

Organizational Context and Healthcare Research Utilization in Arua District Local Government, Uganda

Article by Stanley T. Asaku¹, Gerald K. Karyeija², Fred Alinda³, Kennedy O. Ojwang⁴,
Martine D. Andua⁵, Patrick Y. Anguzu⁶

¹*School of Public Health, Texila American University, Guyana, South America*

^{2,3}*Department of Political and Administrative Sciences, School of Management Sciences,
Uganda Management Institute (UMI), Uganda*

^{5,6}*Directorate of Health Services, Arua District Local Government, West Nile Subregion,
Uganda*

Email: coopdev.tstanley@gmail.com¹

Abstract

Despite increasing knowledge of potential benefits of research utilization in improving quality of healthcare management decision (HMDs) outcomes and practice, the use of research evidence by healthcare authorities continues to be a global concern. We examined the organizational contextual predictors of research utilization in management decisions of healthcare authorities in Arua district local government. The observational cross-sectional survey design was used, involving 225 questionnaires and nine key informant interviews, and the extent of influence of organizational contexts was determined by estimation of predicted probabilities, and the corresponding odds ratios and coefficients using the binary logistic regression model. The results reveal that research utilization was significantly influenced by organizational context, whose overall predicted probability was 0.001 ($p < 0.05$), with access to library ($p = 0.023$), performance monitoring ($p = 0.029$), information sharing ($p = 0.014$) and participation in formal meetings ($p = 0.016$) being significant predictors with fairly high odds ratios. These findings highlight the combined importance of performance monitoring, sharing information (social capital), access to library and participation in formal meetings (formal interaction) as significant predictors of increased research utilization. Even-though, sharing information showed strongest positive influence, which implies that workplace measures that promote sharing of information were about four times more likely to increase research uptake.

Keywords: Research utilization, organizational context, research evidence, healthcare authorities, and healthcare management decisions.

Introduction

Research utilization, a subset of evidence-based practice (EBP), is a specific type of knowledge utilization (Estabrooks, 1999) that involves transforming study findings into one or more forms of research use, categorized generally as instrumental, conceptual, persuasive or overall. The definition of research utilization is adapted from Sackett et al. (1996, 71) “the conscientious, explicit, and judicious use of current evidence in making decisions about the care of individual patients”. The process according to Barends et al. (2014) entails six major steps; translating a practical problem into answerable questions, systematically searching and retrieving evidences, critically appraising

evidences for quality, pulling together all relevant evidences, putting to decision action the best evidence, and finally evaluating the decision outcomes.

The motivation is that the use of best research evidence increases quality of healthcare management decision outcomes and practice (Stevens, 2013). To affect better patient outcomes, new knowledge from research must be transformed into clinically useful forms, effectively implemented across the entire healthcare systems context, and measured in terms of meaningful impact on performance and health outcomes (Stevens, 2013). Nonetheless, research evidence use continues to be a global concern, with considerable difficulty in

implantation (Amanda et al., 2009) with respect to field practice.

Pfeffer and Sulton (2006) admit that though thousands of studies are conducted every year, little appears to be utilized, with only about 15% of all management decisions take into account scientific evidence whilst the rest are made absolutely on basis of obsolete knowledge gained in school, traditions, experience, beliefs or other sources of information. Likewise, Melnyk et al. (2012) agree that research evidence use remains slow and unpredictable, or even worse among managers, whom according to Fraser and Clancy (2007), and Pfeffer and Sulton (2006) have been much slower and harder, more-so in developing countries where efforts to promote evidence-based management has faced greater challenges.

In short, there is a significant research use gap (Swan et al., 2012) yet only very few studies have investigated the problem in developing countries. Among these include; the qualitative studies by Albert, Fretheim and Maiga (2007) in Mali, Orem et al. (2012) and Nabyonga et al. (2012) in Uganda, and Ongolo-Zogo, Lavis and Tomson (2014) in Uganda and Cameroon, which also lamented of lower than expected research uptake. Even though, none of those studies quantified the extent to which organizational contextual (work environment) variables influenced research utilization, or examined their influence in a decentralized local governments' context of the present study.

