

Influence of risk taking propensity among Kenyan community health workers

Hazel Miseda Mumbo

Great Lakes University of Kisumu, P.O. Box 2224- 40100, Kisumu, Kenya

Dr. Michael Kirwa Korir

Moi University, P.O. Box 3110, Eldoret, Kenya.

Prof. Dan Owino Kaseje

Great Lakes University of Kisumu, P.O. Box 2224-40100, Kisumu, Kenya

Fredrick Onyango Aila

Maseno University, Private Bag, Maseno, Kenya

Odhiambo Odera (Corresponding author)

Masinde Muliro University of Science and Technology, P.O. Box 190-50100, Kakamega, Kenya

Email: odera@yahoo.com

ABSTRACT

The study sought to establish and examine the extent to which risk-taking propensity and entrepreneurial behaviour influences health indicators among community health workers and their clients. The area of study location was Kisumu East District, Kisumu County, Nyanza Province in Kenya. Data on health indicators such as Antenatal Clinic use, Facility delivery, Measles immunization, Insecticide Treated Nets use, water treatment and latrine use were collected through structured questionnaires and analyzed using both descriptive and inferential statistics. Community health workers with high risk taking propensity as an entrepreneurial characteristics achieved better results in health indicators than those with low entrepreneurial characteristics especially in health facility delivery and water treatment. This could be a solution to motivating community health workers who are being considered for task shifting in the health work force yet how to remunerate them is a problem since a budget for their services would be unmanageable by governments.

Keywords: *Community health workers, entrepreneurial characteristics, health indicators, Kenya*

INTRODUCTION

Although African development specialists and policy makers have undertaken important measures for improving the quality of life for their citizens, the health status of Sub-Saharan Africa (SSA) exists below most parts of the world (WHO, 2009). Low life expectancy at birth, high infant and maternal mortality rates, malaria and tuberculosis afflictions, and the HIV/AIDS pandemic are some of the images of the health status of the African continent. In SSA, the role of health in development has rapidly grown while in the same region, the "bottom billion" living in 58 countries continues to be "trapped" in poverty, conflict, poor governance and poorly performing health systems (Oluwole, 2008).

According to World Health Organization (WHO) definition, health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity (WHO, 2007a). This definition invited nations to expand the conceptual framework of their health systems beyond issues related to the physical condition of individuals and their diseases and also motivated more focus and attention towards the social determinants of health (Mahler, 2008). In Kenya, health status has recorded tremendous decline in the performance of health indicators over the years (Gakungu, 2003). By the start of the millennium, health status in Kenya worsened when infant mortality increased from 74 in 1998 to 77 per 1000 live births in 2003. This has improved (although still not adequately) during last few years with mortality rate of children under the age of five rising from 112 to 115 per 1000 in 2003 (Gakungu, 2003).

The infant mortality rate (IMR) in Kisumu City was 123 per 1,000 live births in 2008 while the under-five mortality rate (U5MR) was 220 per 1,000 live births during the same year. The maternal mortality ratio (MMR) was estimated to be around 456 per 100,000 live births in 2008. Malaria remains a leading cause of outpatient morbidity, and the HIV prevalence rate at 15 percent is more than double the national prevalence rate of 7.4 percent. Other common illnesses include diarrhoea and respiratory diseases. Therefore there is need to scale up malaria and HIV interventions and to promote both oral rehydration therapy for diarrhoea and antibiotics for respiratory diseases (Maoulidi and Salim 2011). These indicators are symptomatic of generally poor health status and are much higher than the national IMR and U5MR (52/1000 and 74/1000 respectively).

With the onset of the new millennium, it was natural to enquire whether this poor status was to continue or whether improvements could be expected and if so, how these improvements would occur. Improved health status is crucial as it provides increased productivity, educational performance, life expectancy, savings, investments, decreased debts and the lower expenditure on health care. This ultimately leads to greater equity, economic return, social and political stability subsequently making improved health a key factor for human development (Kaseje, 2006). However, many policy analysts expressed fears that at the current rates of progress, SSA will not be able to provide satisfactory health care to its inhabitants by 2020, and will not achieve any of the United Nations millennium development goals due to increasing poverty (WHO, 2009). Health must then be seen as a central element of productivity, rather than as an unproductive consumer of public budgets (Kaseje, 2006). Therefore, the study focused on improvement of health indicators and investigated how the level entrepreneurial characteristics can influence health indicators of Community Health Workers (CHWs) and that of their clients.

