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IJHE editor
Donna Pendergast    Australia
E-mail:    d.pendergast@griffith.edu.au

Book review editor
Donna Pendergast    Australia
E-mail:    d.pendergast@griffith.edu.au

Editorial administrator & graphic designer
Joy Reynolds    Australia
E-mail:    j.reynolds@griffith.edu.au
www.joyreynoldsdesign.com

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Contents

Editorial Volume 8 Issue 2 .............................................................. 1
  Donna Pendergast

Societal factors in elder abuse in Akwa Ibom State, Nigeria.............................. 2
  Mildred O. Ekot

Home Economics as professional practice............................................... 19
  Kerry Renwick

Activity level as correlate of post-pregnancy anthropometric changes among women ....... 36
  Patricia Mbah

Notes for contributors ............................................................................. 50
Publication in IJHE provides wide exposure to journal articles and adds to the professional literature base of the field. Theoretical papers, literature reviews, and a wide range of genres along with research papers are invited for publication in the journal. As editor, I strongly encourage submissions to the journal.

This is the 16th issue of the IJHE. The journal has now established a profile as a strong contributor to the profession of Home Economics globally. In 2016 we will have the added benefit of publishing some of the best refereed publications that have been submitted to the World Congress, to be held in Korea later this year. This means that 2016 and 2017 will be bumper issues of the Journal.

As the IJHE moves into its 10th year in 2017 we will be working on renewing and extending our editorial board membership. If you are suitably experienced and hold a doctoral degree please consider submitting an Expression of Interest when the formal call is made.

Professor Donna Pendergast, PhD
Editor, IJHE
Societal factors in elder abuse in Akwa Ibom State, Nigeria

Mildred O. Ekot

University of Uyo, Uyo, Nigeria

Abstract

This study investigated the societal and community factors in elder abuse in the context of family care giving in Akwa Ibom State, Nigeria to provide empirical data on the problem in the area which hitherto had been based on speculations and unconfirmed media reports. The population consisted of male and female elderly, aged 70 and older. Multi-stage sampling technique was used to select a sample size of 5,600 elderly people. A structured questionnaire was the instrument for data collection. Data collected were analysed using basic descriptive statistics, in particular frequency, percentages and mean scores. Findings revealed that self-reported emotional/psychological abuse was the most common form of abuse experienced by the elderly in the study (56.5%), closely followed by financial/material abuse (52.3%) and neglect/abandonment (40.5%), followed by physical abuse (18.8%), while sexual abuse was the least experienced form of abuse (9.5%). The societal and community factors contributing to elder abuse in the study include: witchcraft accusation, absence of social security, false prophecies, delayed pensions, and eroding of the extended family and intergenerational support systems. From this study it is recommended that programmes be organised to raise the public awareness of the growing problem of elder abuse in order to reduce the high prevalence of abuse revealed in the study, prompt payment of gratuities and regular pensions to retirees, and the need for the establishment of old people’s home.

Key words: abuse, elderly, family, neglect, care giving, societal

Introduction

One of the problems faced by elderly people globally is the problem of abuse and neglect. Increasing longevity and life expectancy has increased the number of elderly persons with chronic health conditions, thus causing greater demand for long-term care and greater burden on the part of the caregiver (Durrant & Christian, 2006). Although the majority of families provide their aging parents or relatives with good quality care, many others overburdened with care giving demands expose their elderly parents or relatives to a range of abusive behaviours, while still others abdicate their care giving responsibilities. Moreover, although the elder may be capable of caring for her own basic needs, the extra strain on finances or time can cause the caregiver to lash out under stress (Volz, 2010).

Definition and problem of elder abuse

Elder abuse refers to all types of mistreatments and abusive behaviours toward an older adult or the infliction of harm on an older adult (American Psychological Association [APA], 2010; Wolf, 2000). It encompasses any act of commission or omission that results in harm or
endangering the health and welfare of an older adult (Sellas & Krouse, 2009). In Nigeria in general and Akwa Ibom State in particular, elder abuse include all poor treatment of the elderly by young people and family members, such as verbal abuse, name calling, locking up in a room, being treated like a child, and not supporting with money for feeding and general upkeep. It may include beatings, indecent touching, extortion of money, non-visiting, denying access to grandchildren, accusations of witchcraft (Ekot, 2012). Due to poverty and other social problems, some children do not provide filial support to elderly parents: others verbally abuse their parents for having failed to provide them with educational opportunities, may refuse to visit them, and sometimes do not allow them to know their grandchildren; many other children and family members who are sick or are unable to achieve comfortable living standards publicly accuse their parents as being witches and the ones responsible for their woes.

Providing care for the elderly in Nigeria as in other parts of the world is becoming very demanding for family members because of precarious economic conditions and the increased involvement of women in paid employment or in other income generating activities, such as farming, trading, and paid manual labour, to improve the economic base of their families. Since institutionalised care of the elderly is not common in Nigeria, the majority of the elderly live in their families or with family members as it is the traditional role of children to support their parents in old age. Many elderly live with their adult children, grandchildren and other relatives, while others reside in their own homes with paid caregivers, home help, or grandchildren. Sijuwade (2008) maintains that both in developing and developed countries, the elderly as well as their caregivers prefer that they be taken care within the family. Families overburdened with the task of care giving to the elderly may expose them to various kinds of abuse and sometimes abandonment without alternative arrangements for care, since institutionalised care is not commonly available. Walker (2002) confirms that in most industrial and pre-industrial societies, the family has been the main provider of care to their elderly relatives. Since the elderly typically live with family members, it is often assumed that they are very well cared for and not subjected to any form of abuse. But various studies reveal that family members perpetrate the majority of reported incidents of abuse of elderly individuals (Boldy, Webb, Horner, Davy & Kingley, 2002 as cited in Ekot, 2012; Cavanagh, 2003).

Sijuwade (2008) explains that to abuse, neglect and abandon the elderly are all types of poor quality care for the elderly. Due to physical impairments, many elderly require care or help in activities of daily living (ADL), but the demand of care giving may cause the caregivers at times to intentionally or unintentionally abdicate their responsibilities. Sijuwade explains that in the case of abuse, the caregiver actively harms the elderly; in the case of neglect, the caregiver is passive, insensitive, lacks empathy and ignores the care of the elderly, while abdicating the responsibilities of taking care of the elderly constitute abandonment. Thus, abuse of the elderly most often occur in the context of care; and because of the level of poverty and other social factors in Nigeria, many children and family members are unable to fulfil filial responsibilities to elderly parents and elderly relatives. For instance the study by Ekot (2012) revealed that 56.5% of the elderly resided in their own homes with paid home help or relatives, 9.8% resided in the homes of their daughters to receive care, 12.5% resided
in their son’s home, and 10% resided in extended family compounds with family members, 4.7% resided in the houses of their relatives, while 6.5% lived alone.

Bonnie and Wallace (2003) maintain that failure by a caregiver to satisfy the basic needs of the elderly or failure to protect the elder from harm constitute abuse or mistreatment. This implies that a lack of care of the elderly or any decline in quality care of the elderly may constitute abuse.

**Forms of elder abuse**

Elder abuse can take many forms, including physical, financial, psychological, sexual abuse and neglect (World Health Organisation [WHO], 2010). Other forms of abuse are violation of basic human rights and medication abuse; and in Nigeria abuse may include witchcraft accusations, and a lack of respect.

**Physical abuse:** Physical abuse is the use of physical force for causing discomfort, which may or may not result in body injury, physical pain, or impairment (Peri, Fanslow, Hand, & Parsons, 2008). The APA (2010) stated that when a caregiver or other person uses enough force to cause unnecessary pain or injury, even if the reason is to help the older persons, the behaviour can be regarded as abuse.