Hence, the present study investigated the extent of influence of organizational context using both quantitative and qualitative approaches in Arua district local government, West Nile Uganda. We anticipated that the findings would be useful not only to the local healthcare authorities but also to research and academic institutions in Uganda and beyond. The findings would help these stakeholders in making better informed decisions for increasing future uptake of research, educate and create awareness, and inform future programming so that research becomes better appealing to users, in order to maximize the benefits accruing from action research. So, these would eventually translate in informed healthcare practices and policies for quality health service delivery to the populace. In summary therefore, not narrowing the research-practice gap would lead to poor health service delivery since no new innovations

would be trickling into practice, which in-turn has the potential of affecting the lives of other people globally, aware that diseases respect no borders, more-over there was influx of refugees from DRC and south Sudan.

Methodology

A combination of quantitative and qualitative research approaches was used based on the observational cross-sectional survey design, in which a total of 245 questionnaires were self-administered to eligible healthcare managers (HM), healthcare administrators (ADM) and political leaders in 10 out of 29 clustered sub counties in Arua district local government. The questionnaire survey was supplemented with nine key informants' personal interviews.

To arrive at 10 as the number of clusters to which to concentrate the study, first, the average size of the clusters (24.5 healthcare authorities) was determined by dividing the total number of healthcare authorities (712) in the study area by the 29 clusters. The study sample size was then divided by the average cluster size (i.e. $245/24.5$), thereby giving 10 as required number of clusters in which to focus the study. These clusters (Arua Hill, Vurra, Logiri, Rhino Camp, Ogoko, Okollo, Pajulu, Aivu, Ajia & Oli River) were selected by the simple lottery random sampling method (Amin, 2005) by putting all the 29 clusters in a non-transparent bag and then blindly picking one by one each time, until reaching the desired number of clusters.

At cluster level, the purposive sampling method described by Kothari (2005) and Amin (2005) was then used. The method involved selecting respondents from each sampled cluster based on known roles in making healthcare management decisions so as to allow a fair representation (Amin, 2005) of all categories of study population. In short, all healthcare managers, administrators and political leaders in the sampled clusters were eligible to participate. Support staff like drivers, cleaners and interns were not eligible to participate because they have minimal roles in making healthcare management decisions in their work place.

Questionnaire data was entered in SPSS, cleaned and exported to Stata for statistical analysis. First, descriptive univariate analysis for frequency distributions and percentages was done for each explanatory variable. Multivariate analysis using the binary logistic regression

model (Gurarati, 2004) was then done to estimate the odds ratios, as an indicator of the extent to which each regressor influenced research utilization, while the predicted probability ($\text{Prob} > \chi^2$) reflects a measure of the overall significance (Gurarati, 2004) of the influence.

The following structured binary regression model was run:

$$RU_i = \left(\frac{P_i}{1-P_i} \right) = B_1 + B_2\text{LEAD} + B_3\text{CUL} + B_4\text{EVA} + B_5\text{STAFF} + B_6\text{TIME} + B_7\text{SPACE} + B_8\text{NBD} + B_9\text{INT} + B_{10}\text{LIB} + B_{11}\text{FINT} + B_{12}\text{INFINT} + u_i, \text{ whereby:}$$

- L_i is the logit whose P_i is the predicted probability.
- B_1 is the regression slope intercept.
- B_2 is the odds that RU was influenced by work place leadership.
- B_3 is the odds that RU was influenced by work place culture.
- B_4 is the odds that RU was influenced by evaluation.
- B_5 is the odds that RU was influenced by slack- staffing.
- B_6 is the odds that RU was influenced by slack- time.
- B_7 is the ML that RU was influenced by slack- space.
- B_8 is the ML that RU was influenced by Access to noticeboards.
- B_9 is the ML that RU was influenced by Access to internet.
- B_{10} is the ML that RU was influenced by Access to library.
- B_{11} is the ML that RU was influenced by formal interactions.
- B_{12} is the ML that RU was influenced by informal interactions.
- u_i stands for the error term, which accounts for the factors not included in the model.