THEORETICAL BACKGROUND

WHO (2006) recognized shortages of professional health workers as one of the key ingredients in the growing crisis in the provision of health services, particularly in low income countries. CHWs are part of a “task-shift” strategy to address the crisis and they have contributed to the improved access and coverage of health services in remote areas leading to improved health indicators (WHO, 2007b; Haq and Hafeez, 2009; Nemcek and Sabatier, 2003). The role of CHWs in SSA has evolved over time in response to changing health care priorities, disease burdens and shortages of human resources for health (Health Systems Report, 2008). The report further indicates that evidence from Gambia, South Africa, Tanzania, Zambia, Madagascar and Ghana on CHWs as not only cost-effective, but have enhanced the performance of community level health programmes. For example, CHWs with minimal additional training can deliver treatment for diseases, such as malaria, HIV and tuberculosis (TB). An evaluation conducted by Pakistan’s Ministry of Health’s enumerated the successes of the 100,000 Lady Health Workers (LHWs) in line with health improvement (Haq and Hafeez, 2009) and the LHWs fitted well into the definition of CHWs as their programme is considered one of the successful large-scale community programmes. Initially, the role of CHWs included primarily health care providers, but also as advocates for the community and agents of social change. CHWs core responsibilities include health promotion, disease prevention, basic curative care, referrals, monitoring of health indicators and creating vital linkages between community and formal health systems (Health Systems Report, 2008). Today, CHWs role emphasizes their technical and community management function (WHO, 2007c). Therefore, they contribute immensely in broadening access to and coverage of health services in remote areas and undertake actions that lead to improved health indicators, especially, but not exclusively, in the field of child health.

Since health is crucial to the global community, rural entrepreneurship has become one of the significant supportive factors for rural economic, social development and agribusiness (Wortman, 2006). Small and Medium Enterprises (SMEs) increase gross national products and the per capita income as they result in creation of income and wealth for families. They also make the scarcity of commodities less severe by introducing innovative products and services which in turn, improve health status in a country through poverty reduction (Peter, 2009). According to Korir (2009), both developed and developing countries are seeking to increase their entrepreneurial vitality as there is growing evidence that high level of entrepreneurship activity contribute to economic growth and social development. In Africa, SMEs play a significant role as a vehicle of equitable distribution of economic power and its contribution to national output (Cheruyiot et al., 2006).

The Republic of Armenia recognized the importance of SMEs and developed a policy aimed at full value utilization of the potential of SMEs sphere in the context of economic, social and political development (Ministry of Economy, Republic of Armenia, 2007). Sherief (2008) noted that development of entrepreneurship can be stimulated through a set of supporting institutions and deliberate innovative action which stimulate changes and fully supports capable individuals or groups. This has important implications on the performance of CHWs who are involved in socio-economic development in rural areas. Entrepreneurial activities in rural areas

are not thriving but it does not mean that entrepreneurship is inherently alien to rural areas (Sherief, 2008). However there is some lethargy due to the slow pace of changes occurring in certain rural areas compared to urban ones, proper action can inject a difference with respect to improved health and entrepreneurial behaviour of people living in rural areas.

WHO and governments in SSA have not yet emphasized on improvement or encouragement of entrepreneurial orientation for CHWs who reach the largest and the most vulnerable of the global community. It is critical that their entrepreneurship be evaluated for positive targeting through institutional support since it is a focal point for efforts to stimulate and support private and public entrepreneurship development in communities throughout the world (Wortman, 2006). According to WHO (2007c), a widely accepted selection modality of CHWs is that they should be members of the communities where they work, selected by the communities and answerable to the communities for their activities. They are supported by the health system but not necessarily a part of its organization, and have shorter training than professional workers. This selection modality confirms that CHWs have community approval and can influence decisions within the community if their motivation or remuneration is considered. Furthermore, there is the possibility for CHWs to break the vicious cycle between ill health and poverty.

