

Working Mother's Perception of Exclusive Breastfeeding Across Individual and Workplace Factors

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Abstract

Empirical insight into understanding the perception of working mothers towards exclusive breastfeeding (EBF) in Nigeria is needed to develop effective interventions for improving EBF rate and thus reducing infant mortality. This study therefore examines working mothers' perceptions of exclusive breastfeeding across selected personal and workplace factors. The research adopted a cross-sectional survey design using quantitative research methods within the premises of the University of Ibadan (UI) and the University College Hospital (UCH), Ibadan. The population included working mothers employed in UI and UCH. A representative sample size of 340 respondents was obtained based on the combined total number of female employees in UI and UCH. A multistage sampling technique was used to select participants for the study. Data collection was done using a structured, pre-coded, self-administered questionnaire. Both descriptive and inferential statistics was employed in the data analysis. Results showed that workplace factors (manager support, co-worker support, work flexibility) jointly predicted working mothers' perception of exclusive breastfeeding in UI and UCH [$F_{(3,331)}=21.941$; $p < .05$] and accounted for 16.6% of the variance in their perception. Similarly, the independent influence of workplace factors showed that manager support ($\beta = .466$; $p < .05$), co-worker support ($\beta = .123$; $p < .05$) and work flexibility ($\beta = .133$; $p < .05$) significantly predicted the perception of exclusive breastfeeding among working mothers in UI and UCH. Furthermore, parity ($\beta = -.096$; $p < .05$) of respondents emerged as a significant negative predictor of exclusive breastfeeding perceptions among working mothers in UI and UCH. Efforts towards promoting exclusive breastfeeding among working mothers should be modified based on contextual individual and workplace factors in order to enhance the effectiveness of such interventions.

Keywords: Breastfeeding; Perception; Mother

Introduction

Breastfeeding served and continues to serve as an appropriate method through which newborns are offered essential nutrients necessary for optimal growth and intellectual development. Breast milk is regarded as perfect, natural and protective food for newborns. Given that prolonging people's lives (by reducing mortality) and preventing disease (by reducing morbidity) are some of the goals of public health [1], breastfeeding and/or EBF has been acknowledged as an effective approach to the achievement of these goals. In a study by Vennemann and colleagues [2] breastfeeding was found to be protective against sudden infant death syndrome by reducing the risk by 50% at all ages during infancy; these benefits have been reported to exhibit dose-response relationship, that is, health gains increases with increases in duration and exclusivity.

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Infants when exclusively breastfed for the optimal duration of six months are significantly protected against the major childhood diseases conditions viz. diarrhoea, gastrointestinal tract infection, allergic diseases, diabetes, obesity, childhood leukaemia and lymphoma, inflammatory and bowel disease [3,4]. In particular, the risk of hospitalization for lower respiratory tract infections during the first year of life is reduced by 72% when infants are exclusively breastfed for more than 4 months [4]. Duncan., *et al.* [5] also found exclusive breastfeeding to be protective against single and recurrent incidences of otitis media. Infants who were given supplementary foods prior to 4 months had 40% more episodes of otitis media than their counterparts.

Over the last couple of decades, there has been an increasing interest in the promotion of exclusive breastfeeding as the 'best' feeding method for newborns. This, to a large extent, has been inspired by mounting scientific evidence on the importance of exclusive breastfeeding in reducing infant morbidity and mortality. In resource limited settings where poor and suboptimal breastfeeding practices frequently result to child malnutrition which is a major cause of more than half of all child deaths [6], exclusive breastfeeding is regarded as imperative for infants' survival. Indeed, of the 6.9 million under five children who were reported dead globally in 2011, an estimated 1 million lives could have been saved by simple and accessible practices such as exclusive breastfeeding [3]. Consequently, the WHO and UNICEF have recommended exclusive breastfeeding for six months, followed by introduction of complementary foods and continued breastfeeding for 24 months or more.

In recognition of the essential role of exclusive breastfeeding (EBF) vis-à-vis infants' survival strategies, a lot of effort has gone into scaling up the rates in developing countries where incidence of child malnutrition and mortality is still high. Yet, successes in increasing the levels of EBF have rather been modest. In an analysis of data on EBF from 38 developing countries between 1990 and 2000 Labook., *et al.* [7] reported an increased EBF rate from 46% to 53% among infants younger than 4 months and from 34% to 39% for those younger than 6 months. Higher increment was noted in urban areas (30% to 46%) than rural ones (42% to 48%). Although there were increases in all the regions studied viz. Middle East/ North Africa (29% to 34%), South Asia (49% to 56%), East Asia/Pacific (57% to 65%); the most impressive increment, however, was found in Sub Sahara Africa where the rate nearly doubled from 18% in 1990 to 38% in 2000.