In contrast, qualitative interview data was examined using the content analysis technique (Holsti, 1969) that involves systematically and objectively identify special characteristics of verbal statements, coding them into categories or themes, and then summarizing the data into meaningful texts and verbatim quotations.

Findings

Sample Characteristics and Response Rate

Overall, a total of 225 out of 245 questionnaires were returned completed, but two were excluded from statistical analyses because the respondents were interns, and therefore illegible to participate in the study. This gave an overall response rate of about 91.2%, far higher than the minimum acceptable 60% (Fincham, 2008), which implies that the sample was a fair representation of the study population. In addition, we interviewed nine key informants, against the initial target of eight, one of whom was an administrator, while the eight were healthcare managers. Efforts to interview political leaders were not successful because they were engaged in electoral campaigns.

Demographically, 56.4 per cent of the respondents were male. The youths (18-34 years) dominated with 44.9 per cent, while only one respondent was above 62 years old. About 57.1 per cent of the respondents had less than 10 years' specialty experience, with those possessing over 25 years constituting only 6.2 per cent. Regarding educational level and job specialty, just over 60% of the respondents attained either a professional certificate (31.6%) or a diploma (28.9%), and a significant proportion (21.3%) had less than a professional certificate. These results correspond with further finding that majority of the respondents were nurses (34.8%), followed by politicians (19.6%), with doctors constituting only less than 1%. While these results indicate a general shortage of doctors, they would not suggest dominance by under qualified personnel since the local government minimum entry credentials for low cadre staff (nurses, health assistants & technicians) is a certificate, and a diploma for clinicians, but can be as low as a primary level education for political leaders.

In contrast, all the key informants were male, which suggests that men dominated higher occupational hierarchies in Arua district than their female counterparts. One of the interviewees was a political scientist, senior nursing officer (1), principal medical officers (2), senior clinical officer (1), senior medical officers (2), and medical officer (1), all of whom had attained at least a post graduate diploma, and accumulated specialty experience ranging from 7-15 years.

Table 1 presents summary of the descriptive statistics for the organizational contextual variables examined in this study.

Table 1. Descriptive statistics for context on Likert's agreement continuum

Variable	% of respondents		
	Disagree	Neither agree nor disagree	Agree
Leadership: The actions of leaders are supportive and compel positive change and excellence in healthcare management (N= 225)	14.5	8.1	77.4
Culture: The way things are done; the norms and values are supportive to work and good change in healthcare management (N= 225)	17.7	18.0	64.3
Evaluation: Team members routinely monitor their performance with respect to action plans (N= 225).	16.6	13.4	70.0
Social Capital: Team members share information with others in the team, unit or department (N= 219).	11.0	10.0	79.0
Slack-Staffing: There are enough staff to get necessary work done (N= 221)	61.1	11.3	27.6
Slack-Time: Work schedules allow time to search and get acquainted with what happens around the world (N= 221).	42.1	18.4	39.5
Slack-Space: There is adequate space to get necessary work done (N= 220)	50.9	12.3	36.8
	Never	Rarely	Frequently
Structural/Electronic Resources: In the last typical month, how often did you access a notice board in your workplace (N=222)	35.1	32.0	32.0
Structural/Electronic Resources: In the last typical month, how often did you access internet in your work place (N=222)	71.1	20.3	8.6
Structural/Electronic Resources: In the last typical month, how often did you access a library in your workplace (N= 222)	57.6	34.7	7.7
Formal Interactions: In the last typical month, how often did you participate in team, unit or depart meeting (N= 221)	18.1	43.9	38.0
Informal Interactions: In the last typical month, how often did you have healthcare mgt decision-making discussions with members in your team (N=221).	20.3	52.1	27.0

Source: Primary Data.