McCarthy (2000) suggests that risk-taking is related to several factors such as innate personality traits, learning and experience of crisis as well as business-related factors such as the type of venture founded and the nature of the industry environment. According to Lee et al. (2007) a lenient, entrepreneur-friendly bankruptcy law encourages entrepreneurs to take risks and thus lets entrepreneurship prosper. There should be a lenient policy on recruitment that gives everyone a chance to prove themselves as they go through training since very few people will have all the expected entrepreneurial traits in order to perform. Unless more people are supported to have risk taking propensity, the sector may take long to meet all its objectives to improve health in the communities especially in SSA. Lee et al. (2008) contends that a society that is not willing to absorb the "pain" of having a large number of entrepreneurial failures, via an entrepreneur-friendly bankruptcy law, is not likely to reap the "gain" of vibrant entrepreneurship development and economic growth.

Stewart and Roth (2001) examined the risk-taking propensity of two samples of students as an attribute of entrepreneurship. The Risk Scale of the Jackson Personality Inventory (JPI) and the Kogan-Wallach Choice Dilemma Questionnaire (CDQ) were utilized for the purposes of measurement, comparison and validity assessment. They found that a number of empirical studies of risk-taking, and the results are frequently contradictory notably Brockhaus (1980), which cast doubt on the traditional perspective by showing no differences between the risk-taking characteristics of entrepreneurs, managers and the general public. Their observation indicates that the attribute of risk-taking propensity has not been adequately assessed in those studies employing the CDQ. If this is the case, then more inquiry into entrepreneurial risk-taking is warranted and necessary in order to draw definitive conclusions.

METHODOLOGY

The study location was in Kisumu East District, Kisumu County, Nyanza province which is at the shores of Lake Victoria in Kenya. Nyanza was the ideal setting for the study as it has a population of about 3 million and hosts 700 rural health facilities (MOH, 2006). It has a high maternal mortality rate of 200/100,000 with an HIV/AIDS prevalence of 15.4% and malaria at 35-40%. According to Ohito (2005), Nyanza was rated the poorest province in Kenya with 64% of the population living below a dollar a day. Within Kisumu East District, Nyahera, Kanyawegi and Okana sub locations were purposively selected as the research area because of their proximity to Kisumu City, which is the Nyanza Provincial Headquarters. This may have a positive influence on the CHWs entrepreneurial behaviour and community health care. Nyahera is situated at the border of the Luo and Luhya communities and may be influenced by mixed cultures, environment and history.

Due to unavailable data on CHWs and their clients on who were or were not entrepreneurial, the study conducted a census of the CHWs population of 205 CHWs and non matched households. CHWs were identified from the register of Community Partnership Programme coordinated by Tropical Institute of Community Health, Great Lakes University of Kisumu (GLUK). 111 were CHWs from Nyahera while 94 were from Okana and Kanyawegi sub locations. The CHWs assisted in the identification of matched households who were their clients in their communities in terms of age, sex and education level.

A questionnaire was administered to identify CHWs and their matches that were entrepreneurial and non-entrepreneurial. The questionnaire included socio-demographic questions such as education, gender, age, number of members in a household, type of housing and source of income such as business, farming, remittance,

salaries or support from spouse. Other sections included child health (children under five), maternal health (women of child bearing age), environmental health, food security and level of income.

Data in relation to age of the respondents, their sex, type of business, level of education and type of household, were analyzed using descriptive statistics such as frequency distribution, percentages, the mean and standard deviation. The chi-square (χ^2) statistic was used to test relations between categorical variables to establish whether there was any statistical significance in the relationships. Inferential statistics especially multivariate statistical analysis of the data was used for factor analysis procedure to determine which items could be used in summated scales to calculate the health outcome underlying dimensions scores. Cluster analysis was conducted to group the independent variables into three levels namely: high, moderate and low level entrepreneurs.

RESEARCH FINDINGS

The results indicate that 45.5% of CHWs with high risk-taking propensity were of child bearing age and qualified for the child and maternal health assessment. 81.8% of CHWs with high risk-taking propensity had visited the antenatal clinic 4 times while 76.9% of CHWs with low risk-taking propensity visited the antenatal clinic 4 times. The difference was not significant although it suggests that high risk propensity had an influence in attending antenatal clinic.