A low breastfeeding rate is indicated as a serious public health concern. About one-third of the women never start breastfeeding and most of those who at least start stops after returning to work. Only one in ten working mothers nurses for recommended two years [8]. According to McAlpine [9] many women give up breastfeeding when they return to work, because the thought of breastfeeding, expressing their milk and fiddling around with pumps and storage just seems overwhelming. In Nigeria, almost all children are breastfed. However, the rate of exclusive breastfeeding is low and declining – from 28% in 1999 to 17% in 2013. The rate of breastfeeding initiation within the first hour of delivery is equally low (38%). These low rates of breastfeeding practice possibly contribute to the high burden of neonatal and infant mortality in the country. Evidence linking inappropriate breastfeeding practices with child morbidity and mortality lends credence to this position.

The post-industrial era has seen a significant increase in women's workforce participation. Not only are a greater number of women participating in the labor force, but they may also be working a greater number of hours. The post-industrial era has been characterized by rapid change, with accompanying uncertainty and job insecurity [10]. In this context, many middle-class individuals feel pressured to work a greater number of hours in an attempt to demonstrate commitment and thereby increase job security. At the same time, the difficulty of finding a low or unskilled job that pays a living wage has forced many working-class individuals to work more than one job and therefore more hours [10]. Mothers of young children are participating in the workforce in greater numbers than ever before [11], and there is at least some evidence that an increasing number of women are attempting to continue breastfeeding after returning to work [12].

The average female worker spends about eight hours at work. This includes a woman who has just delivered a baby a month or two ago. A major core stressor for working women is their emotional response to dissonance between the behaviour they experience at work

and the behaviour they find acceptable to them. At work women are expected to perform just as much as their male colleague despite breastfeeding activities that she might be involved with at times. Their long demanding day sometimes deprives them an opportunity to breastfeed their babies in between their work schedule or to express breast milk for feeding later. After a long and stressful day they want nothing else but to rest. Thus, breastfeeding becomes an unbearable chore for them. Various studies reveal a negative relationship between maternal employment and breast feeding [13].

Indeed, breastfeeding rates have been climbing in over the years, even among working mothers [14]. However, a number of studies have shown that women frequently cite returning to work/school as a reason to stop breastfeeding [15]. This suggests that some mothers perceive breastfeeding and their work arrangement to be incompatible. Working women who have chosen to breastfeed necessarily require certain accommodations in the workplace if they are to be successful in continued breastfeeding. In order to maintain an adequate milk supply, employed breastfeeding mothers need equipment for expressing milk, a private location to express milk, and a 15-30 minute break every three to four hours for doing so [16]. A variety of workplace characteristics may affect the availability of these accommodations and therefore the feasibility of combining breastfeeding and work.

In response, the Nigerian government established the Baby-Friendly Hospital Initiative (BFHI) in various cities including Benin, Enugu, Maiduguri, Lagos, Jos and Port Harcourt with the aim of providing mothers and their infants a supportive environment for breastfeeding and to promote appropriate breastfeeding practices, thus helping to reduce infant morbidity and mortality rates. Despite these efforts, child and infant mortality continue to be major health issues affecting Nigeria. The infant mortality rate for the most recent five-year period is about 100 deaths per 1,000 live births. EBF rates in Nigeria continue to fall well below the WHO/UNICEF recommendation of 90% EBF in children less than 6 months [17]. A more detailed understanding of the attitude of working mothers to exclusive breastfeeding EBF in Nigeria is needed to develop effective interventions to improve the rates of EBF and thus reduce infant mortality. This study therefore examines perceptions and practices of exclusive breastfeeding among working mothers.

Theoretical framework: Social cognitive theory

Any attempt to understand the tacit and/or manifest interactive influences between individuals and their social environment is most likely to garner some success when placed under appropriate theoretical guidance. This in part can be explained by the central role of theories in aiding our efforts to make sense of the social world [18]. According to the theory, health behavior is influenced by a core set of determinants namely, knowledge, perceived self-efficacy, outcome expectation, perceived facilitators and social structural impediments [19]. In relation to breastfeeding behaviours, previous use of this theoretical framework did lead to some important insights. The theory's application in this study is similarly hoped to broaden our understanding and ability to explain EBF in the context of working mothers.