Majority of the respondents generally agree that organizational leadership, culture, evaluation and social capital were supporting to good change, with the proportions of those who agree ranged from 64.3% to 79%. However, smaller proportions of the respondents (averagely 34.6%) agree that organizational slack (staffing, time &space) was favorable. But, one key informant expressed a strong concerned that some of their leaders were not supportive enough.

Unfortunately, a good section of our leaders have been taken up by egoism and individualism, they look at what would benefit them first; what is my take in this; what will I

benefit from it; yet if leadership doesn't take it up, certainly the followers won't take it too (HM2).

The above statement observes the effects of conflict of interests, yet leaders must take stewardship in championing and compelling positive change and excellence. The informant recognizes the role of good leaders in influencing research utilization in their work places.

Likewise, the informants stressed the potential influence of culture on research utilization. They augured that cultural factors like traditions, norms, values, practices and the way that things have been done over time, if not

taken well care-off, can negatively affect utilization of a well-intended research. Moreover, it was noted as in statements below that most managers tend to have a poor reading culture that makes them not aggressively seek for written information.

In number of instances, written information, more-so if bulky, are never read, they are filed up to dust, this is even worse for managers and leaders with busy schedules (HM7); besides, there is a common tradition among local communities that cure is only by injection, such beliefs tend to impede preventive approaches that may have been recommended by research (HM6).

The statement suggests that disseminating research evidence through written printed means was likely not to enhance uptake due to busy schedules, coupled with poor reading culture.

Whereas it appears a common consensus that understaffing and workload constraints was a likely inhibitor of research utilization, one informant differed, instead implicating attitude and cultural degeneration that affect commitment to work. He had this to say:

I agree that the level of staffing may not be adequate in most health facilities, but that is not the root problem, the problem is attitude; increasingly, people are getting to the health profession not from a conviction to serve but rather as an employment; the health sector is currently suffering from cultural degeneration, our staff don't just develop the required commitment, it is not uncommon to find a staff in the quarters yet patients are waiting to be attended to (ADM).

This healthcare administrator expressed strong fear that people who lack the passion to serve were getting to the health profession as source of employment. He was however quick to interject that the health workforce was not to blame solely, but perhaps rather the country's education system that passes out half-baked incompetent products.

More still, informants underscored the importance of time in influencing research utilization. They made arguments that their work

environment would not allow time to do something else or differently. They indicated also that sometimes stakeholders fail to appreciate the benefits of research because many researchers hardly give enough time to explaining the benefits and purpose of research. These views are depicted in the verbatim quotations below.

Research utilization requires time because the process is technically demanding (HM6); you must have time to retrieve, review and evaluate the available evidence before putting it to use, in most cases we lack this time (HM2); likewise, researchers must have the time to explain the purpose and benefits of the research to target audience (HM2 &3), but unfortunately, many researchers come in a rush, they have no time, they have no patience, somebody comes in 10 minutes wanting you to complete a questionnaire, even when I have not understood or appreciated the research (HM2), they will tell you fill here, fill there (HM3).

The key informants HM2 and HM3 send messages about unethical behavior of some researchers, who do not take time to explain to participants about the research. It implies that sometime, participants are enrolled in studies against the principle of informed consent and voluntarism. Thus, it follows that time was an important predictor of research utilization in Arua district.

The proportions of respondents who never accessed internet (71.1%) or library (57.6%) in their work place were over seven times higher than those who frequently accessed them in their work place. However, almost equal proportions of the respondents never (35.1%) or frequently (32.0%) accessed notice boards in their work place. In short, these results reveal that healthcare authorities had limited access to internet, library and notice boards, which could negatively influence research uptake.

Regarding formal interactions, over 80% of the respondents said they participated in team, unit or departmental meetings in their workplace, but those who participated frequently (38.0%) were less than those who participated

rarely (43.9%). Still, respondents who engaged frequently in informal interactions were over 10% less than those who participated frequently in formal interactions.