Similarly, in terms of health facility delivery, all the 100% of CHWs with high risk-taking propensity delivered at the health facility while 80.8% of CHWs with low risk propensity delivered at the health facility. In terms of measles immunization, 90.9% of CHWs with high risk propensity had their children immunized, while 80.8% of CHWs with low risk propensity had their children immunized against measles. These results show that CHWs with high risk propensity seemed to demonstrate better health seeking behaviour compared to CHWs with low risk propensity. Although the results do not confirm the hypothesis that the higher the risk propensity, the better the health indicators because there is no statistical significant ($P>0.05$).

Insert Table 1.

In terms of Insecticide Treated Nets (ITN) use, water treatment, latrine use and owning a kitchen garden, CHWs with high risk propensity consistently had better indicators as follows: ITN use 95% against 89.8% of CHWs with low risk propensity; water treatment 100% compared to 83.1% of CHWs with low risk propensity with a P value of 0.049 showing that there is a significant difference between the two; latrine use 90% against 83.1% of CHWs with low risk propensity; kitchen garden 90% compared to 84.7% of CHWs with low risk propensity. However in terms of food availability, the CHWs with low risk propensity had better indicators with 64.4% having food available while 50% of CHWs with high risk propensity had food available, an indication that probably CHWs with high risk propensity do not store food as they buy only what they need. Generally, CHWs with high risk taking propensity performed better in all the health indicators compared to CHWs with low risk propensity implying that high risk-taking propensity may influence health seeking behaviour among the CHWs although not statistically significant ($P>0.05$).

Insert Table 2.

CHWs with high risk propensity had better health indicators in all aspects compared to Non CHWs. In terms health facility delivery for child and maternal health, 72.2% of CHWs with high risk-taking propensity delivered in health facility compared to 27.8% of the Non CHWs. The difference observed was statistically significant ($P=0.008$) among CHWs and the results supports the hypothesis that the higher the risk taking propensity, the greater the health facility delivery. Similarly, in terms of measles immunization among CHWs with high risk propensity, 55.6% had their children immunized compared to 44.4% for Non CHWs. This difference was not statistically significant suggesting that observed difference could occur by chance. There was no conclusive evidence that risk-taking propensity had influence over the completion of vaccination among CHWs and Non CHWs.

In terms of health seeking behaviour, 55.6% of CHWs with high risk propensity used ITN nets as compared to 44.4% of the Non CHWs, which was consistent in all the findings in relation to high risk taking propensity. However, although CHWs with low risk propensity had better health indicators compared to Non CHWs in most aspects except ANC where Non CHWs had 51.3% attendance compared to 48.7% of CHWs with low risk-taking propensity CHWs. It would suggest that CHW status had a direct influence over health seeking behaviour than risk-taking propensity.

Insert Table 3.

16 clients were in the high risk taking category while 2 were in the low risk taking category group. Further analysis revealed that 81% clients of CHWs with high risk propensity attended antenatal clinic 4 times and took their children for measles immunization while 87% delivered at the health facility. The results were not as high as those of the 2 clients of CHWs with low risk propensity who had 100% in each of health indicators although they were not statistically significant. However, clients of CHWs with high risk propensity being the majority had performance within their own group with each above 80%. The performance though lower than the clients CHWs with low risk propensity was consistent with the performance of the CHWs with high risk taking propensity hence there may be an influence in their performance. In essence, there was no difference or influence in the health seeking behavior among the clients of CHWs with high and low level risk taking propensity.

Insert Table 4.

In relation to environmental health and food security, clients of CHWs with high risk propensity performed better in all the health indicators except owning a kitchen garden where they had similar results compared to the clients of CHWs with low risk taking propensity. This demonstrated that the CHWs with high risk taking propensity seemed to have an influence on their clients performance in relation to environmental health especially in terms of ITN use where there is statistical significance of .003 and food security.

Insert Table5.