Knowledge as averred by the theory is an important element of health behaviour change. When people are adequately informed about the risk and benefits of certain actions or life styles, they will be more likely or motivated to initiate a change. This knowledge or information as Bandura argued is a necessary but not a sufficient basis for change. What is needed in addition is the belief in personal efficacy. Self-efficacy as defined by Bandura [20] is "beliefs in one's capabilities to organize and execute the courses of action required to produce given levels of attainments" (p. 624). It is self-efficacy that enables people to set goals for themselves, and pursue the realization of those goals with much commitment and perseverance. In the words of Bandura [19], 'unless people believe they can produce desired effects by their actions, they have little incentive to act or to persevere in the face of difficulties' (p. 144) That is, individuals' actions or inactions are closely tied to their perceived capacity to produce desired results.

Although important in modifying individuals' beliefs and lifestyles, self-efficacy however, is not an independent determinant of behaviour. It is always an impetus which in concert with other determinants e.g. perceived outcome works to produce a desired effect. Perceived outcome is a negative or positive self evaluation of one's behaviour or action. From a social perspective, Perceived outcome may also

refer to any kind of approval or disapproval that accompanies' an individual's action or behaviour. For any anticipated positive or good outcome, people are likely to put up behaviours to that effect while on the other hand, the same or similar behaviours may be withheld if the anticipated outcome is deemed to be bad or negative. In all cases nonetheless, individuals' behaviour change efforts can be impeded by personal, socio-structural, economic, cultural, religious, or environmental factors etc.

Review of related empirical studies

Analyses by Cai, Wardlaw and Brown [21] on the global prevalence of EBF across 140 countries, also reported an increase in the developing world from 33% in 1995 to 39% in 2010 among infants aged 0 - 5 months. Increases from West and Central Africa were more than twofold i.e. from 12% in 1995 to 28% in 2015. There had also been considerable improvements from 35% in 1995 to 47% in 2015 among countries in Eastern and Southern Africa whereas those in South Asia witnessed a modest surge from 40% in 1995 to 45% in 2015. Though it is still lower than the other regions, the rapid increase in West and Central Africa is probably not a surprise since it hitherto had and continues to have one of the lowest rates of EBF in the developing world for which reason intensive efforts were made to scale up the practice in the last two decades.

Chukwu, Ogbonna, Gyang and Okolo [22] examined the relevance of exclusive breast-feeding practice, in the development of healthy oral tissue among teething infants. A cross sectional study design of children aged 6-36 months was carried out in 14 wards of Jos North Local Government Area. One thousand and eighty-one mothers and their babies were interviewed and examined; out these 16.5%, 38.7% and 44.8% babies were of age groups 6-12, 13-24 and 25-36 months respectively; 50.2% were female and 49.8% were male. Of the babies examined 62.4% were exclusively breast-fed. There was a significant association between maternal educational status and knowledge of teething complaints. Three hundred and twenty-six (30.1%) babies had cough during their teething period, 349 (32.3%) experienced drooling of saliva, and 352 (32.6%) were observed to bite objects during teething. The high percentage of babies that were exclusively breast-fed but did not experience these symptoms were found to be statistically significant ($p = 0.00$). Seven hundred and forty-two (68.6%) babies had diarrhoea during teething; out of these 459(42.5%) were exclusively breast-fed and it was however not found to be statistically significant.

Sholeye, Abosede and Salako [23] assessed the breastfeeding practices and associated factors among mothers of children less than two years of age in Sagamu, Nigeria. A cross-sectional descriptive study was carried out among 264 mothers of children less than two years of age, in Sagamu Township, Ogun State, Nigeria, selected via multi-stage sampling. Data was collected using validated semi-structured, interviewer-administered questionnaires and analyzed using SPSS Version 18. The modal age group of respondents was 30 - 39 years; 96.2% were married and 42.4% were traders. All respondents breastfed their children, but only 56.1% practiced exclusive breastfeeding. About 25% were pressurized by relatives to stop exclusive breastfeeding. Respondents' educational status ($p < 0.001$), a feeling that breastfeeding had maternal benefits ($p = 0.044$), feeling of protection against ovarian cancer ($p = 0.030$) and nipple retraction ($p = 0.015$) were associated with the practice of exclusive breastfeeding. Reasons for not breastfeeding exclusively include: breast pain; a difficult work schedule, poor partner support and perceived weight loss. The breastfeeding practices of respondents were fair. Mothers' perception of breastfeeding benefits was associated with their practice. Adequate education of mothers and their partners will go a long way in enhancing optimal breastfeeding practices.