**Financial abuse and material abuse:** Financial abuse is the misuse of an older person’s funds or property through fraud, trickery, theft or force, including misuse of money or property, convincing an older person to buy a product or give away money, stealing money or possessions, misusing bank or credit cards, misusing joint banking accounts, forging a signature on pension cheques or legal documents and misusing a power of attorney (Alberta Elder Abuse Awareness Network, 2007). In Nigeria, financial abuse may also include non-payment of pensions and gratuities to the elderly which cause harm. Material abuse may involve dispossession of land and other properties and stealing cooked food or food stuff.

**Emotional or psychological abuse:** Emotional or psychological abuse involves verbal assault (such as name calling), humiliation (being treated as a child), and intimidation (threats of isolation or placement in a nursing home) (Berk, 2001). In all cases, it diminishes the identity and self-worth of older people, and can provoke intense fear, anxiety or debilitating distress (Alberta Elder Abuse Awareness Network, 2007).

**Sexual abuse:** Sexual abuse include inappropriate touching, photographing the person in suggestive poses, forcing the person to look at pornography, forcing sexual contact with a third party, or any unwanted sexual behaviour, such as rape, sodomy, or coerced nudity (APA, 2010). In Nigeria, sexual abuse may involve forcing a widow to engage in sexual acts in the guise of widow inheritance.

**Neglect:** Neglect is intentional or unintentional failure to fulfil care giving obligations, which results in lack of food, medication, or health services or in the elderly person being left alone or isolated (Berk, 2001). Sijuwade (2008) asserts that when caregiver is neglectful, it means there are lapses in the quality of care and in carrying out the responsibility, while abdicating the responsibilities of taking care of the elderly constitute abandonment.
Violation of human rights and medication abuse: Violation of basic human rights is the denial of an older person’s fundamental right according to legislation, while medication abuse involves the misuse of an older person’s medications and prescriptions such as withholding medication, overmedicating, sedation, and not complying with prescriptions refills (Alberta Elder Abuse Awareness Network, 2007). In many cases, some elderly people may suffer more than one type of abuse at the same time.

Factors contributing to elder abuse

Several risk factors contribute to elder abuse. Based on the Applied Ecological Model, Peri et al. (2008) categorised risk factors; into individual risk factors, family level risk factors, community-level risk factors and society-level risk factors. Some of the changes that occur with aging may place an older person at a higher risk for abuse and neglect, especially the frail, oldest-old, the cognitively impaired, the most dependent and the isolated. Family factors that may contribute to abuse include caregiver stress, financial problems, and intergenerational family dynamics. Community and societal factors make up the macro systems in the Applied Ecological Model, referring to larger societal ideologies and cultural values that have an impact on elders and their families, thus contributing to elder abuse. For example, high cost of living, societal attitudes toward the elderly, undervaluing of older people in society as a whole, ideas about the intergenerational transfer of wealth, community facilities and housing policy (Schiamberg & Gans, 2000; Peri et al., 2008). Other community and societal risk factors include negative attitudes and incorrect assumptions about aging, cultural norms, and society’s acceptance of violence culture. Moreover, the Modernisation Theory of elder abuse espouses that modernisation has changed family life thereby influencing exchange relationships between children and their parents increasing the risk for abuse (Durrant & Christian, 2006). Political Economy Theory refers to society’s marginalisation of old people as a cause of elder abuse (Centre for Substance Abuse Prevention, 2010; Fulmer, Guadogno, Dyer, & O’Connolly, 2004).

Empirical studies on elder abuse

Most of the studies on elder abuse generally are conducted in advanced countries, and selected African countries. For instance, Acierao, Hernandez-Tejada, Wendy-Muzzy & Kenneth-Steve (2009) in their National Elder Mistreatment Study in the United States revealed that past year prevalence was 4.6% for emotional mistreatment, 1.6% physical mistreatment, 0.6% sexual mistreatment; current potential neglect was 5.1%, current financial exploitation by family was 5.2%, and lifetime financial exploitation by a stranger was 6.5%. Another US study of Elder mistreatment by Laumann, Leitsch and Waite (2008), found that a higher percentage of older adults reported verbal mistreatment (9.0%), followed by financial mistreatment (3.5%), and physical mistreatment by a family member (0.2%). Younger adults were more likely to experience verbal and financial mistreatment. In the study, older adults with physical vulnerabilities were more likely to experience verbal abuse, and those with poor reported health were more likely to experience financial abuse. Odds of verbal mistreatment were higher for women and those with physical vulnerability and were lower for Latinos than for whites. The likelihood of financial mistreatment were higher for African Americans and Lower for Latinos than for whites; and were lower for those with spouse and romantic partner than for those without partners.
Biggs, Manthorpe, Tinker, Doyle, and Erens (2009) in their first national prevalence study on mistreatment of older people in the United Kingdom found that the predominant type of reported mistreatment was neglect (1.1%), followed by financial abuse (0.6%), with 0.4% of respondents reporting psychological abuse, 0.4% physical abuse, and 0.2% sexual abuse.

Soneja (2000) in a research on elder abuse in India revealed key factors associated with abuse to include lack of values system, negative attitudes towards older persons, inadequate housing facilities, space and living arrangements, lack of adjustments, and financial and mental dependence by the elderly on their families. In Korea a study by Lee (2008) which was conducted to identify significant indicators for the degree of elder abuse, found that, functional ability, cognitive problems, economic strain, caregiver burden, informal social support, and financial support were significantly associated with elder abuse. Teaster, Dugar, Mendiondo, Abner, and Cecil (2006) in the study of abuse of adults age 60 and older reported that considerable adherence to the misconceptions and the negative stereotypes of the elderly was yet another basis of abuse of the older people. The study by Peri et al. (2008) on elder abuse and neglect in New Zealand indicated that high costs of living and high interest rates contribute to burdens of families increasing the risk for abuse.

The few research studies conducted in Nigeria have considered the prevalence of elder abuse in different parts of the country such as Sijuwade (2008) in a Lagos study and Igbokwe and Asogwa (2010) in a study of the prevalence of abuse of the elderly in domestic setting in Enugu State. Ekot (2013) identified the familial factors in elder abuse in Akwa Ibom State. Empirical data on the community and societal factors in elder abuse in Akwa Ibom state, Nigeria is lacking, hence the need for this study. Community and societal factors refer to larger societal ideologies and cultural values that have an impact on elders and their families thus contributing to elder abuse. Previously elder abuse was generally viewed as a taboo and non-existence, as people believed that the elderly were respected in the Nigerian society, well taken care of in the family context, and therefore not exposed to abuse. Reports on elder abuse in area were mostly based on speculations and unconfirmed stories, as such the study helps to create awareness and sensitise family members, and the public on some of their actions that constitute abuse, as an important step in causing a change in attitudes and behaviour toward the elderly. Results obtained from this study if adopted by the State Government will serve as a baseline data for the development of appropriate programmes and policies for the aged, and will guide the government to devise preventive and intervention strategies to tackle the problem of elder abuse in the state. This study contributes to the international pool of knowledge on elder abuse, to allow the findings of various overseas studies on the phenomenon to be compared to the Nigerian context.

Purpose of the study

The main purpose of the study was to investigate the community and societal factors in elder abuse in the context of family care giving in Akwa Ibom State, Nigeria to provide empirical data on the problem in the area which previously had been based on speculations and unconfirmed media reports. Specifically the study sought to:

- identify forms of abuse common among the elderly in Akwa Ibom State
determine the community and societal factors contributing to elder abuse by family members in Akwa Ibom State.

Research Questions

- What are the forms of abuse common among the elderly in Akwa Ibom State?
- What are the community and societal factors contributing to elder abuse by family members in Akwa Ibom State?

Methodology

Research Design and area of Study

Information for this paper was extracted from a field survey carried out between March and June 2011 in Akwa Ibom State which is one of the states in the Federal Republic of Nigeria, located geographically in the south-eastern corner of the country, as a part of a larger project on the condition of the elderly used by the author in 2012. A survey research design was adopted for the study.

Figure 1  Map of Nigeria showing the location of Akwa Ibom State


Population for the study

The population for the study consisted of all male and female elderly persons aged 70 years and older from two senatorial districts out of the three political divisions in Akwa Ibom State.
estimated to be about 56,000 (National Population Commission, 2009). This constitutes the old-old, and the oldest-old (age 85 and older) segments of the elderly population in the state.