CONCLUSION AND DISCUSSIONS

The study was limited to entrepreneurial behaviour, socio-demographic characteristics of the entrepreneur and enterprise in relation to the improvement of community health and development. The focus was on improvement of health indicators among CHWs and their clients and the study investigated to what level entrepreneurial characteristics of CHWs could influence their health indicators and that of their clients. It concentrated on entrepreneurial behaviour process among small business owners who were CHWs as the independent variable while community health indicators were dependent variables. The findings confirm the hypothesis that the higher the risk taking propensity, the better the health indicators among CHWs and their communities. There was a statistical significance with a P value of .049 among CHWs with high risk taking propensity compared to those with low risk taking propensity in relation to water treatment. The results also confirmed the hypothesis in relation to health facility delivery among CHWs with high risk taking propensity and their clients with a statistical significance P value of 0.008 and water treatment among CHWs with low risk taking propensity and their clients with P value of .002. Lastly, among clients of CHWs with high risk taking propensity there was significant P value of .003 in ITN use compared to clients of CHWs with low risk taking propensity.

Although most of other health indicators had not been found to have a significant relationship with risk taking propensity, there was evidence that health facility delivery, water treatment and ITN use were influenced by risk taking propensity as an entrepreneurial behaviour. Both CHWs and their clients with high risk taking propensity had demonstrated they perform better in health facility delivery, water treatment or ITN use. Risk taking propensity was found to be an innate characteristic and therefore existed in the sub conscious of those who have it or were not even aware of it. This trait can influence the improvement of health indicators within health facility delivery, water treatment and ITN use in the community if it is strengthened among the CHWs and their clients through training or identified at the point of recruitment of CHWs. The finding supports the view by Okpara (2008) who investigated the impact of entrepreneurial orientation (EO) on the performance of SMEs in Nigeria and concluded that High EO was related to export performance. Thus, high EO owners and managers who have among other traits risk-seeking behaviour are likely to exploit export opportunities. This indicates that the risk of entering the export market pays off for proactive-oriented entrepreneurs as they outperform conservative-oriented entrepreneurs. Considering that risk-taking propensity has been shown to have an influence on some health indicators among CHWs and clients, it should be part of the community health strategy which attempts to combat ill health and poverty. CHWs with low risk-taking propensity could be trained to acquire risk-taking propensity since personality traits can be acquired through learning and experience. This would improve their performance in all the health indicators as seen among CHWs with high risk-taking propensity.

The results of the study demonstrate that entrepreneurial activities can be greatly influenced by demographic factors such as education and that the elements of influence into business by family, especially of those whose

parents were entrepreneurs when they were young, tallies with perceived beliefs and attitudes as indicated in the health belief model. The findings confirm that there is a relationship between risk-taking as an entrepreneurial behaviour and improvement of health facility delivery, ITN use and water treatment among community health workers and their communities. Therefore, risk-taking is not just an entrepreneurial trait but can be applied to other disciplines such as health to improve organizational and individual performance. It could also be concluded that CHWs with low risk propensity performed better than their clients because they had undergone training on health related issues while their clients had not. The knowledge of risk taking propensity's influence on the health indicators among CHWs and their clients can be used by policy makers, stakeholders and strategists in their efforts at improving health.

The results confirm that there is a relationship between risk-taking as an entrepreneurial behaviour and improvement of health indicators among CHWs and their communities. Chi-square test showed a significant relationship between health facility delivery, water treatment and ITN use and risk-taking propensity. The higher the risk-taking behaviour, the higher the health indicators and the behaviour levels influenced by the CHWs. While efforts have been made to improve health indicators among rural communities globally, two issues that can improve the health indicators of CHWs and their communities have emerged. Firstly, that all CHWs who are conducting entrepreneurial activities have different entrepreneurial characteristics and secondly, that their entrepreneurial characteristics influences their performance in health indicators. This was demonstrated where statistical significance were observed in all entrepreneurial characteristics in water treatment among CHWs and their clients with risk taking propensity and in health facility delivery relative to CHWs and their clients. Risk taking propensity as entrepreneurial characteristic should therefore be considered as a community health strategy in an effort to achieve the millennium development goals.

