwide have text message capabilities, but text messaging usage rates vary by age, culture, and country. However, rates of text messaging vary by region and country. Even among countries with the highest usage, rates vary from as high as 89% in Mexico to 48% in India. Furthermore, users of this technology tend to be high-frequency users, optimizing its use as a way to initiate behavior change. For example, 30% of South Korean teens send an average of 100 messages per day. In the United States, where 89% of teens use text messaging, the monthly average number of text messages sent and received is 2,899.

Text messaging demonstrates strong potential as a tool for health care improvement for several reasons; it is available on almost every model of mobile phone, the cost is relatively low, its use is widespread, it does not require great technological expertise, and it is widely applicable to a variety of health behaviors and conditions. Text messaging also has the advantage of being asynchronous because it can be accessed at any time that is personally convenient. Furthermore, even if a phone has been turned off, messages will be delivered when the phone is turned back on. Additionally, text messaging is a mHealth innovation for which utility remains even in resource-poor settings in which people may not have access to expensive technology.

There is also evidence of the benefits of periodic prompts and reminders as stand-alone interventions for health behavior. This information, coupled with evidence of the benefits of mobile phones as an inexpensive, personal, efficient, and widely accessible way to intervene on health, provides a very strong rationale for extending research on text messaging to medication adherence, especially in the context of global diseases such as HIV. It is also of note that only one of the studies in this review was conducted in a developing country, which is alarming. Developing countries could arguably benefit most from such an inexpensive method of health promotion that builds upon existing infrastructure. Given that cell phones are frequently used in developing countries, this finding suggests that technology is being adopted at a much quicker rate than development, implementation, and assessment of disease prevention programs based on that technology. This gap between the literature and global field practices can lead to missed opportunities for learning about and improving text messaging as a tool for behavior change.

Text messaging is a tool that has value to both researchers and practitioners, and use of these technologies may facilitate more active collaboration between research and clinical practice. Given the positive results so far, and the increasing uptake of mobile technologies, text messaging may improve existing practices and interventions. This research agenda should be approached with urgency; text messaging may be an important tool to reduce the global burden on health care by providing more effective disease prevention and management support.

RESEARCH DESIGN AND METHODOLOGY

Research Design

A research design can be regarded as an arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance with the research purpose. It constitutes the blue print for collection, measurement and analysis of data (Kothari, 2003).

The research design to be employed for the study was descriptive survey. This design is appropriate for the study as it enables the collection and analysis of both quantitative and

qualitative data. Descriptive survey is a method of collecting information by interviewing or administering a questionnaire to sample of individuals. According to Orodho (2004) descriptive survey design allows researchers to gather information, summarize, present and interpret for the purpose of clarification. He further states that the design can be used when collecting information about peoples; attitude, opinions, habits or perceptions on various social issues. This design was appropriate for this study for it helped the researcher obtain information from the PLHIV within the study area, by describing, and interpreting the variables, thus bringing out the conditions or the relationship that exists between them.

Sample and Sampling Techniques

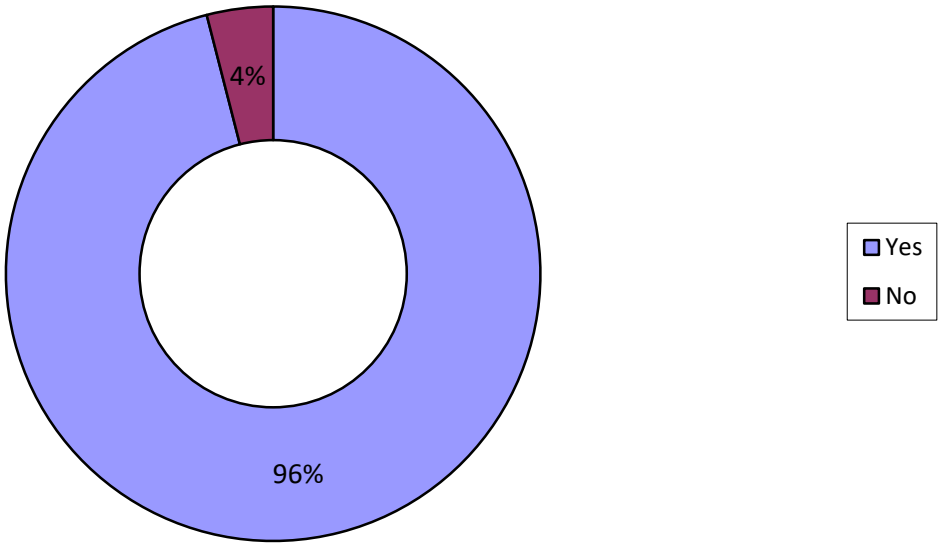
Sample can be defined as manageable version of a larger group or populace selected for data collection to generate estimates on behalf of the whole population (MacCallum, 2016).

The sample size for the study was selected basing onMugenda and Mugenda (2003), when the study population is less than 10,000 a sample size of between 10% and 30%is a good representation of the target population hence 10% is adequate for analysis in this study(Mugenda & Mugenda, 2003).The study Population of PLHIV within the 12-month cohort = 376 so 20% of 376 = 75. Therefore, a sample size of 75 PLHIV accessing ART at Mbita Sub County Hospital and an additional 5 Health Workers were interviewed. Sampling is necessary in research because a researcher usually cannot gather data from the whole population, therefore taking a sample that represents the population saves the researcher resources in terms of time and money.

