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The Influence of Family Related Determinants on Adherence to Feeding Guidelines for Infants Born to Mothers Living with HIV in Rakai District, Uganda

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Objective: The purpose of this study was to determine the family related determinants of adherence to feeding guidelines for infants born to mothers living with HIV in Rakai District, Uganda.

Methodology: Cross-sectional study design was utilized with a sample size of 138 participants which employed quantitative method of enquiry. Consecutive sampling was used to sample the mothers who were HIV positive. Data were analyzed using SPSS to generate bi-variate analysis data.

Keywords: *type of family, population, HIV positive mothers, exclusive breast feeding.*

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The Influence of Family Related Determinants on Adherence to Feeding Guidelines for Infants Born to Mothers Living with HIV in Rakai District, Uganda

Dr. Nwanna Uchechukwu Kevin

Abstract- ***Introduction:*** In Sub-Sahara Africa, women's personal choices is not the only factor for an infant feeding to be successful, as their spouse and extended members of the family will always contribute their own views whether it is acceptable or not. In addition, for mother-infant bonding to be established, mothers usually choose exclusive breast feeding over exclusive formula feeding.

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Results: Out of the selected sample size of 138 HIV positive mothers, 135 mothers participated actively in the study. Type of family (X^2 =46.281, P-value =0.000), population of household (X^2 =91.960, P-value =0.000), household size (X^2 = 64.038, P-value =0.000) and education level of the household head (X^2 = 78.380, P-value =0.000) were the family related factors found to have statistical significant association with adherence to feeding guidelines for infants born to mothers living with HIV in Rakai district.

Conclusion: Type of family, population of household, household size and education level of the household head were the family related factors that have statistically significant association with adherence to feeding guidelines for infants born to mothers living with HIV in Rakai district.

Recommendations: Laws should be made and enacted by different Governmental and non-governmental bodies to enable HIV patients free of stigma or frustration within the family and the entire community as this will encourage them to do the required activities very well

Keywords: type of family, population, HIV positive mothers, exclusive breast feeding.

I. Introduction

In Sub-Sahara Africa, women's personal choices is not the only factor for an infant feeding to be successful, as their spouse and extended members of the family will always contribute their own views whether it is acceptable or not. (Marembo et al., 2014)[1]. In addition, for mother-infant bonding to be established, mothers usually choose exclusive breast feeding over exclusive formula feeding (Buskens et al., 2007) [2]; (Hofmann et al., 2009)[3]. Nonetheless, adhering to EBF among HIV mothers is challenging. Although breastfeeding is a highly valued practice, mixed feeding, is the norm in most of SSA (Fadnes et al., 2010)[4]. It is therefore not surprising to find that women with HIV are often strongly encouraged and even pressurized by family members to follow this practice (Madiba et al., 2013) [5]; (Mataya et al., 2013)[6]. This highlight the role of the family towards ensuring HIV positive mother adheres to the required breastfeeding practices.

In Africa (South Africa), majority of the HIV positive mothers whom practiced exclusive breast feeding deviated and introduced mixed feeding during the first month of postpartum mainly due to family pressure (Doherty et al., 2006a)[7]. Likewise, in other African Countries such as Cameroon and Burkina Faso, mothers living with HIV introduced mixed feeding for their infants due to societal and environmental (Desclaux et al., 2009)[8]. Similarly, in Nigeria, pressure from family members accounted for mixed feeding among 43% of 42 women surveyed (Lawani et al., 2014)[9]. This reveals the role of the family towards adherence to any stipulated breastfeeding guidelines in every place in Africa.

Social pressure to mix-feed may extend beyond family. In Zambia, Chisenga et al. (2011)[10] research study revealed that out of the twenty (20) mothers living with HIV interviewed a third self-confessed that their extended family members swayed their infant feeding practices which is in ambiguity to the approved recommendations from approved health facilities. However, some mothers did not go astray from the approved recommendations from health facilities irrespective of the societal and environmental pressures they faced to do so, but they did not fully explain and disclose why the remained steadfast to the approved recommendations (Tijou-Traore et al., 2009) [11]; (Madiba et al., 2013) [5]; (Mataya et al., 2013) [6].