Regression results

The above results were tested for their significance with respect to research utilization, using the Binary Logistic regression model, whose odds ratios, coefficients and corresponding p-values are shown in **table 12** that follows here-in.

Table 12. Binary Logistic Model results on organizational context and research utilization

Variable	Odds Ratio	Coefficient	p-values
Leadership (actions of leaders support and compel	2.905	0.100	0.824
Culture (norms, values and way things are done)	1.528	0.424	0.258
Evaluation (performance monitoring)	1.546	0.435	0.029
Social Capital (sharing of information)	3.847	1.046	0.014
Slack- Staffing	1.546	0.435	0.283
Slack- Time	1.620	0.482	0.182
Slack- Space	0.756	-0.280	0.445
Access to Notice Boards	1.298	0.261	0.608
Access to Internet	0.852	-0.161	0.670
Access to Library	2.278	0.823	0.023
Formal Interactions (participation in formal meetings)	2.269	0.819	0.016
Informal Interactions (participation in informal meetings)	0.517	-0.659	0.215
N	207		
LR Chi2 (12)	32.91		
Pseudo R2	0.124		
Prob > Chi2	0.001		
Log Likelihood	-115.985		
Goodness- of-fit	0.356		

Source: Primary Data

The coefficient for leadership was positive, with a corresponding p-value that is statistically insignificant ($p>0.05$). The odds ratio in respect to leadership indicate that a leadership that is supportive and compels good change was about three times more likely to increase research uptake, even though leadership had no significant influence on research uptake.

Likewise, the coefficients for culture and evaluation were both positive, with corresponding p-values that are statistically insignificant ($p>0.05$). The odds ratios in respect for culture and evaluation indicate that supportive organizational culture and performance monitoring were about twice more likely to increase research uptake. Even though, both culture and performance evaluation had no significant influence on research utilization by the healthcare authorities.

With respect to social capital, the coefficient was also positive but with a corresponding p-value that is statistically significant ($p<0.05$). The odds ratio in respect to social capital

indicate that sharing of information among team members was about four times more likely to increase research uptake. Hence, information sharing had a significant influence on research utilization.

Further, unlike organizational slack-space that had a negative coefficient, staffing and time both had positive coefficients, but the corresponding p-values are statistically insignificant ($p>0.05$). The odds ratios in respect to staffing and time indicate that availability of adequate staffing and time was about twice more likely to increase research uptake, even though they had no significant influence. The negative coefficient for slack-space suggests that the more space there is, the less they use evidence.

Furthermore, access to library had a significant influence on research utilization since the p-value was less than 0.05, unlike access to internet and notice boards that were statistically insignificant. The odds ratio in respect to access to library indicates that it was about twice more likely to increase research

uptake. Therefore, access to library significantly influenced research utilization.

Finally, participation in formal or informal meetings were statistically insignificant since the p-values were higher than 0.05. However, the odds ratio in respect to participation in formal meetings indicates that respondents who participated were over two times more likely to utilize research than those who do not participate. The negative coefficient for informal interactions suggests that the more they engaged in informal discussions in their workplace, the less they would utilize research.

Overall, organizational context significantly influenced research utilization since the predicted probability ($\text{Prob} > \text{Chi}^2$) was 0.001 at 95% confidence interval. The null hypothesis context did not significantly influence research utilization was therefore rejected.

Discussion

Just like the recent study by Estabrooks et al. (2015) in Canada, this study similarly reports a significant influence of organizational contextual level variables on research utilization, with a number of variables being statistically significant predictors.

In the context of the present study, the discussion in this subsection focuses on the influence of organizational leadership, culture, evaluation (performance monitoring), social capital (information sharing), staffing, time, space, formal interactions (participation in formal meetings), informal interactions (participation in informal meetings), and access to notice boards, internet and library.