REFERENCES

1. Brockhaus, R.H (1980). Risk taking propensity of Entrepreneurs. *The Academy of Management Journal*, Vol. 23, No 3, 509-520
2. Cheruyiot. T. K., Maru, L. C., Komen, J. and Korir, M. K. (2006). "Managerial Profiles of Women Entrepreneurs in the Kerio Valley Basin of Kenya". *African Journal of Business and Economics* (1)1, 23 - 38.
3. Gakunju, E. M (2003). "Determinants of Health Status in Kenya" Research paper, Makerere University Institute of Economics.
4. Haq, Z, and Hafeez, A. (2009). "Knowledge and Communication Needs Assessment of Community Health Workers". *Human Resource for Health*, 7 (59).
5. Health Systems Report (2008). "Community Health Workers in Africa" IDS Health & Development Information Team. 27th Feb 2008.
6. Kaseje, D. (2006). "Health Care in Africa: Challenges, Opportunities and an Emerging Model for Improvement" Wilsoncenter.org/topics/docs/kaseje2.pdf
7. Korir, K. M. (2009). "Cultural Value Dimensions as Correlates of Entrepreneurial Orientations among Small Business Owners in Kenya" *African Journal of Business and Economics* (3)1, 1 - 28.
8. Lee, S.-H., Yamakawa, Y. and Peng, M. (2007). An Empirical Examination Of "Barrier To Exit": How Does An Entrepreneur-Friendly Bankruptcy Law Affect Entrepreneurship Development At A Societal Level? *Babson College Entrepreneurship Research Conference*, Madrid, Spain
9. Mahler, H. (2008). "Social Determinants of Health on ala matta" Sixty-first World Health Assembly, May 20th, 2008.
10. Maoulidi, M. and Salim A. (2011) Gender needs assessment for Kisumu city, Kenya: MCI Social Sector Working Paper Series N° 20/2011
11. McCarthy, B. (2000). "The cult of risk taking and social learning: a study of Irish entrepreneurs", *Management Decision*, Vol. 38 Issue: 8, pp.563 – 575.
12. Ministry of Economy, Republic of Armenia (2007). Small and Medium Entrepreneurship. www.mineconomy.am/en
13. Ministry of Health, Government of Kenya (2006). *Department of Statistics, Health Indicators*. National Strategic Plan. www.measuredhs.com/pubs/pdf/WPK1/WPK1.pdf. May 23rd, 2008.
14. Nemcek, A. M. and Sabatier, R. (2003). "State of Evaluation: Community Health Workers" *Public Health Nursing* ISSN 0737-1209, 20 (4), 260-270.
15. Ohito, D. (2005). "Economic Report. Nyanza is Kenya Poorest Province" *The Standard Newspapers* 02/11/05, Nairobi, Kenya.
16. Oluwole, D. (2008). "Health policy development in sub-Saharan Africa: National and International perspectives" *Academy for Education Development*.

17. Okpara, J. (2010). Entrepreneurial Orientation and Export Performance: Evidence from an Emergent College. Bloomsburg University. College of Business.
18. Peter, J. A. S. (2009). Role of Entrepreneurship in Economic Development. <http://www.linny.org/forum>.
19. Sherief, R. S. (2008). "Entrepreneurship as an Economic Force in Rural Development" www.africaeconomicanalysis.org/.../rural_entrepreneurship.html.
20. Stewart, W. H. and Roth P. L. (2001). "Risk Propensity Differences between Entrepreneurs and Managers: A Meta-Analytic Review", *Journal of Applied Psychology*, 86(1), pp145-153.
21. WHO (2009) Global Health Risks: Mortality and burden of disease attributable to selected major risks www.who.int/healthinfo/global.../global_health_risks/en/index.html
22. World Health Organization (2007a). "Role of Community Health Workers in Improving Child Health Programmes in Mali" www.biomedcentral.com.
23. World Health Organization (2007b). "Community Health Workers: What do they do?" www.who.int/tb/pulications/global_report/2007.
24. World Health Organization (2007c). "Regional Meeting on Revisiting Community-based Health Workers and Community Volunteers" www.chw-nec.org/links.com.
25. World Health Organization (2006). The Global Shortage of Health Workers and its impact www.who.int/mediacentre/news/releases
26. Wortman, M. S. (2006). Rural Entrepreneurship Research: An Integration into Entrepreneurship Field. *Agribusiness* Wiley Interscience, 6 (4) 329 - 344.