Agunbiade and Ogunleye [24] investigated breastfeeding practices and experiences of nursing mothers and the roles of grandmothers, as well as the work-related constraints affecting nurses in providing quality support for breastfeeding mothers in Southwest Nigeria. Using a concurrent mixed method approach, a structured questionnaire was administered to 200 breastfeeding mothers. In-depth interviews were also held with breastfeeding mothers (11), nurses (10) and a focus group discussion session with grandmothers. Breastfeeding was perceived as essential to baby's health. It strengthens the physical and spiritual bond between mothers and their children.

Exclusive breastfeeding was considered essential but demanding. Only a small proportion (19%) of the nursing mothers practiced exclusive breastfeeding. The survey showed the major constraints to exclusive breastfeeding to be: the perception that babies continued to be hungry after breastfeeding (29%); maternal health problems (26%); fear of babies becoming addicted to breast milk (26%); pressure from mother-in-law (25%); pains in the breast (25%); and the need to return to work (24%). In addition, the qualitative findings showed that significant others played dual roles with consequences on breastfeeding practices. The desire to practice exclusive breastfeeding was often compromised shortly after child delivery. Poor feeding, inadequate support from husband and conflicting positions from the significant others were dominant constraints. The nurses decried the effects of their workload on providing quality supports for nursing mothers.

Oche, Umar and Ahmed [25] examined knowledge and practice of exclusive breastfeeding in Kware, Nigeria. This was a cross-sectional descriptive study involving women of child bearing age in Kware town of Sokoto State. One in eight samples of 179 mother-child pairs were selected and information regarding their knowledge and practice of exclusive breastfeeding obtained using a set of structured interviewer administered questionnaires. A total of 54(31%) of the mothers had adequate knowledge of exclusive breastfeeding with 94(53%) of them initiating breastfeeding immediately after birth. Only 55(31%) of the mothers practiced exclusive breastfeeding. Out of the 53 mothers that stopped breastfeeding, 85% of them did so between 16–20 months. Although breastfeeding was universal in this community, the knowledge and practice of EBF was low. There is a need to institute interventions aimed at early initiation of breastfeeding and improving the knowledge and practice of EBF towards achieving the goals of MDG-4 in the study community.

Craig and Dietsch [26] aimed to uncover the perceived usefulness of a contemporary antenatal education strategy for mother's experience of breastfeeding initiation. This was a simple descriptive pilot study with ten first time mothers as participants; all of who were booked into an Australian private maternity unit for antenatal breastfeeding education, labour, birth and postpartum care. Semi-structured interviews were transcribed verbatim and thematically analyzed. The findings of the study were antenatal education was beneficial for informing first time mothers of the practical skills required to positively initiate breastfeeding. Lin., *et al.* [27] assessed the effectiveness of structured prenatal education programme on breastfeeding and to evaluate the effectiveness of the programme through quasi experimental study. The experimental group had higher scores in breastfeeding knowledge and breastfeeding attitude at three days postpartum. The experimental group showed higher breastfeeding satisfaction at three days and one month postpartum. There were no significant differences in experiencing breastfeeding problems. The rate of exclusive breastfeeding was higher for the experimental group at three days and one month postpartum, but the differences were not statistically significant.

Tarrant., *et al.* [28] conducted a prospective cross-sectional study involved the recruitment of women during the antenatal period, with subsequent follow-up of mothers who delivered healthy, term singleton infants, at 6 weeks and 6 months postpartum. Results revealed that breastfeeding initiation rates of the Irish-national and non-Irish-nationals were 47% and 79.6%, respectively. Factors that were significantly ($P = 0.000$) associated with both breastfeeding initiation and 'any' breastfeeding at 6 weeks included mothers who were ≥ 35 years, educated to third level, reported positive postnatal encouragement to breastfeed from their partners and had a positive antenatal intention to breastfeed. The maternal negative perception that breastfeeding is an embarrassing way to feed an infant was demonstrated as a major barrier to initiation.