To start with, the statistically insignificant influence of leadership on research utilization in HMDs of those healthcare authorities, conflicts with previous results from Estabrooks et al. (2003), Squires et al. (2011) and Squires et al. (2013) which show that supportive leaderships are associated with increased research use, a view that was shared by key informants in the present study. Indeed, the informants emphasized the role of good leadership in providing stewardship and mobilizing resources needed to implement researched evidence. However, they expressed fear that most of their leaders tend to have limited knowledge of the benefits of research, and for this reason, research was not considered a priority in strategic

planning and budgeting, which ultimately affects its uptake.

With respect to culture, represented by norms, values and generally accepted ways of doing things, the statistically insignificant influence reported by this study was consistent with those from Doran et al. (2012) and Squires et al. (2013), as compared to Cummings et al. (2007) and Estabrooks et al. (2015) who reported significant positive relationships between culture and research uptake. Personally, I would think that such disparities in the extent to which culture influences research uptake are logical due to widely differing contexts between the developed and developing countries.

Indeed, the key informants interviewed in the present study stressed the potential influence of workplace traditions, norms, values, practices and the way that things have been over time, that, if not taken well care-off, can negatively affect utilization of a well-intended research. They cited that most managers or even health workers generally tend to have a poor reading culture that makes them not aggressively seek for written information.

More still, the present study observed that evaluation, which literally referred to routine performance monitoring, significantly influenced research utilization, a finding that was in agreement with those from Cummings et al. (2007), Squires et al. (2013) and Estabrooks et al. (2015) who also reported higher research use among teams that routinely monitor their performance with respect to action plans. Certainly, managers who monitor their performance would be in position to identify gaps and take appropriate remedial actions. For instance, if an action was recommended in a dissemination workshop, those managers who routinely their performance would be in position to identify gaps and take appropriate corrective measures, thereby increasing the likelihood of using researched findings.

Furthermore, like evaluation, this study observed that social capital, represented by sharing information among team members; significantly influenced research utilization. This finding was not in agreement with those results from Cummings et al. (2007), Squires et al. (2013) and Estabrooks et al. (2015) that did not observe significant relationships between social capital and research uptake in developed countries. Even so, the key informants

interviewed in this study underscored the role of information sharing in marketing research evidence and potentially leading to increased uptake.

The informants augured that just like any other business venture, the need to brand and market research was essential so that stakeholders become aware of the benefits from research. Since sharing information is away of gaining knowledge and learning, which challenges staff to search for new information, which is part of the process of research utilization, its logical that information sharing increases research utilization.

In addition, this study generally observed insignificant influence of organizational slack on research utilization, a finding that was consistent with those from Doran et al. (2012) and similar to Squires et al. (2013) who also that uptake was not significantly influenced by staffing, but rather personal motivation and capability. Likewise, discussions with key informants interviewed in the present study revealed conflicting opinions, with one of them making strong arguments that understaffing, work overloads and lack of time were not the root causes of low research uptake, but rather attitude, moral degenerations and lack of capacity that ends up affecting personal motivation. This opinion appears to be well supported by Squires et al. (2013) because they too stressed motivation, capacity and ability to adapt successfully to internal pressures for adjustment or external pressures for change.

More-over, Cummings et al. (2007) reported positive significant influence of staff development on research use, just like the key informants underscored to need for capacity building to increase research uptake. While, Estabrooks et al. (2015) attest that staffing, time and space as significant predictors of research utilization, Squires et al. (2013) agrees with only space but Albert et al. (2007) in their qualitative study recognized both staffing and time as among organizational factors that influenced research utilization in Mali. It is upon these, that this study recommends capacity building as a measure to increase research utilization by healthcare authorities.

Another contextual variable explored in this study was structural and electronic resources, which was represented by access to library, notice boards and internet. Among these

variables, only access to library had significant positive influence, which adds voice to conclusions by Doran et al. (2012) and Estabrooks et al. (2015) on positive association of these variables with research use.