Sample for the study

Multi-stage sampling technique was adopted to select a sample size of 5,600 elderly which is 10% of the estimated population. In the first stage, two senatorial zones out of the three in Akwa Ibom State were randomly selected, and used for the study. The second stage involved proportionate distribution of the sample size into all the 21 local government areas that make up the selected senatorial zones. Twenty villages including the local government headquarters were thereafter purposively selected from each of the local government areas. The last stage involved accessible and snowball sampling of respondents from each of the selected villages to give the total of 5,600 respondents, representing 10% of the study population.

Instrument for data collection

Structured questionnaire was used for the study. The structured questionnaire contained three sections: Section A, was multiple choice questions designed to obtain socio demographic data from the elderly. Section B which was adapted and reviewed from Acierno et al. (2009) elicited information from the elderly with respect to the forms of abuse, while section C which was developed based on literature elicited information on the community and societal factors in elder abuse. This section contained a four point rating scale questions with responses rated as Strongly Agree (A) = 4, Agree (A) = 3, Disagree (D) =2, and Strongly Disagree (SA) =1. The instrument was validated by experts in the subject area. Drafts of the instrument were submitted to two lecturers in Michael Okpara University of Agriculture Umudike and one from University of Uyo, to read, correct where necessary, and to add other suggestions to ensure the validity of the instrument. Based on their inputs, some of the items were dropped and some modified. The reliability of the instrument was ascertained using Cronbach’s alpha co-efficient, and a reliability index, $\alpha = .86$ was obtained showing that the instrument was highly reliable. This was to ensure the consistency of measures if retested, meaning the findings of the study could be generalised for the whole state since the instrument could be tested in other areas not covered in the present study.

Data collection and analyses techniques

The researcher administered copies of the instrument by hand with the help of 12 assistants, 10 of whom were primary health workers in the different local government areas. The research team first held advocacy meetings with village heads, community leaders and church pastors to explain the purpose of the research, obtained permission and solicited assistance on area of information dissemination to their subjects and church members. This helped to prepare the minds of the people before the date of questionnaire administration. On collection of data, members of the research team were shared into six groups of two each who covered different areas simultaneously. The teams moved from house to house, and obtained information on likely compounds to locate elderly people. Informed consent was obtained in each compound and copies of the instruments were administered to only those
who were willing to take part in the research. The respondents were guided to complete and return the instrument on the spot, and administration of the instrument lasted 10 weeks. Since many of the respondents were unable to complete the questionnaire as a result of impairments or literacy level, the researchers read or interpreted the questions into local dialect to non-literate respondents, and their responses were ticked in the appropriate columns in the instrument. Data collected from the questionnaire were analysed using frequency counts, percentages and Means for the rating scale questions. A Mean score of 2.5 or more was pegged as the cut-off point for affirmative or agreed response, while any Mean score below 2.5 was regarded as non-affirmative response and therefore considered as disagreed or rejected by the respondents.

Findings of the study

The following findings were made:

1. Common forms of abuse among the elderly in Akwa Ibom State (see Table 1).
2. Societal and community factors contributing to elder abuse by family members in Akwa Ibom State, Nigeria (see Table 2).

Table 1 shows the forms of abuse common among the elderly in Akwa Ibom State, with emotional abuse most often, closely followed by financial and material abuse, and neglect/abandonment, while physical and sexual abuse are not very common. The highest number of respondents that reported ever experiencing any of the sub-forms of abuse in each case was taken for the number reporting a particular form of abuse. That is, Emotional/psychological abuse 3164 (56.5), financial and material abuse 2927 (52.3%), neglect and abandonment (40.5%), physical abuse 1055 (18.8%), and sexual abuse 532 (9.5%).

Table 2 shows that the respondents accepted or agreed to twelve out of the sixteen items identified as factors contributing to elder abuse at the environmental/societal level in Akwa Ibom State by scoring means of 2.5 or more.

The observation above shows the factors accepted by the respondents as contributing to elder abuse at the societal and environmental levels in Akwa Ibom State (Table 2). These include witchcraft accusation and suspicion, absence of social security for all elderly, false prophecies by some pastors/prophets causing children to desert their aged parents, delayed pension for retired workers, the current violent nature of society resulting in violent ways of resolving conflicts even with the elderly, eroding of the extended family and intergenerational family support systems. Others are migration of young people to town while the aging parents are left alone in the village, thus increasing risk for abuse, high cost of living, lack of government homes for the elderly, modernisation, which has influenced exchange relationship between children and their parents, and negative stereotypes and attitudes towards older persons, in decreasing rank order.
Table 1  
Frequency and Percentage Distribution of the common forms of abuse experienced by the elderly in Akwa Ibom State

<table>
<thead>
<tr>
<th>Forms of Abuse</th>
<th>Frequency</th>
<th>Percentage (%) **</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emotional/Psychological abuse</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verbal attacks (scolding, yelling at, humiliation/</td>
<td>3164</td>
<td>56.5</td>
</tr>
<tr>
<td>name calling )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Being ignored</td>
<td>2072</td>
<td>37</td>
</tr>
<tr>
<td>Harassment/coercion</td>
<td>1008</td>
<td>18</td>
</tr>
<tr>
<td>Witchcraft accusation or suspicion</td>
<td>2156</td>
<td>38.5</td>
</tr>
<tr>
<td><strong>Physical Abuse</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical assault (hitting, slapping, etc.)</td>
<td>1055</td>
<td>18.8</td>
</tr>
<tr>
<td>Restraining or locking up in the house</td>
<td>859</td>
<td>15.3</td>
</tr>
<tr>
<td>Injury (cuts, bruises or other marks)</td>
<td>817</td>
<td>14.6</td>
</tr>
<tr>
<td><strong>Sexual Abuse</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual Molestation (Kissing, fondling, etc.)</td>
<td>420</td>
<td>7.5</td>
</tr>
<tr>
<td>Touching in a sexual way</td>
<td>532</td>
<td>9.5</td>
</tr>
<tr>
<td><strong>Financial Abuse and material abuse</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taking money or possessions</td>
<td>2320</td>
<td>41.4</td>
</tr>
<tr>
<td>Not making good decisions about elderly finances.</td>
<td>2927</td>
<td>52.3</td>
</tr>
<tr>
<td>Being forced or tricked to bring out money</td>
<td>2282</td>
<td>40.8</td>
</tr>
<tr>
<td>Dispossession of land or other properties</td>
<td>714</td>
<td>12.8</td>
</tr>
<tr>
<td>Theft of food and foodstuff</td>
<td>1899</td>
<td>33.9</td>
</tr>
<tr>
<td><strong>Neglect and abandonment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non regular visits</td>
<td>1788</td>
<td>31.9</td>
</tr>
<tr>
<td>Non provision of money for upkeep</td>
<td>2268</td>
<td>40.5</td>
</tr>
<tr>
<td>Lack of help with activities of daily living</td>
<td>1696</td>
<td>30.3</td>
</tr>
<tr>
<td>Neglect of medical needs</td>
<td>1788</td>
<td>31.9</td>
</tr>
<tr>
<td>Denial of access to grand children</td>
<td>2012</td>
<td>35.9</td>
</tr>
<tr>
<td>Lack of help in house care/ washing clothes</td>
<td>1704</td>
<td>30.4</td>
</tr>
</tbody>
</table>

** Multiple responses
Table 2  Mean scores of responses on the community and societal factors contributing to elder abuse in Akwa Ibom State