TABLE(S)**Table 1: Risk-taking influences on Maternal and Child Health indicators among CHWs**

Health Indicators	HIGH RISK-TAKING CHWs		LOW RISK-TAKING CHWs		Total N	χ^2	P value
	n (%)	n (%)	n (%)	n (%)			
Antenatal Clinic (ANC) 4 times	9 (81.8)	20 (76.9)	29	.109	.741		
Facility delivery	11 (100)	21 (80.8)	22	2.446	.118		
Measles immunization	10 (90.9)	21 (80.8)	22	.585	.444		

Source: Research data

Table 2: Risk-taking influences on Environmental Health and Food Security Indicators among CHWs

Health Indicators	HIGH RISK-TAKING CHWs		LOW RISK-TAKING CHWs		Total N	χ^2	P value
	n (%)	n (%)	n (%)	n (%)			
ITN use	19 (95.0)	53 (89.8)	59	.494	.482		
Water treatment	20 (100)	49 (83.1)	69	3.881	.049		
Latrine use	18 (90.0)	49 (83.1)	67	.560	.454		
Food availability	10 (50.0)	38 (64.4)	48	1.300	.254		
Kitchen garden	18 (90.0)	50 (84.7)	68	.344	.557		

Source: Research data

Table 3: Health seeking behaviour by risk-taking propensity and CHWs status.

Health Indicators	HIGH RISK-TAKING			LOW RISK-TAKING				
	CHWs	NON CHWs	P value	χ^2	CHWs	NON CHWs	P value	χ^2
	n / N (%)	n / N (%)			n / N (%)	n / N (%)		
ANC 4 times	11/18 (61.1)	6/18 (33.3)	0.323	0.98	19/39 (48.7)	20/39 (51.3)	0.942	0.01
Facility delivery	13/18 (72.2)	5/18(27.8)	.008**	7.06	19/34(55.9)	15/34(44)	.146	2.12
Measles immunization	10/18(55.6)	8/18(44.4)	.474	0.51	20/42(47.6)	22/42(52)	.485	0.22
ITN use	20/36(55.6)	16/36(44.4)	.513	0.43	50/86(58.3)	36/86(41)	.519	0.01
Water treatment	20/34(58.8)	14/34(41.2)	.144	0.21	48/71(67.6)	23/71(32)	.002**	9.64
Latrine use	19/36(52.8)	17/36(47.2)	.643	0.09	46/79(58.2)	33/79(41)	.964	0.00
Food availability	12/20(60.0)	8/20(40.0)	.427	0.63	35/61(57.4)	26/61(42)	.833	0.06
Kitchen garden	20/33(60.6)	13/33(39.4)	.070	3.28	48/83(57.8)	35/83(42)	.801	0.06

Source: Research data **statistically significant at p value<0.05

Table 4: Health seeking behaviour among clients of CHWs in relation to child and maternal health indicator by risk taking propensity

Health Indicators	CLIENTS OF CHWS WITH HIGH RISK-TAKING		CLIENTS OF CHWS WITH LOW RISK-TAKING		Total N	χ^2	P value
	Clients n=16 (%)	Clients n =2 (%)					
ANC 4 times	13 (81.3)	2 (100.0)			15	.450	.502
Facility delivery	14 (87.5)	2 (100.0)			16	.281	.596
Measles immunization	13 (81.3)	2 (100.0)			15	.450	.502

Source: Research data

Table 5: Health seeking behaviour among clients of CHWs in relation to environmental health and food security

Health Indicators	CLIENTS OF CHWS WITH HIGH RISK-TAKING		CLIENTS OF CHWS WITH LOW RISK-TAKING		TOTAL N	χ^2	P value
	Clients n (%)	Client n (%)					
ITN use	25 (83.3)	1 (20.0)			26	8.999	.0003
Water treatment	26 (86.7)	3 (60.0)			29	2.146	.143
Latrine use	26 (86.7)	3 (60.0)			29	2.146	.143
Food availability	69 (64.5)	2 (50.0)			71	.351	.554
Kitchen garden	24 (80.0)	4 (80.0)			28	.730	.386

Source: Research data