Agampodi., *et al.* [29] assessed the effectiveness and feasibility of on the job staff training and supportive supervision to improve six months of Exclusive Breastfeeding (EBF). The study sample consisted of mother-infant pairs where infants were aging 6 to 12 months, attending child welfare clinics. Results revealed 336 mother-infant pairs (pre 139, post 197). Proportion of mothers whom breastfed their infants exclusively for six months improved from 19% to 70% after the intervention. The median duration of EBF increased from

4 months to 6 months (inter-quartile range 2-6 and 5-6 months respectively). Uncompounded effect of intervention on 6 months EBF in logistic regression model was highly significant. Intervention significantly reduced the bottle feeding rate but not formula feeding of potential predictors assessed, employed mothers compared to housewives were more likely to breastfeed their infants up to six months. Parity, maternal education and maternal age were not significantly associated with six months EBF.

Research hypotheses

Based on the review of literature the following hypotheses were formulated and tested during the course of the study

- **H₁**: Workplace factors (manager support, co-worker support, work flexibility) will jointly and independently predict perception of exclusive breastfeeding among working mothers in UI and UCH.
- **H₂**: Individual factors (age, parity, income, educational qualification) will jointly and independently predict perception of exclusive breastfeeding among working mothers in UI and UCH.

Research Methods

Design and setting

The study adopted a cross-sectional survey design using quantitative research methods to examine the perceptions of exclusive breastfeeding among working mothers. The study was conducted within the premises of the University of Ibadan and the University College Hospital (UCH), Ibadan. Established in 1948, the University of Ibadan, UI as it is fondly referred to, is the first University in Nigeria. Until 1962 when it became a full-fledged independent University, it was a College of the University of London in a special relationship scheme. The University, which took off with academic programmes in Arts, Science and Medicine, is now a comprehensive citadel of learning with academic programmes in sixteen Faculties. The University College Hospital (UCH) is strategically located in Ibadan North LGA. The physical development of the Hospital commenced in 1953 in its present site and was formally commissioned after completion on 20 November 1957. Both the University of Ibadan and the University College Hospital have appreciable staff strength.

Study population

A population refers to an entire group or aggregate of people having one or more common characteristics. It is the broader group to which findings from the study are generalized (reference population) [30]. In this study, the reference population included working mothers employed in the University of Ibadan and the University College Hospital (UCH), Ibadan. Thus, the eligibility criteria for participants included that they

- Must be a female staff (junior or senior cadre) of the University of Ibadan and the University College Hospital (UCH), Ibadan
- Must be a mother
- Must be able to communicate (read, write and speak) in English Language
- Must willingly consent to participate in the study.

Sample size and sampling technique

A representative sample size was obtained based on the combined total number of 3000 female employees in the University of Ibadan and the University College Hospital (UCH), Ibadan. The sample size was obtained using Slovin sample size determination formula;

$$n = N / (1 + Ne^2)$$

Where

n: Sample size

N: Population size

e: Error margin

$$\begin{aligned}n &= 3000 / (1 + 3000 \cdot 0.05^2) \\ &= 3000 / 8.8 \\ &= 340 \text{ working mothers.}\end{aligned}$$

A multistage sampling technique was used to select participants for the study. Multistage sampling is a form of probability sampling approach done in stages until the final sampling units are arrived at. In probability sampling, each unit in the population has a chance of being selected. The sample can be said to be representative of the population from which it was selected and as such, generalizations of findings can be made to the population. Multistage sampling technique is appropriate for selecting a representative sample from a large population. In the first stage, a stratified random sampling was adopted. This involved creating limited strata made up of faculties/department within the University of Ibadan and the University College Hospital (UCH), Ibadan. In the second stage purposive sampling was employed in selecting appropriate number of participants from each stratum based on the obtained sample size and eligibility criteria. Snowballing techniques were also adopted in this stage.

Measures

Data collection was done using a structured, pre-coded, self-administered questionnaire. Questionnaires are documents containing questions and other items designed to elicit information appropriate to specific research and analysis. The questionnaire is made up of three main sections, namely, biographical data (section A), attitude towards exclusive breastfeeding (section B), and factors affecting perception of exclusive breastfeeding. The answer categories are mutually exclusive and special instructions will be provided where necessary for easy understanding. A covering letter also accompanied the questionnaire, which introduced the study and the researcher to participants, as well as request for their consent to participate in the study. It also provided instructions on how to complete the questionnaire. Participants were not requested to write their name or any other form of identity in the questionnaire in order to ensure that their identity could not be linked with their individual responses.