<table>
<thead>
<tr>
<th>S/N</th>
<th>Items</th>
<th>Means</th>
<th>Decision **</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Negative stereotypes and attitudes against the elderly lead to abuse.</td>
<td>2.61</td>
<td>A</td>
</tr>
<tr>
<td>2</td>
<td>Older people are undervalued or not respected because they are no longer in paid employment or other productive ventures.</td>
<td>1.84</td>
<td>D</td>
</tr>
<tr>
<td>3</td>
<td>Abuse is caused by violent ways of resolving conflicts in the society even with the elderly.</td>
<td>2.83</td>
<td>A</td>
</tr>
<tr>
<td>4</td>
<td>High cost of living contributes to financial pressures that can cause abuse</td>
<td>2.74</td>
<td>A</td>
</tr>
<tr>
<td>5</td>
<td>Modernisation negatively influences care giving exchange relationship between children and parents resulting in abuse.</td>
<td>2.65</td>
<td>A</td>
</tr>
<tr>
<td>6</td>
<td>Migration of young people to town leaving behind elderly parents in the village increase abuse risk.</td>
<td>2.79</td>
<td>A</td>
</tr>
<tr>
<td>7</td>
<td>System of land inheritance and sharing of farm assets can increase conflicts between children and parents if not handled properly</td>
<td>2.10</td>
<td>D</td>
</tr>
<tr>
<td>8</td>
<td>Eroding of the extended family system is a factor in elder abuse</td>
<td>2.80</td>
<td>A</td>
</tr>
<tr>
<td>9</td>
<td>Young people generally resent the elderly because of their frail looks.</td>
<td>2.04</td>
<td>A</td>
</tr>
<tr>
<td>10</td>
<td>False prophecies from pastors/prophets instil fears in children causing them to desert their aged parents.</td>
<td>3.35</td>
<td>A</td>
</tr>
<tr>
<td>11</td>
<td>Elderly people accused of witchcraft are usually abandoned by their children.</td>
<td>3.55</td>
<td>A</td>
</tr>
<tr>
<td>12</td>
<td>Children are not obligated to fulfil filial responsibility to their parents in modern age.</td>
<td>1.64</td>
<td>D</td>
</tr>
<tr>
<td>13</td>
<td>Modern wives encourage their husbands to neglect/abandon their aged parents.</td>
<td>2.34</td>
<td>D</td>
</tr>
<tr>
<td>14</td>
<td>Delayed pension for retired workers is a serious factor for abuse.</td>
<td>3.29</td>
<td>A</td>
</tr>
<tr>
<td>15</td>
<td>Absence of social security for the elderly increases financial dependence, exposing them to abuse</td>
<td>3.40</td>
<td>A</td>
</tr>
<tr>
<td>16</td>
<td>Lack of Government homes to run to may force some elderly persons to remain in abusive homes.</td>
<td>2.69</td>
<td>A</td>
</tr>
</tbody>
</table>

** A=Agreed, D=Disagreed

Other factors identified in the literature as contributing to elder abuse in other places were rejected or given non-affirmative response by the respondents in this study, since they recorded mean scores of less than 2.5 which was the cut-off mean, as set in the study. These include abusing older persons because they are no longer in productive ventures, system of inheritance of land, which can increase conflicts with parents and children if not properly handled, and the general resentment of the elderly by young people because of their frail looks. Other factors rejected include the notion that children in this modern age are not obligated to take care of aging parent, and believe that modern wives encourage their husbands to neglect and abandon their aging parents.

**Discussion of findings**

Table 1 show that emotional/psychological abuse was the most common form (56.5%) of self-reported common among the elderly in Akwa Ibom State, followed by financial and material abuse (52.3%), neglect and abandonment (40.5%) and physical abuse (18.8%), while sexual abuse was the least (9.5%). The findings are consistent with others which found emotional
abuse to be the most commonly reported (Iborra, 2009; Acierno et al., 2009), but inconsistent with others which found financial abuse to be the most common form (Dimah & Dimah, 2002; Cripps, 2001). The finding is at variance with the study by Dong, Simon and Gorbien, (2007) which found neglect to be the most common form of abuse. The finding that sexual abuse is the least common is in tandem with other studies which revealed low rates of sexual abuse (Acierno et al., 2009; Iborra, 2009). The revelation that physical abuse is less common in the study is not surprising as there is a general belief on the lethal curses attached to physical attack on the elderly persons in Akwa Ibom State. Many young people fear that the elderly might invoke curses on them, and especially women who they fear would beat their breasts for such a young person who would dare to inflict on them physical assaults, which is believed to result in calamity and untimely deaths. Ajomale (2007) argues that due to the level of respect accorded the elderly in Nigeria, it is uncommon to have cases of beatings and deliberate infliction of injury on the elderly. The percentage of the elderly reporting abuse generally and especially reporting physical abuse is worrisome considering the traditional culture of the people in the state which previously was that of respect and reference for the grey hair of the elderly.

Table 2 identified witchcraft accusation and suspicion as the most salient societal/community factors contributing to elder abuse in this study by obtaining the highest means score of the respondents. This is not surprising as the problem of witchcraft concerns has gradually taken a centre stage in all spheres of discussions in Akwa Ibom State. There is no doubt that in the state people attribute to witchcraft almost every personal failure, social evil, academic and even political failures, and most often, elderly family members and small children are usually blamed. While the state government has enacted a law prohibiting the labelling of children as witches, the elderly still suffer from such labelling without intervention from any quarters. This finding is in tandem with the submission by the WHO (2010) that in some traditional societies, isolated older women are accused of witchcraft. The finding corroborates other findings which found allegations of witchcraft against frail and vulnerable older women as a factor for abuse in South Africa (Ferreira, 2004; Ferreira & Lindgren, 2008). A study conducted in Ghana found that many poor, often elderly women were accused of witchcraft, and some were murdered by male relatives while those who survived were subjected to a range of physical, sexual and economic abuses (Adinkrah, 2004).

The findings of the study identified the absence of social security for the elderly as a major societal factor contributing to elder abuse in Akwa Ibom State. This lends support to the assertion by Ajomale (2007) that the lack of social security system in the country to carry the burdens of the elderly people allows all forms of abuse to occur. Igbokwe and Asogwa (2010) in their study found the absence of social security as contributing to high incidence of elder abuse in Enugu State.

Findings in Table 2 revealed that false prophecies by some pastors/prophets cause some children to desert their aged parents leading to abdication of filial responsibilities and abuse. This is linked to the problem of witchcraft that has already been discussed. Akwa Ibom State plays host to the highest number of mushroom churches (fast spreading churches) in the whole of the country, and most often many pastors and prophets in some of these churches
Ekot: Societal factors in elder abuse

prophesy to people that their parents are the cause of their misfortunes. This most often usually results in abuse and sometimes total abandonment of elderly parents.

Delayed pension for retired workers has been identified as societal or community factor contributing to the abuse of some elderly in Akwa Ibom State based on the mean score of above 2.5 (Table 2). This confirms the frequent inhuman treatments given to pensioners in the name of documentations and screening exercises by the state government. WHO (2002) confirms that elder abuse involves abuse by systems, that is, the dehumanising treatment older people suffer at health clinics and pension offices, and marginalisation by the government.

The findings of the study has revealed that the current violent nature of society results in violent ways of resolving conflicts even with the elderly, thus leading to cases of abuse. In recent times, society has been exposed to a deluge of violent activities including, homicide, political violence and assassination of opponents, kidnapping, militancy, and recently the Boko Haram insurgents. This agrees with the submission that persistent exposure to violence can have a desensitising effect on the society, leading to tolerance of violence as an accepted means of venting frustration and anger or seeking revenge (Alberta Elder Abuse Awareness Network, 2007). Iborra (2009) confirms that the acceptance or normalisation of violence causes it to pervade everyday activities contributing to the possible appearance of abuse.

The result has revealed that the eroding of the extended family and intergenerational family support systems contribute to elder abuse in the study. This is in support of the observation by WHO (2002), that industrialisation has eroded long-standing patterns of interdependence between the generations of a family, often resulting in material and emotional hardship for the elderly. Observation shows that many young people today seem to be less committed to kinship network, and so do not support elderly relatives who may be lacking the financial and human capital or resources for self-care.