According to various researches done, it is a known fact that extended family membersand matrons

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of various unions in the society have a robust impact on infant feeding among HIV positive mothers especially in Sub-Saharan Africa (Buskens et al., 2007) [2]; (Cames et al., 2010)[12]. Unfortunately, these matrons from strong unions in the society, advises these mothers on mixed feeding without the appropriate knowledge and awareness of infection due to HIV and the high risk of Mother to Child Transmission (MTCT) (Hofmann et al., 2009) [13]; (Maru et al., 2009)[14]. As such, HIV positive mothers living with their family whether extended or nuclear are more probable to practice mixed feeding (Doherty et al., 2006a) [15]; (Falnes et al., 2011)[16]. Thus, some of the dynamics that aid mothers living with HIV to repel mixed feeding includes but not limited to full disclosure of their HIV status to their spouse, matrons and extended family members; living in a metropolitan city or another country away from extended family members and regular participation in approved support groups and unions (Østergaard, L.R et al., 2010)[17].; (Falnes et al., 2011) [16]; (Mataya et al., 2013) [6]. There is every indication that the family members predict the choice of the feeding pattern of the mothers, incorporating a new feeding guideline due to HIV infection will require the acceptance of the family members or else it may lead to misunderstanding. Family members are one of the major predictors of breastfeeding.

II. Methodology

a) Study design

This study design was a cross-sectional study with quantitative data collection methods. The cross-sectional study enabled the researcher to collect all the required data at a point. Given that the study focuses on the family determinants of adherence to feeding guidelines for exposed infants among mothers living with HIV in Rakai district, the research was concerned with finding out which is a better predictor variable. So also, the research objectives were used to design questions that necessitated the collection and analysis of the data.

b) Study population

The study population was among mothers living with HIV in Rakai district, Uganda. It was estimated that 1 in every 10 mothers in Rakai district are living with HIV (Rakai district Statistical Abstract, 2009)[18].

c) Inclusion criteria

All mothers living with HIV in Rakai district and are willing to participate in the study.

d) Exclusion criteria

All HIV mothers in Rakai district who were unable to answer the question due to one condition or the other.

e) Sample size calculation

In a study, an estimate of the number of women living with HIV in Rakia district is available, which was around 10% (Rakai district Statistical Abstract, 2009) [18]. The researcher determined the sample size using Kishi and Leslie formula, this method is used because the actual population of a woman living with HIV in Rakia district is unavailable. This method involves the equation below:

$$N = \frac{Z^2 p.q}{d^2}$$ (Kishi and Leshi, 1965)[19].

Where

- n = desired sample size
- Z = standard normal deviate at confidence level of 95% or 1.96,
- P= proportion in the population with (10%),
- Q= 1-p (P is the proportion of the population),
- D = Degree of accuracy desired at (0.05)
- $N = \frac{Z^2.\ p.q}{d^2}$ $N = \frac{1.96^2 x 0.1 x (1-0.1)}{(0.05)^2}$

The n value = 138
So, the sample size for this study is 138.

f) Sampling procedures

Consecutive sampling technique was used to assess the woman living with HIV in Rakia district; consecutive sampling technique involves selecting all individuals who agree to participate, provided they meet pre-established criteria until the number of desired subjects is achieved.

g) Measurement of Variables

i. *Independent Variables*

Family-relateddeterminants: The type of family system was grouped into "Nuclear or Extended family". Husband participation in EMTCT, ANC and ART uptake was grouped into "Yes or No". Household composition was grouped into 1-3, 4-6, 7 and above. Familial support was grouped into "Yes or No". Male partner influence on feeding options was grouped into "Yes or No". Household size was grouped into 1-3, 3-5, 6 and above. The education level of the household head was grouped into primary, secondary and tertiary education.

ii. *Dependent Variable*

Breastfeeding of exposed infant regardless of HIV status: This was determined by asking whether the mothers exclusively breastfed for first six months of life, introducing appropriate complementary foods thereafter, and continue breastfeeding while being fully supported for ART adherence. Those mothers who adhere to the breastfeeding guidelines stated above were grouped under "adhere" and those who did not adhere were grouped under "not-adhere".

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h) Data collection methods

i. *Quantitative methods*

Data were collected using structured questionnaire and with the help of the research assistants. A semi-structured questionnaire was designed that contained all the questions related to the study objectives. When required to interpret the questions for the mothers, the research assistant helped to do so.

i) Data Management

Data collected were analyzed using the Statistical Package for Social Sciences (version 22.0). Statistical calculations were done using bivariate analysis.The bivariate analysis made use of Pearson's Chi-square to establish the relationship between the independent variables and the dependent variable at an alpha level of 0.05.

j) Quality control (Reliability and Validity)

Data collected were passed through several stages before analysis and these included compiling, sorting, editing and coding in order to have the required accuracy, quality and completeness. Editing was done the very day the questionnaires were collected. Completed questionnaires were collected from the respondents, checked for completeness, coded, and entered into the computer, in addition to ensure validity, the researcher pre-tested the questionnaires prior to data collection.

k) Ethical considerations

To protect the research respondents from any negative impact, this research study follows the regulations and guidelines stipulated by the Research Ethics Committee of Stafford University Uganda, which also provided ethical clearance for this research. Following this, permission to conduct the study was obtained from the Rakai district. Hence, in order to uphold high ethical standards, the following measures were adhered to:

Informed Consent – all respondents and participants were notified beforehand of the nature of the research, and their consent was sought prior to the completion of questionnaires.