In order to measure the extent to which the survey instruments have been able to achieve their aims, the process of content validity was employed by cross examination and verification. The knowledge gained from other investigations, literature review, theoretical framework and research methods were used for an initial face validation while expert assessment from a committee of experts provided content validation for the instrument. Consequently, a number of items in the questionnaire were amended. In order to measure the consistency of the instrument in measuring the appropriate construct over time, a pilot study would be carried out among a sample with similar characteristics to the study population. Outcomes from the pilot study were subjected to a split half reliability test in order to obtain the reliability coefficient for the instrument. Split half reliability coefficients of .78 and .71 were obtained for the study instrument.

Data collection method

The researchers, accompanied by research assistants, visited participating units/departments within the University of Ibadan and the University College Hospital (UCH), Ibadan. Upon completion of the administrative protocol, the purpose of the study was explained to the management of the units/department. In order to ensure effective administration of the instrument, a contact person (potential participant) within each unit/department was implored to distribute copies of the questionnaire to all available colleagues who meet the eligibility criteria within the unit/department. The contact persons were encouraged to ask clarification questions. Printed instructions on how to complete the instrument was provided on each questionnaire, in which participants was assured that there are no right or wrong answers and a strict measure of confidentiality would be ensured. Participants were expected to fill the questionnaires at their leisure time and return the completed questionnaires to the contact person at their earliest possible convenience. Data obtained from

the study was input and coded into an SPSS package for data analysis. Both descriptive and inferential statistics was employed in the data analysis. These included the use of percentage frequency and multiple regression analysis.

Results

Socio-demographic characteristics

The socio-demographic characteristics of the respondents were sought in the course of the data analysis. Results are presented in table 1.

| | | Frequency | Percent |
|---------------------------|---------------------|-----------|---------|
| Age | 18-25 years | 77 | 22.6 |
| | 26-35 years | 116 | 34.1 |
| | 36-45 years | 65 | 19.1 |
| | 46-55 years | 60 | 17.6 |
| | 56-65 years | 22 | 6.5 |
| Marital Status | Single Mother | 8 | 2.4 |
| | Married | 315 | 92.6 |
| | Separated/Divorced | 12 | 3.5 |
| | Widowed | 5 | 1.5 |
| Parity | One | 90 | 26.4 |
| | Two | 186 | 54.7 |
| | Three | 35 | 10.3 |
| | Four | 17 | 5.1 |
| | Five or more | 12 | 3.5 |
| Educational Qualification | O’level/OND | 19 | 5.6 |
| | Bachelor Degree/HND | 142 | 41.8 |
| | Master Degree | 125 | 36.8 |
| | Doctorate | 54 | 15.9 |
| Work Experience | 1-5 years | 24 | 7.1 |
| | 6-10 years | 120 | 35.3 |
| | 11-15 years | 99 | 29.1 |
| | 16 years or more | 97 | 28.5 |
| Total | | 340 | 100.0 |

Table 1: Distribution of Respondents’ Demographic Characteristics.

The ages of participants ranged from 20 years to 60 years with an average age of 36.7 years and a standard deviation of 11.4. Results as presented in Table 1 show that majority (92.6%) of the respondents were married while the remaining were made up of single mothers (2.4%), divorcees (3.5%) and widows (1.5%). In terms of the parity status, 26.4% of the respondents had one child, 54.7% had two children, 10.3% of them had three children, 5.0% of them had four children, while 3.5% of them had five or more children. Their educational

qualification ranged from ordinary level certification/diploma to doctoral degrees with majority (41.8%) of them having first degree certification. Work experience showed that 35.3% of the respondents had 6-10 years’ work experience, 29.1% had 11-15 years’ work experience while 28.5% of the respondents had more than 15 years’ work experience.

Hypothesis testing

In line with the objectives of the study, two hypotheses were formulated and tested using appropriate statistical techniques. Results are presented in the following sections.