Table 2 indicates that migration of young people to town while the aging parents are alone in the village increases their risk for elder abuse and neglect in Akwa Ibom State. Many children of the elderly move to urban areas in search of economic pursuits leaving their parents without any form of help. Peil, Bamisauje, and Ekpenyong (2010) support that increasing levels of migration may deprive old people of their children’s assistance. Also, migration of young couples to other areas leaving elderly parents alone in societies where older people were traditionally cared for by their offspring has been identified as a society’s risk factor in elder abuse (WHO, 2002).

Findings show that high cost of living in the society is a factor for elder abuse in Akwa Ibom State. This finding is consistent with that of Peri et al. (2008) who indicated that high costs of living and high interest rates contribute to burdens of families increasing the risk for abuse. A study in Enugu State, Igbokwe and Asogwa (2010) found unnecessary high cost of goods and services for the elderly such as walking sticks, food items and medical services, as contributing highly to the prevalence of abuse. The problem of high cost of living generally affects the whole family and not only the elderly.
Table 2 further revealed that lack of government homes for the elderly in Akwa Ibom State is one of the reasons many older persons remain in abusive situations even when seriously abused, and a societal factor in abuse. It is the opinion of some respondents that some abused elderly people would prefer to move into old people’s home instead of suffering alone or suffering abuse in the hands of caregivers. This revelation is inconsistent with Peri et al. (2008) who maintained that some communities have a strong belief that residential care for the elderly is unacceptable, thereby putting older people at risk of abuse if the family is unable and unwilling to provide the requisite care at home. Although some older persons would not accept moving into a care facility because of the associated stigma, availability of such facilities in the state would help adult children who may be unable to accommodate elderly parents/relatives and provide primary care for one reason or the other, and those unable to arrange for home help for them.

Findings of the study uphold the Modernisation Theory of elder abuse that espouses that modernisation has change family life thereby influencing exchange relationships between children and their parents increasing the risk for abuse (Table 2). This is in consonance with the views Durrant and Christian (2006) that modernisation and advanced technology do change the ways in which people live and make decisions, influencing family life and functioning, including care giving relationships between adult children and their elderly parents. The influence of modernisation is not only felt in the area of elder abuse, but in other aspects of family life such as changing roles of family members, which has made care giving responsibilities very tasking and difficult to offer effectively, especially for women who are supposed to be primary family caregivers.

Negative stereotypes and attitudes directed towards the older persons by the public have been identified as societal and community factors contributing to elder abuse in the study (Table 2). In the Nigerian society today, it is common for young people to tag the elderly with such negative and derogatory names as old school, grey hair, confused or wicked. Teaster et al. (2006) reported that considerable adherence to the misconceptions and the negative stereotype of the elderly is yet another basis of abuse of the older people. These stereotypes may lead to insensitive responses to the needs of older persons, which in turn can lead to abuse (Alberta Elder Abuse Awareness Network, 2007).

Results in Table 2 revealed that the respondents in the study rejected other factors suggested as societal and community factors contributing to elder abuse in Akwa Ibom State by scoring weighted mean scores of below 2.5, which was the cut-off point for acceptable responses. These include abusing older persons because they are no longer in productive ventures, system of inheritance of land which can increase conflicts with parents and children if not properly handled, the general resentment of the elderly by young people because of their frail looks, the notion that children in this modern age are not obligated to take care of aging parent, and the notion that modern wives encourage their husbands to neglect and abandon their aging parents. These findings contradict the Political Economy Theory, which refers to the society’s marginalisation of old people as a cause of elder abuse (Centre for Substance Abuse Prevention, 2010). This theory focuses on the challenges faced by elders once they lose their role and must depend on others for well-being (Fulmer et al., 2004). Rejection of items 12 and 13 in Table 2 explains the filial duty of children to parents in old-age irrespective of
the era in question. More so, no wife would be able to influence a man or vice versa to abandon his/her parents except he or she has a personal reason or predisposing cause to do so.

Conclusion

The purpose of the study was to investigate the community and societal factors in elder abuse in the context of family care giving in Akwa Ibom State, Nigeria. The study identified societal and community factors contributing to elder abuse in Akwa Ibom State to include witchcraft accusation and suspicion, absence of social security, false prophecies, delayed pensions, culture of violence, and eroding of the extended family and intergenerational support systems. Others are migration of young people to town leaving behind their aging parents, high cost of living, and absence of elderly care homes, modernisation, and negative stereotypes towards older persons in decreasing rank order.

The study has revealed the high pervasiveness of the problem of elder abuse in Akwa Ibom State. It has confirm that elder abuse is not only a function of personal characteristics of the elderly, or family related such as stress of care giving, but that many factors in the community and society generally contribute to the widespread problem of abuse of the elderly in Akwa Ibom State, Nigeria.

Recommendation

Based on the findings of the study, the following recommendations are made:

1. Public awareness programmes and public education campaigns that define elder abuse should be organised, to raise the public's awareness on the growing problem of elder abuse in order to reduce the prevalence of abuse in Akwa Ibom State.

2. Conflict resolution should be taught at all levels of education, to enable young people to imbibe the culture of amicable conflict resolution, thus eliminating the current violent nature of resolving conflicts in society.

3. Social amenities such good medical care, housing, and potable water would help to change people's attitudes and beliefs surrounding witchcraft.

4. Governmental social security for the elderly in Akwa Ibom State and Nigeria would reduce the financial burdens on caregivers or at least support serve as support to depend on if neglected by their children.

5. Prompt payment of gratuities and regular pension to retired workers, would help reduce the risk of mistreatment associated with regular documentations and screening exercises which pensioners are frequently exposed to.

6. Government-established old people's homes in Akwa Ibom State would cater for the needs of those who might require such homes for the placement of their aged parents in
case of role conflicts or by geographical separation arising from employment. By so doing, the rate of neglect and abandonment would be greatly reduced.

**Biography**

*Mildred Ekot lectures in the Department of Human Ecology, Nutrition and Dietetics, University of Uyo, Nigeria, and currently the Coordinator of Post Graduate Programme in the Department. She holds a PhD in Human and Family Development. Her research interest is in family life issues, especially issues concerning vulnerable family members—the elderly and children.*

**References**


Home Economics as professional practice

Kerry Renwick

The University of British Colombia

Abstract

When professionals engage in and with their professional practice they assert a claim of extraordinary knowledge. Within Home Economics such a claim is a challenge when everyday lived experiences are in and of themselves ordinary, of which everyone apparently has knowledge of. Professional application of knowledge has an explicit focus on the wellbeing of others and therefore is what constitutes professional practice. Home Economics educators engage in professional practice when we connect with students and their families to build capacity for a life well lived.

This paper considers the professional practice of Home Economics education using Aristotle’s consideration of human action through the dispositions of techné, episteme and phronesis. Each provides unique understandings about the relationship between ideology and action, and therefore professional practice. Using these three dispositions to understanding professional practice is a positioning that is different to current market ideology that pervades every social and cultural institution, especially schools. Using McGregor’s (2010) eight unique contributions of Home Economics enables discussion about the professional practice of Home Economics in a market-orientated era. The paper concludes with a discussion about what the three dispositions for human action offers Home Economics educators as they focus on what they do with their students in classrooms that also has meaning outside the school gates and beyond the school years.

Introduction

There has been much consideration and dialogue around the value of educators being reflective practitioners but there remains something of a void when it comes to the profession or a field within the education profession seeking to reflect upon its purpose, intent and presence within the broader context of education. Engaging in reflection of achievements, thinking of them as challenges and opportunities, is an important aspect of professional practice. When educators reflect on their professional practice they need to consider the adequacy of their professional knowledge as it relates to both social needs and problems (Schön, 1995).

This paper explores what professional practice is within the field of Home Economics as it is an important debate to be had for purposes of both evolving our field and to keeping it relevant in changing social circumstances and contexts. Within this paper this is set out in three moves:
i. an initial discussion that describes the relationship between the professional and practice,

ii. consideration of professional practice as human action in Aristotelian terms, and

iii. analysis of McGregor’s (2010) unique contributions of Home Economics as forms of Aristotelian human action and therefore professional practice.