Sampling techniques refers to the procedure to be used by the researcher to select the sample to be engaged for the study. The study employed random sampling procedure, where the respondents were selected from the 12 month cohorts of 2016 as documented in the ART Cohort Register. To reduce bias in sample selection, the respondents were proportionately allocated (for purposes of representativeness), where each month within the year 2016, producedabout 6 PLHIV to be interviewed as respondents. Otherwise, 5 Heath Care Workers based at the CCC were purposively chosen and interviewed, using an interview schedule.

Influence of Phone Tracing on Retention among PLHIV

The study investigated the influence of phone tracing on retention among PLHIV by probing from respondents if they had access to a mobile phone and the preferred mode of communication. The study examined the number of times contacted to remind one for clinic appointment and their opinion concerning phone tracing of clients that miss their appointments.



Respondents having access to a mobile phone

Majority (96%) of the respondents agreed that they had access to a mobile phone while (4%) disagreed. This means that the clients have mobile phones and therefore can be traced can be easily traced by the officers. The health workers indicated that they understood what retention meant. Interview 1 was quoted saying;

"Retention is basically ensuring all the clients enrolled in the facilities are not lost and can be accounted for. It is the act of enrolled clients being able to maintain care to live long and keeping of clients active in care and treatment."

Programme attrition can be reduced through active tracking of patients on ART who miss visits and by developing a strategy for their return to care (Rosen et al. 2007). Early active follow-up of patients can improve retention in treatment and programme outcomes. ART programmes should invest into obtaining accurate, complete and up to date patients' addresses to reduce the numbers of patients LTFU after tracing.

Preferred mode of communication

	Frequency	Percent
Phone call	48	78.7
Text messages	13	21.3
Total	**61**	**100.0**

Majority 48 (78.7%) of the respondents indicated that the preferred mode of communicationwas phone call while 13 (21.3%) indicated the preferred mode of communication to be through text messages.

Text messaging demonstrates strong potential as a tool for health care improvement for several reasons; it is available on almost every model of mobile phone, the cost is relatively low, its use is widespread, it does not require great technological expertise, and it is widely applicable to a variety of health behaviors and conditions. Text messaging also has the advantage of being asynchronous because it can be accessed at any time that is personally convenient. Furthermore, even if a phone has been turned off, messages will be delivered when the phone is turned back on. The health worker highlighted their various roles in retention among PLHIV. They indicated that their role was giving treatment, appointment management and leading the team in tracing the clients physically. Interview 2 was quoted saying;

"My role is to treat as a health care worker and do referral and linkage to our clients. I also do tracing and home visit to our clients. Phone calls are very quick and responsive source of communication"

Number of times contacted to remind one for clinic appointment

Number of times contacted	Frequency	Percent
0	5	8.2
1	15	24.6
2	18	29.5
3	23	37.7
Total	**61**	**100.0**

A large number 23 (37.7%) of the respondents indicated that they had been contacted three times to remind them for clinic appointment while 18 (29.5%) had been contacted twice. A few 15 (24.6%) of them had been contacted once while 5 (8.2%) had never been contacted. The health workers highlighted various mechanisms they use to motivate PLHIV to keep clinic appointments. Some included serving their clients with dignity and respect and management of time to their clients so that delays are minimized; Interview 5 said.

"I give more days and use of short messaging system. I also concentrate on how services are offered to them in the turnaround time. Phone tracing is a one to one conversation may enhance confidentiality since it doesn't require more people to take part."

Opinion concerning phone tracing of clients who miss their appointments

The health workers indicated thatphone tracing was effective for PLHIV as a strategy to improve retention. They indicated that it is effective since phone tracing acts as a reminder to their clientsand ensures that the information reaches the intended person. It also helps reach many people at a short period of time and is cost effective and sustainable.

The PLHIV respondents who were enrolled on ART in 12 month cohorts (2016) accessing ART at Mbita Sub – County Hospital indicated that calling was a good idea. They said that HCWs understood their whereabouts. But calling maybe futile when one gives you a wrong number and advocated for clients being called early before they miss their clinic. Phone tracing helps in reminding them of their appointment date. One interviewee was quoted saying;

"Phone tracing helps us to know that the treatment is ours and it helps because sometimes you may have forgotten your appointment.

It helps HCWs know the reason why we didn't come for treatment. It makes me understand that our health care workers value us and they care for our life."

Conclusion

It can be concluded that Phone Tracing influences Retention among PLHIV. The PLHIV have access to a mobile phones and therefore can be traced easily traced by the HCWs. The health

workers understand what retention meant. PLHIVpreferred phone callsas the mode of communication. PLHIVare mostly contacted three times to remind them for clinic appointment. Therefore, the hospital management should sensitize the HCWs on the effects of phone tracing on retention among people living with HIV/AIDS. This can be done through seminars that will educate them on the advantages of phone tracing.

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