However, the key informants interviewed in this study expressed concerns over poor access to internet and heavy workloads that inhibit health workers from accessing information published on the internet and notice boards. This is understandable considering the remote setting of the study area. As such, they preferred to have information presented to them in the form of summarized hard copies so that they could keep them in their libraries for references. These could explain why access to library had a strong positive influence on research utilization be the healthcare authorities. Nonetheless, poor reading culture was a potential threat to use of libraries.

The significant positive influence of formal interactions, or rather participation in formal team meetings, reported in the present study was consistent with those by Doran et al. (2012) and Squires et al. (2013), though Estabrooks et al. (2015) reported differing results. However, key informants interviewed in this study emphasized the need for meetings as a measure for increasing research utilization by healthcare authorities. They said the meetings could take the form of person to person courtesy call, more-so when targeting busy leaders or group workshops when targeting a wider audience. On these grounds, this study recommends team meetings.

The last organizational contextual variable explored in this study was informal interactions among team members or rather referred to as participation in informal meetings, in which no significant influence on research utilization was observed, contrary to Squires et al. (2013) and Estabrooks et al. (2015) who both reported strong positive relationships. However, these differences could be explained by the different study settings. Interesting was to note that the coefficient of informal interaction reported in the present study was negative, which suggests that the more people got engaged in informal discussions in workplace, the less they were likely to utilize research. I think that this could be accounted for by the understaffing and subsequent workloads.

Conclusion

This study shows organizational context significantly influenced research utilization since its overall predicted probability was 0.001 ($p < 0.05$), with access to library ($p = 0.023$), performance monitoring ($p = 0.029$), information sharing ($p = 0.014$) and participation in formal meetings ($p = 0.016$) being significant predictors with fairly high odds ratios. These findings highlight the combined importance of performance monitoring (evaluation), sharing information (social capital), access to library and participation in formal meetings (formal interactions) as significant predictors of increased research utilization by the healthcare authorities.

Even-though, social capital showed strongest positive influence, which implies that workplace measures that promote sharing of information were likely to increase research use by about four times. In addition, we also recommend that evaluation through routine performance monitoring with respect to action plans should be emphasized to the healthcare authorities so as to increase the likelihood of getting more favorable healthcare management decisions. Still, we recommend that healthcare authorities participate more routinely in team and departmental meetings since it significantly influenced research utilization.