The International Federation for Home Economics (IFHE, 2008, p. 1) defines Home Economics in its position statement on *Home Economics in the 21st Century* as a field and a profession “that draws from a range of disciplines to achieve optimal and sustainable living for individuals, families and communities”. According to the Home Economics Institute of Australia (HEIA) the practice of Home Economics is to support individual and family wellbeing, through a range of expertise including childcare, design, health, housing, marketing and textiles. There is also a listing of professional skills and attributes including critical reflection, communication, collaboration, design, management and social justice that are apparently utilised by home economists based in industry and education contexts. These listings and descriptions identify personal attributes and contexts that act as boundaries for membership of the profession but neither fully addresses why it is a profession.

**Describing the professional and the practice**


There is also discussion about what is the actual work of home economists (East, 1980, McGregor, Barabovsky, Eghan, Engberg, Harman, Mitsifer, Pendergast, Seniuk, Shanahan & Smith, 2004; McGregor, Pendergast, Seniuk, Eghan & Engberg, 2008; Richards, 2000). Central to this discussion is the place and role of family in a democratic society. As one of its organisational aims IFHE argues the importance of “education for home and family life … for all age levels and in all societies” (n.d.). A critical element of how home economists work is through educative processes that draw on inter and transdisciplinary approaches (Hodelin, 2008; McGregor, 2008; Turkki, 2008; Vincenti, 1990). These approaches are transformative (Brown, 1985) because of the intent to empower individuals and families for the purpose of action (Hodelin, 2008) where “[p]ractice always forms and transforms the one who practices, along with those who are also involved in and affected by the practice” (Kemmis et al., 2014,
p. 25). Whether home economists are working in schools or community settings they have an educative practice as a core objective. Therefore any consideration of the professional practice of Home Economics can be seen in what Green (2009) describes as a certain predisposition instilled in the membership that expects “an appropriate (professional) attitude regarding conduct and relationships” (p. 7).

Green (2009) argues that professional practice has been an under theorised concept, that profession and practice have been contested but in ways that have left each to be used in unproblematic ways. What is professional and what is practice are implied in most contexts with an assumption that what is meant is shared, that the recipient knows and understands the meaning. Schön (1995) points to an increasing mismatch between professional knowledge and the situations of practice arising from complexity, instability and value conflicts. Home Economics, perhaps uniquely, has a history of considering its philosophical positioning as much as its pragmatic responses to describe its work (Hodelin 2008; McGregor et al. 2004; Smith, 2004; Turkki, 2008). This does not necessarily mean that there is one position within or across the profession. However what is shared is the focus of professional practice of family-in all of its many forms and that the field is action orientated (McGregor et al., 2004, 2008; Vincent, Smith & Fabian, 2004) through educative processes asking, “how should one live well?” (Smith, 2004, p. 124).

In exploring what a professional is, Macklin (2009) disputes the more traditional view of a professional as being someone who works in a particular occupation described as a profession (i.e. law, medicine, accounting). Rather he argues that the professional chooses and undertakes their work with an explicit intent to focus on the wellbeing of others. Thus there are many different types of work that can be described as professional where the practitioner is in being with the work, functioning in a mode or where the practice is an adjective rather than a noun thereby including trades, allied health and education. The Home Economics Institute of Australia (HEIA) describes Home Economics as having a “focus on households and families; enhance everyday living by enabling individuals to make informed choices; act as advocates with a primary interest in households and families; and educate in the broadest sense” (n.p.). Teachers of Home Economics are therefore professionals not because they have particular expertise in teaching about family studies, food or textiles but because they connect with students, their families and the wider community in shared learning about these areas. The shared learning makes sense in the context of individual lives outside the school gates or community setting. It is able to do this because it draws on what is possible as well as building capacity for a future well lived.

Kemmis and Grootenboer (2008) eschew practice as individualistic in that it focuses on the practitioner’s knowledge and action. Instead they describe practice as social because the practitioner rarely acts alone rather their practice is both orientated toward and by others as well as by moral agency. This is a position that has been articulated by Kieren, Vaines & Badir (1984) in their treatise of the Home Economics profession. Kemmis (2010a) describes the construction of practice as the result of interactions, with “histories, cultural and discursive resources, social connections and solidarities, and locations in material-economic arrangements and exchanges” (p. 140). Kemmis’ description resonates closely with current practices in Home Economics at several levels. Practice is a core component of what home
economists do (McGregor et al., 2004, 2006). Construction of practice exists between Home Economics and with students who undertake their classes or the clients they work with in the community, each a slightly different Community of Practice (CoP) (Handley, Sturdy, Fincham & Clarke, 2006) but with an identity that has been shaped by shared interests and activity through situated learning (Saltmarsh, 2009). It is within these CoPs that there are possibilities for developing skills and capacities for individuals, families and communities to live and create better lives (McGregor, 2010; Thompson 1992).

Consideration of what is professional practice for Home Economics is especially valuable in an era that has de-professionalised feminised fields such as teaching (Apple, 2008; Brennan, 2009) and Home Economics (Stage, 1997). McGregor, Pendergast, Seniuk, Eghan and Engberg (2008) have described how philosophy, ideologies and paradigms can impact on the work of home economists while giving “home economists the potential to change and to practice differently” (p. 47). This is significant when financial growth is put ahead of people, community and the environment. They go on to explore how technical practice, interpretative practice and critical/emancipatory practice. They see these as “systems of action approach [that] is a way to take ownership of actions and practice from a stance of integrity and accountability” (p. 51). Professional practice for home economists is not about reproducing social inequity through narrowly defined and prescribed technocratic work (McGregor et al., 2004). Instead there is considerable scope and possibility in acknowledgement of the power used by and on the profession to engage in practice that is both critical and empowering (Brown 1980, 1985, 1993; Freire, 1970, 1972; Giroux & Giroux, 2006; Kincheloe, 2003; Vincenti, 1990). This is dependent on the capacity of Home Economics to draw on current lived realities of the students and clients they are working with, to be able to understand future possibilities and generate action to get there (McGregor, 2010; Thompson, 1992).

Professional practice as Human Action

Professional practice invariably involves a balance between theoretical rigour and practical relevance (Carr, 2006) with particular tensions within the relationship between the two. Saugstad (2002) provides two perspectives on the relationship between theory and practice. He describes one as a normative relationship where practice is required to adapt to theory, and is critically described by Schön (1995) as when theory and technique are applied to practice through its instrumental problems. Thus learning about practice is no longer situated learning. The second perspective described by Saugstad (2002) is where theory is defined though practice, and described as learning by doing. It is this second perspective that is closest to the ideas contained within the IFHE Mission Statement (2008) that begins with an emphasis on what occurs in families and households and then moves to position this practice in context of social, economic and environmental context. While theory is often understood as everything that isn’t practice, both have particular knowledges. Aristotle (trans. 2011) provided a differentiated way of understanding knowledge related to its function and aim, and that corresponded to intellectual abilities (Saugstad, 2002). In claiming that Home Economics is transformative because it empowers and generates action it allows a person to ask “What can or should I do now/next?” It subsequently allows for number of responses together with consideration of how things turned out, all of which requires more than technical knowledge and action (Kemmis et al., 2014).
Smith (2004) in writing about Eleanor Vaines’ work, reasons that it is about challenging assumptions of everyday life, transcending the meanings of the everyday and thus a philosopher’s act. Carr (2009) writes about the importance of philosophy in determining ideology and action. He looks to the work of Aristotle to invoke a meaning for practice and action with more substance than is implied in contemporary understandings. Aristotle’s classification of human action continues to be widely used (Bartlett & Collins, 2011) to describe and analyse professional practice across a range of professions including medicine (Anders Ericsson, 2008; Gallagher, 2004); human resource management (Winstanley & Woodall, 2000); tourism (Tribe, 2002); education (Carr, 2006; 2009, Green, 2009; Kemmis, 2012) and Home Economics (Thompson, 1988, 1992). Aristotle provides us with three different human actions in his classification—techné, episteme and phronesis. Thus each of these human actions has its own aim, characteristics and therefore unique form (see Table 1.) What follows is a brief description of these three human actions together with some consideration of what they mean in the context of Home Economics.