Hypothesis one

Workplace factors (manager support, co-worker support, work flexibility) will jointly and independently predict perception of exclusive breastfeeding among working mothers in UI and UCH. This hypothesis was tested using multiple regression analysis. Results are presented in table 2.

| | R ² | F | sig | Beta | t | Sig. |
|------------------|----------------|--------|------|------|-------|------|
| Manager Support | | | | .466 | 7.881 | .000 |
| Coworker Support | .166 | 21.941 | .000 | .123 | 2.392 | .017 |
| Work Flexibility | | | | .133 | 2.300 | .022 |

Table 2: Summary of multiple regression showing influence of workplace factors on exclusive breastfeeding.

The result from Table 2 shows that workplace factors (manager support, co-worker support, work flexibility) jointly predicted working mothers’ perception of exclusive breastfeeding in UI and UCH [$F_{(3, 331)}=21.941$; $p < .05$] and accounted for 16.6% of the variance in their perception. Similarly, the independent influence of workplace factors showed that manger support ($\beta = .466$; $p < .05$), co-worker support ($\beta = .123$; $p < .05$) and work flexibility ($\beta = .133$; $p < .05$) significantly predicted the perception of exclusive breastfeeding among working mothers in UI and UCH. The results imply that high levels of manager and coworker support within a relatively flexible work schedule will bring about more favourable disposition towards exclusive breastfeeding among working mothers in UI and UCH. The alternate hypothesis stated is therefore accepted

Hypothesis two

Personal factors (age, parity, educational qualification and work experience) will jointly and independently predict perception of exclusive breastfeeding among working mothers in UI and UCH. This hypothesis was tested using multiple regression analysis. Results are presented in table 3.

| | R ² | F | sig | Beta | t | Sig. |
|---------------------------|----------------|------|------|-------|--------|------|
| Age | | | | .010 | .185 | .854 |
| Parity | .011 | .900 | .064 | -.096 | -1.751 | .041 |
| Educational Qualification | | | | -.014 | -.249 | .804 |
| Work Experience | | | | .038 | .688 | .492 |

Table 3: Summary of multiple regression showing influence of personal factors on exclusive breastfeeding.

The result from Table 3 shows that age, parity, educational qualification and work experience did not jointly predict working mothers' perception of exclusive breastfeeding in UI and UCH [$F_{(4, 333)} = .900$; $p > .05$] and accounted for an insignificant variance of 1.1% of the variance in their perception. However, parity ($\beta = -.096$; $p < .05$) of respondents emerged as a negative significant predictor of exclusive breastfeeding perceptions among working mothers in UI and UCH. The other personal factors, including age ($\beta = .010$; $p > .05$), educational qualification ($\beta = -.014$; $p > .05$) and work experience ($\beta = .038$ $p > .05$) did not have significant predictive effect on perception of exclusive breastfeeding among working mothers in UI and UCH. The alternate hypothesis stated is therefore partially supported due to the significant influence of parity.

Discussion and Conclusion

The first hypothesis which stated that workplace factors (manager support, co-worker support, and work flexibility) will jointly and independently predict perception of exclusive breastfeeding among working mothers in UI and UCH was supported. The results are justified by the fact that the process of exclusive breastfeeding cannot be achieved in isolation. This means that the process of exclusive breastfeeding requires a collective effort through assistance and understanding from significant others at home and work. This implies that for working mothers to exclusively breastfeed their children, the support of their bosses and co-workers is needed. Bosses are needed to give permission for breastfeeding breaks while co-workers are needed to stand in during breastfeeding breaks. A work environment in which bosses and co-workers are supportive of exclusive breastfeeding can also be described as flexible from the perspective of working mothers. Such an environment reinforces working mothers' willingness to engage in exclusive breastfeeding while at work.

In support of the outcomes of this study, a manager who is supportive of combining breastfeeding and employment has been shown to be an essential factor for employees to meet their breastfeeding goals. Burks [31] studied a group of working mothers. Although only nine (15%) were breastfeeding at six months, the most important facilitator to continued breastfeeding cited by the women, was a supportive supervisor and colleague. The attitudes of managers and coworkers have been found to directly influence female employees' perceptions of workplace breastfeeding support [32]. The authors found that managers were aware of some, but not all, of the benefits of breastfeeding, and that they were able to identify some, but not all, barriers and facilitators to combining breastfeeding and employment.