References

- [1]. Albert, M. A., Fretheim, A., & Maïga, D. (2007). Factors influencing the utilization of research findings by health policy-makers in a developing country: the selection of Mali's essential medicines. *Health Research Policy and Systems*, 5 (1), 2.
- [2]. Amanda, J. F., Dennis, F., Tara, J. S., Joseph, G.D., LeAnn, E.B., Shawn, C. O. & Bibhuti, K.S. (2009). The Challenges of Implementing Evidence Based Practice: Ethical Considerations in Practice, Education, Policy, and Research. *Social Work and Society International Online Journal*, 7 (2).
- [3]. Amin, M. F. (2005). *Social Science Research: Conceptions, methodology and Analysis*. Makerere University, Kampala.
- [4]. Barends, E., Rousseau, D. M., & Briner, R. B. (2014). *Evidence Based Management: The Basic principles*. Center for Evidence-Based Management.
- [5]. Cummings, G. G., Estabrooks, C. A., Midodzi, W. K., Wallin, L. & Hayduk, L. (2007). Influence of organizational characteristics and context on research utilization. *Nurs Res*, 42 (8), 899-914.
- [6]. Doran, D., Haynes, B. R., Estabrooks, C. A., Kushniruk, A., Dubrowski, A., Bajnok, I., ... others. (2012). The role of organizational context and individual nurse characteristics in explaining variation in use of information technologies in evidence-based practice. *Implement Sci*, 7(122), 38.
- [7]. Estabrooks, C (1999). Modeling the individual determinants of research utilization. *West J Nurs Res*, 21 (6), 758-772.
- [8]. Estabrooks, C. A., Squires, J. E., Hayduk, L., Morgan, D., Cummings, G. G., Ginsburg, L., ... Norton, P. G. (2015). The Influence of Organizational Context on Best Practice Use by Care Aides in Residential Long-Term Care Settings. *Journal of the American Medical Directors Association*, 16 (6), 537.e1-537.
- [9]. Fincham, J. K. (2008). Response rates and responsiveness for surveys, standards and journals. *American Journal of Pharmaceutical Education*.
- [10]. Fraser, I. & Clancy, C. M. (2007). Forward: Importance of adopting evidence-based management in healthcare. https://www.ache.org/pubs/pdf_preface/Kovner_Foreword.pdf, date accessed; March 4, 2016.
- [11]. Gujarati, D. (2004). *Basic Econometrics* (4th ed.). McGraw-Hill Higher Education.
- [12]. Holsti, O. R. (1969). *Content analysis for the social sciences and humanities*. Addison-Wesley Pub. Co.
- [13]. Kothari, C. R. (2004). *Research Methodology: Methods and Techniques* (2nd ed.). New Age International Publishers.
- [14]. Melnyk, B. M., Fineout-Overholt, E., Gallagher-Ford, L., & Kaplan, L. (2012). The state of evidence-based practice in US nurses: Critical implications for nurse leaders and educators. *The Journal of Nursing Administration*, 42(9), 410-417. doi: 10.1097/NNA.0b013e3182664e0a.
- [15]. Mugenda, O., & Mugenda, A. G. (2003). *Research Methods: Quantitative and Qualitative Approach*. Nairobi, Kenya: Acts Press.
- [16]. Nabyonga, J., Batarangaya-Wavamunno, J., Bakeera, S. K., & Criel, B. (2012). Do guidelines influence the implementation of health programs? - Uganda's experience. *BioMed Central*, 7(98), 1-16.
- [17]. Ongolo-Zogo, P., Lavis, J. N., Tomson, G., & Sewankambo, N. (2014). Climate for evidence informed health system policymaking in Cameroon and Uganda before and after the introduction of knowledge translation platforms: a structured review

of governmental policy documents. *BioMed Central*, 13(2), 1–17.

[18]. Orem, J. N., Mafigiri, D. K., Marchal, B., Ssengooba, F., Macq, J., & Criel, B. (2012). Research, evidence and policymaking: the perspectives of policy actors on improving uptake of evidence in health policy development and implementation in Uganda. *BMC Public Health*, 12, 109.

[19]. Pfeffer, J., & Sulton, I. R. (2006). Decision-making: Evidenced-based Management. *Harvard Business Review*, 84 (1), 63-74. Retrieved from <https://hbr.org/2006/01/evidence-based-management>.

[20]. Sackett, D. L., Straus, S. E., Richardson, W. S., Rosenberg, W., & Haynes, R. B. (2000). *Evidence based medicine: How to practice and teach EBM* (2nd ed.). London: Churchill Livingstone.

[21]. Sackett, D. L., Rosenberg, W. M. C., Gray, J. A. M., Haynes, R. B. & Richardson, W. S. (1996). Evidence Based Medicine: What It Is and What It Isn't, in: *British Medical Journal*, 312, 71-72.

[22]. Squires, J. E., Estabrooks, C. A., Gustavsson, P., & Wallin, L. (2011). Individual determinants of research utilization by nurses: a systematic review update. *Implementation Science*, 6 (1), 1. <http://doi.org/10.1186/1748-5908-6-1>.

[23]. Squires, J. E., Hayduk, L., Hutchinson, A. M, et al. (2013). A protocol for advanced psycho-metric assessment surveys. *Nurs Res Pract*.

[24]. Swan, J., Clarke, A., Nicolini, D., Powell, J., Scarbrough, H., Roginski, C., ... Taylor-Phillips, S. (2012). *Evidence in Management Decisions (EMD)-Advancing Knowledge Utilization in Healthcare Management*. National Institute for Health Research.