Table 1 Aristotelian human action

<table>
<thead>
<tr>
<th>Techné</th>
<th>Episteme</th>
<th>Phronesis</th>
</tr>
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<tbody>
<tr>
<td>Aim</td>
<td>To produce something</td>
<td>To seek truth</td>
</tr>
<tr>
<td>Form of action</td>
<td>Poïesis: instrumental action</td>
<td>Theoria: contemplative action</td>
</tr>
<tr>
<td>Characteristics</td>
<td>variable, pragmatic, context-dependent, instrumental rationality, craft knowledge.</td>
<td>universal, scientific, invariable, context-independent, theoretical knowledge.</td>
</tr>
</tbody>
</table>

Based on Carr (2009), and Kinsella & Pitman (2012)

Techné is a form of human action that draws on knowledge about the production of something utilising strategies, skills and techniques. The practice of techné relies on the practitioner making judgement about how a goal is to be achieved, both pragmatically and consciously (Carr, 2009; Kinsella & Pitman, 2012). As an instrumental form of knowledge the profession of Home Economics has a strong disposition for techné through poïesis (or instrumental action) and is best represented in the concern for how “the perpetual family needs of shelter, nourishment, clothing, resource managements and consumption, and personal development and family relations (McGregor et al., 2008, p. 51) are managed.

While home economists have strong claims to make about techné, McGregor et al. (2004, 2008) outline concerns for the profession’s focus on techné almost to the exclusion of other human actions and is echoed is in Vaines’ work (Smith, 2004). They argue that the result has been to limit the capacity of the profession to be able to engage intellectually; to be complacent about routine and resistant to change; to be complicit with hegemonic discourse and therefore unable to provide students, families and communities with what they really need. Further, according to Pendergast (2002), the result has been that home economists have not engaged sufficiently in theorising (theoria) and I would argue that there has been limited attention to the profession’s claim for phronesis (practical wisdom). As a result, home
Economists have been too easily marginalised and are continually forced to engage in the defence of the profession and field.

Episteme represents the second human action as the intellectual activity to seek truth. To do this requires contemplation or theoria, a pre-disposition for thinking about knowing why things are. Thus theoria as human action, in contemporary terms is too often defined as a search for the truth through invariable and objective criteria. In this aspect of human action the intent is to understand the general nature of how things work with the practicality of specific, operational details (Higgs, 2012; Reid & Green, 2009). This interpretation is heavily influenced by positivistic science and many writers such as Harding (2013) argue that it is both hegemonic and masculine in its orientation. She posits that “Objectivity has not been ‘operationalized’ in such a way that scientific method can detect sexist and androcentric assumptions that are ‘the dominant beliefs of an age’—that is, that which are collectively (versus only individually) held” (p. 62).

Within the context of Home Economics theoria draws on the sciences as described by Aristotle. There are scientific truths related to food such as raising agents and nutrition or the flammable properties of fabric. However in debating if Home Economics is a human/social science, McGregor (2010) draws the profession into the postmodern debate about the inevitability and legitimacy of many truths and impossibility of any single fundamental and universal truth that the profession both seeks and positions itself on. Having been too often categorised (and derided) as a girls or female dominated field (Pendergast, 2002) that focuses on family, in any and all shapes and forms, Home Economics should, more than any other profession, be able to accommodate and engage in theoria. Where one is able to seek truth that is standpoint dependant (Harding, 2013; Reid & Green, 2009).

The third Aristotelian human action is phronesis, referred to as wise practical reasoning (Eisner, 2002). It is here that the peculiarity of situations and entities are recognised. This draws on the professional’s understandings about subjectivity, ethics and the potential for transformation to make wise judgements in practice (Kinsella, 2012; Thompson, 1988, 1992). Smith (2004) claims that while Vaines doesn’t use the term phronesis in her work there is substantial “evidence that it is guided more by an underpinning of practical wisdom (phronesis) than practical reasoning” (p. 126). In their discussion of phronesis Kinsella and Pitman (2012) assert that professional ethics needs to emphasise the moral purpose of the work that is done rather than focus on ethics of practice, typically seen in the form of codes of conduct. “Adopting a professional language that is based in a moral framework involves a shift in foci of what is central” (p. 168) requires home economists to reposition how the technical and epistemological cores give rise to our professional practice.

Phronesis utilises a form of practice called praxis that focuses on doing what is right. This requires not only contemplation but also action, thus considerations of praxis as a human action makes use of both practice and theory reflexively. According to Kemmis (2010b, p. 10) praxis “is a form of conscious, self-aware action, as distinct from technical action (poiesis or making action) and as such it is about knowing what is being done simultaneously with the doing”. Home economists make decisions every day about how they work with other people’s
children or with clients who may be vulnerable. But do these decisions also have a phronetic quality (Kinsella, 2012; Thompson, 1992)?

Each of these human actions represents different pre-dispositions that determine the focus and description of human activity. In describing professional practice Carr (2009) claims that it cannot be adequately described as only *techné* and the reliance on *episteme* raises potential for distorting and diminished views of the social context in which the professional practice is operating. Instead Carr (2006; 2009) argues that only through *phronesis* can professional practice be adequately conceived as *practical philosophy*, as morally committed action. When discussing the reliance of the Home Economics profession on technical practice (i.e. *techné*) McGregor et al. (2004) have described it as an *addiction* that precludes any other possibilities for professional practice, especially those that allow for interpretative and emancipatory possibilities. Further McGregor et al. (2008) argue that the privileging of *techné* has drawn home economists into being complicit with reinforcing disadvantage and oppression. As Saltmarsh (2009) writes, professional practice requires the professional to think about how they make a difference in the lives of those they are working with. The challenge here is not to follow rules or obey convention blindly but to engage in critical reflexivity about our work with others.

**Home Economics professional practice as Human Action**

McGregor (2010) has identified eight unique contributions of Home Economics. She argues that Home Economics is a profession without rival and is distinct because of the academic and professional contributions that Home Economists make. As an example, reality in Australian schools is an ongoing narrowing of the curriculum and pedagogical approaches in the drive to privilege functional literacy and numeracy at the expense of other subject areas. Literacy and numeracy has to be about *something* as they are skills that are to be used within social contexts (Peterat, 1989). Home Economics is one area of study that provides opportunity for contextualised and situated learning that has application well beyond the school gates and years. Drawing on its unique contributions home economists have the capacity to readily build on what their students or clients can do and bridge between the school and the family/community settings.

The describing of the unique contributions of Home Economics by McGregor (2010) is done within context of the profession and the perpetual debate about what the profession should call itself to remain relevant in contemporary times. No other profession is challenged to review their titles as frequently (Davis, 2008; Hodelin, 2008; IFHE, 2008), in order to justify the field and to be held accountable for the work being claimed both by those within the field as well as those outside it. Instead what McGregor does is to deftly manage the perennial and wasteful debate about the naming of Home Economics and explores the work focus of home economists. It is through McGregor’s description that it is possible to explore the professional practice of Home Economics as Aristotelian human action.