Similarly, (Agu, 2017) opined that when workplace breastfeeding support programs are implemented by managers and supported by co-workers, perceptions of breastfeeding among employees; in terms of their attitudes toward breastfeeding, and their intent to engage in exclusive breastfeeding have been shown to improve significantly. Rojjanasrirat and Ferrarello [33] used a convenience sample of 49 hospital supervisors, managers, administrators, and charge nurses to rate their agreement with breastfeeding support items as Low, Moderate, or High, and a mean score was calculated based on the responses. Mean scores were higher after one year of implementation of a hospital-wide breastfeeding support program, which demonstrated increase in managers' support of breastfeeding.

The physical environment available for a mother to nurse her baby or pump milk has been found to be a crucial component of workplace breastfeeding support [34]. In studies where mothers did not have breastfeeding or pumping stations at work, they resorted to pumping in the restroom [35] which has been associated with premature weaning. Access to a physical environment conducive to breastfeeding or pumping has been shown to improve rates of breastfeeding among working mothers [36]. Another study by Tsai [37] reinforced the role that a breastfeeding-friendly workplace can play in the complex decision-making process that a working mother must employ when she decides to continue breastfeeding after returning to work. Although creating a private space for mothers to pump breastmilk or breast-feed can be a challenge for employers, many employers have reported that they would be willing to provide such spaces [38].

The second hypothesis which stated that personal factors (age, parity, educational qualification and work experience) will jointly and independently predict perception of exclusive breastfeeding among working mothers in UI and UCH was partially supported due to the

significant influence of parity on perception of exclusive breastfeeding. The plausibility of this result lies in the breastfeeding experience that is associated with parity. However, the results of this study show that parity was a negative predictor suggesting that the dispositions towards exclusive breastfeeding reduced as number of children increased among working mothers.

In justifying this trend, it may be that working mothers who are either expectant or with one or two children still bask in the euphoria of child birth and child care, such that the best nutritional practices (including exclusive breastfeeding) for the child are adopted. In contrast, working mothers who have three or more children may have become accustomed to child bearing and rearing activities, such that they become lackadaisical towards exclusive breastfeeding among their latter child bearing experiences. Moreover, it can also be assumed that working mothers with more children have more responsibilities of childrearing than when they had fewer children to cater for; therefore exclusive breastfeeding for latter children may be affected.

The effect of parity on infant feeding and breastfeeding in particular is inconclusive because in some settings multi parity has a positive impact on breastfeeding [39,40] while in other settings, the impact is negative [41]. In support of the outcomes of this study, primiparous women are more likely to desire or plan to breastfeed than multiparous women [42,43]. In some settings longer duration of breastfeeding has been associated with low parity suggesting that fewer children in the home incur less cost to women's time [41]. It has been demonstrated that primiparous women were twice as likely to be breastfeeding at discharge when compared with multiparous women [44].

Recommendations

In light of the outcomes of this study, the following recommendations are proffered;

- Enlightenment campaign about benefits of exclusive breastfeeding for mother and child should be done extensively across work-place settings using various languages in order to accommodate a large cross section of working women in the society
- Breastfeeding counseling during antenatal care of working mothers should be centered on solving problems associated with breastfeeding in work place settings.
- Government should liaise with all employers of labour to ensure and improve breastfeeding support in the work place.
- Extending maternity leave to six months for all working mothers could promote exclusive breastfeeding for six months. The six months leave could be limited to maximum of three children.

Limitations and Directions for Further Studies

There are some limitations to this study. As noted by researchers, a common concern of self-report data is social desirability (i.e., the bias in self-report data accounted for by respondents' desire to look good, which is because of the respondents' need for self-protection and social approval). Since the data for the study were collected using self-report questionnaires, the participants' responses may have been influenced by social desirability. This, in turn, might have affected the predictive power of some independent variables on the criterion variables.

The research design of this study was cross sectional and it is thus enough to specifically infer a causal relationship. Undertaking research at one period in time can only reflect that period in time. Therefore, it would be interesting to replicate this study, with a longitudinal design, assessing individuals during different stages of child rearing. The research only focused on working mothers in University of Ibadan and University College Hospital; therefore the likelihood that the sample represents a good cross section from the national population of working mothers in the country is slim.

Future research studies should make use of stratified random sampling to ensure satisfactory representation of different groups. The use of larger sampling might also provide increased confidence that study findings would be consistent across other (similar) groups. Further studies should be more diverse and have national coverage so that economic, cultural, ethnic and geographical differences can be highlighted. Despite these limitations, these findings contribute to our understanding of the important issue of breastfeeding support in the workplace and highlight areas that deserve additional study.

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