A statement regarding the purpose of the inquiry was provided to all participants of the study, which outlined the participant's role in the study and how the information they provided was to be used.

l) Limitation of the study

The study may be limited by the information supplied, information bias do occurs when the respondents prefer not to supply correct information example when administering the questionnaires to the respondents; this was curbed by emphasizing on the confidentiality of the information verbally and inclusion in the questionnaire.

The consecutive sampling strategy used in the study may affect the generalizability of the result that was obtained among HIV women, but it was discovered that consecutive sampling method was the fittest for this study considering the study population.

III. Results

A total of 135mothers living with HIV were sampled out of the 138 anticipated sample size indicating a response rate of 98%.

Table 1: Family related determinants of adherence to feeding guidelines for infants born to mothers living with HIV in Rakai district

Adherence to feeding guidelines for infants born to HIV mothers					
Variable	Categories	Adhere	Not-adhere	X^2	P-value
Type of family	Nuclear Extended	15 54	53 13	46.281	**0.000**
Husband Participating in ART, ANT and EMTCT	Yes No	31 38	19 47	3.768	0.052
Population of household	1-3 4-6 7 and above	0 31 38	51 0 15	91.960	**0.000**
Adequate Family support during post-natal activities	Yes No	31 38	19 47	0.172	0.679
Male Partner influence the feeding option	Yes No	31 38	19 47	3.768	0.052
Household size	Large Small	48 21	2 64	64.038	**0.000**
Education level of the household head	Tertiary education Secondary education Primary education No formal education	67 2 0 0	15 35 16 0	78.380	**0.000**

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Type of family (X^2 =46.281, P-value =0.000), population of household (X^2 =91.960, P-value =0.000), household size (X^2 = 64.038, P-value =0.000) and education level of the household head (X^2 = 78.380, P-value =0.000) were the family related factors found to have statistical significant association with adherence to feeding guidelines for infants born to mothers living with HIV in Rakai district (Table 1).

IV. Discussion

Type of family was among the family related factors found to have a statistically significant association with adherence to feeding guidelines for infants born to mothers living with HIV in Rakai district. Type of family predicts the type of activities going on in the family, either nuclear or extended there are certain activities common to them each. Studies have reported that women who were financially independent, living within a nuclear family setting or supported by an HIV-positive partner were more likely to exclusively breastfeed (Doherty et al., 2006a) [7]; (Desclaux et al., 2009) [8]; (Østergaard, L.R et al., 2010) [17]; (Mataya et al., 2013) [6].

The population of household, household size and education level of the household head were among the family related factors found to have a statistically significant association with adherence to feeding guidelines for infants born to mothers living with HIV in Rakai district. The population, size and education level predicts the kind of the activities going on with the family. This is in line with a study that reported that grandmothers and other matriarchs have a strong influence on infant feeding in SSA (Buskens et al., 2007) [2]; (Cames et al., 2010) [12]. Unfortunately, matriarchal advice on mixed feeding is usually given without the awareness of HIV infection and the risk of MTCT (Hofmann et al., 2009) [3]; (Maru et al., 2009) [14]. As such, women living with their mothers or mothers-in-law are more likely to mix feed (Doherty et al., 2006a) [7]; (Falnes et al., 2011) [16]. Factors that help mothers resist mixed feeding advice include disclosing HIV status to partners and mothers-in-law, attending peer support groups, and living in urban areas away from matriarchs (Østergaard, L.R et al., 2010) [17]; (Falnes et al., 2011) [16];(Mataya et al., 2013) [6]. There is every indication that the family members predict the choice of the feeding pattern of the mothers, incorporating a new feeding guideline due to HIV infection will require the acceptance of the family members or else it may lead to misunderstanding. Family members are one of the major predictors of breastfeeding.

V. Conclusion

Type of family, population of household, household size and education level of the household head were the family related factors that have statistically significant association with adherence to feeding guidelines for infants born to mothers living with HIV in Rakai district.

VI. Recommendation

Laws should be made to enable HIV patient free of stigma or frustration within the family and the entire community, this will encourage them to do the required activities very well and will encourage them to share their minds with people close to them in order to receive adequate monitoring and guidance in all their endeavours.

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