Green (2009) argues that knowledge and practice have a reciprocal relationship that is crucial in defining what is distinctive in a field of professional practice. Further Schön (1995) claims, “[t]he professional depends on tacit knowing in action” (p. 48) and “is dependent on tacit recognitions, judgements, and skilful performances” (p 49). These *knowing practices* are
authentic and have integrity demonstrating both moral-ethical and moral-political characteristics. To determine if Home Economics has such knowing practices, McGregor’s (2010) eight contributions were reviewed together with the descriptions provided. Each of the contributions represents the reciprocal relationship between knowledge and practice, as described by Green (2009), and in this analysis, as ways of knowing (Saugstad, 2002; Smith, 2004). A hermeneutic cycle (Bredo, 2006) was used to interpret the whole text (i.e. the eight unique contributions). Then the descriptions of each contribution were interpreted. By pulling apart McGregor’s descriptions of each form of action it was possible to interrogate them about possibilities for knowing practices and assisted in understanding each contribution as distinct text. This is an iterative or cyclical process to understand text through reproducing and re-experiencing of the author’s creative process (Bryman, Bell & Teevan, 2012; Denzin & Lincoln, 2008). This process enables interrogation of Home Economics practice and profession according to Aristotelian human action. The resultant determinations are presented in Tables 2, 3 and 4 together with specific discussion.

### Table 2 Home Economics as Aristotelian human action—techné

<table>
<thead>
<tr>
<th>Form of Home Economics Action as Techné</th>
<th>Poiesis: Instrumental action Knowing practices such as</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus on Everyday Life</td>
<td>routines and practices found in the ordinary course of events.</td>
</tr>
<tr>
<td>Interdisciplinary and integrative/Holistic</td>
<td>draw information and insights from a number of disciplines to address problems faced by families.</td>
</tr>
<tr>
<td>Prevention, Education and Development</td>
<td>work with families to ensure the acquisition of skills and modes of thinking essential for functioning in society (education)</td>
</tr>
<tr>
<td>Systems of Action (technical, interpretative and critical)</td>
<td>cope with change by learning new skills and techniques</td>
</tr>
<tr>
<td>Practical Perennial Problems</td>
<td>focus on problems experienced every generation (perennial)</td>
</tr>
<tr>
<td>Critical Reflective Practice</td>
<td>manage and cultivate our knowledge base.</td>
</tr>
<tr>
<td>Functional Definition of Families as social institutions</td>
<td>become family literate to advance our unique approach to working with and for families.</td>
</tr>
</tbody>
</table>

Based on Carr (2009), Kinsella and Pitman (2012) and McGregor (2010).

When reviewing Table 2 it is possible to see how there is a strong focus on producing things through instrumental action. Techné acknowledges the skillsets of home economists working with individuals, families and communities to be able to do. This is, and continues to be a strength however it is also a problematic. Too often it is only what some home economists do or what others see us doing. Interestingly what emerges from McGregor’s descriptions of the work shows techné being as much about what our work, as home economists is or should be when undertaken with others, as it is about how we ensure that our practice is evolving and growing with changing circumstances.

Attention to episteme and the identification of theoria was the most difficult to achieve in this process. The first challenge was to grapple with the positivistic notions of scientific and universal aspects of this form of human action. Within the context of the Home Economics profession that focuses on family in multiple social contexts that are global, the seeking of invariable and context-independent is not cogent with the field with its focus on seeking the common good (Smith, 2008) and therefore impossible to achieve. Following Harding (2013) the interpretation of theoria applied here is a need to be cognisant of the legitimacy of many
truths. The second challenge was to determine if there was a single *theoria* that applied to all or if there were different *theoria* at play according to the perceived contribution.

Table 3 Home Economics as Aristotelian human action—*episteme*

<table>
<thead>
<tr>
<th>Form of Home Economics Action as Episteme</th>
<th>Theoria: contemplative action Knowing practices such as</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus on Everyday Life.</td>
<td>Families are an essential component of every society through human history and represent more than a source of human capital.</td>
</tr>
<tr>
<td>Interdisciplinary and integrative/Holistic</td>
<td>Being critical of our work means being aware of power differences and how they impact on the lives of people, privileging few and disadvantaging many</td>
</tr>
<tr>
<td>Prevention, Education and Development</td>
<td>Values informing our work include security, equality, justice, rights, Freedom and peace.</td>
</tr>
<tr>
<td>Systems of Action (technical, interpretative and critical)</td>
<td></td>
</tr>
<tr>
<td>Practical Perennial Problems</td>
<td></td>
</tr>
<tr>
<td>Critical Reflective Practice</td>
<td></td>
</tr>
<tr>
<td>Functional Definition of Families as social institutions</td>
<td></td>
</tr>
</tbody>
</table>

Based on Carr (2009), Kinsella and Pitman (2012) and McGregor (2010).

In the analysis common threads were identifiable and therefore themes of contemplation emerged. In reality the statement about values, that inform our work within the contributions, fitted this category of human action but two other statements were added to reflect what else was deemed as being important but only implied *theoria*. Key words such as social justice, equity, justice, communities of practice, critical, power relationships reflect critical theory as being both broad and evolving and questions the assumption that (Western) nations are unproblematically democratic and free (Kincheloe & McLaren, 2002). There are theorists that have used critical theory to inform philosophical positing of Home Economics (Brown, 1980, 1985, 1993; Vincenti, Smith & Fabian, 2004) and that it is not solely Eurocentric (McGregor et al., 2008). The educative work of home economists aligns with Freire’s (1970, 1972) work on critical pedagogy. By using a humanistic focus built on the assumptions that everyone has that capacity for engaging, conversing, exchanging ideas and negotiating with others (Freire, 1972), the pedagogy is positioned as one that is being enacted for all (Renwick, 2013, 2014).

As discussed earlier the privileging of *techné* is problematic in the profession and relying on *theoria* alone is not an option for viable and evolving professional practice either. Lather (1986, p. 261) highlights the potential for the overuse of theory when it “leads to a circle where theory is reinforced by experience conditioned by theory”. Home economists have not made sufficient use of *theoria* compared to the emphasis of *techné*. Subsequently engaging in any discussion and debate about the area of work claimed has been inadequate. This, according to Lather (1986), enables only a limited understanding in the field about how “[a]ny practice grounded in the presently dominant ideologies and attendant paradigms is not conducive to long-term sustainability of human kind” (p. 257). As a result, there are times when Home Economics professionals have been commandeered to facilitate work that is actually working against the interests of families (McGregor et al., 2004) thereby opposing the claimed ideal of the profession to work for families. This highlights the importance for finding a middle ground that accommodates the ethical utilisation of both *theoria* and *techné*. It is possible to find this in *praxis*.
**Table 4 Home Economics as Aristotelian human action—phronesis**

<table>
<thead>
<tr>
<th>Form of Home Economics Action as Phronesis</th>
<th>Praxis: morally committed action</th>
</tr>
</thead>
</table>
| Focus on Everyday Life                    | • valuing home life and families for more than their contribution to paid work role and consumerism.  
• helping families help themselves become empowered as contributing world citizens. |
| Interdisciplinary and integrative/Holistic | • commitment to integrative, holistic, interdisciplinary practice.  
• pay attention to the problems families encounter daily and inter-generationally.  
• generate a knowledge base that is used for the current accepted social end of the profession: well-being and quality of daily life |
| Prevention, Education and Development     | • work with families to instil a preventative approach to living day-to-day  
• work with families to develop a focus on evolution and progress, especially as regards the improvement of the range and critique of choices available for everyday life (development) |
| Systems of Action (technical, interpretative and critical) | • adapt to change by gaining deeper understandings and insights into values, attitudes and meanings, leading to stronger familial relationships  
• engage in social action and change power relationships to improve the human condition for everyone.  
• reasoned action—think about something before acting. |
| Practical Perennial Problems               | • approaches to solving perennial problems have to change because context changes.  
• assumptions are undermined i.e. what once worked will automatically work again. |
| Critical Reflective Practice              | • engage in morally defensive, ethical practice guided by critical, personal reflection.  
• engage in dialogue in communities of practice.  
• critique current social and political contexts leading to insights into pervasive power relationships that serve an elite few. |
| Functional Definition of Families as social institutions | • work with families as the basic democratic institution underpinning society—the cornerstone of civilisations, deserving of support |
| Profession as a holistic system           | • demonstrate professional leadership when our philosophy, theory/knowledge and practice intersect.  
• ensure integrity of our practice using this unique, ethically responsible approach. |

Based on Carr (2009), Kinsella and Pitman (2012) and McGregor (2010).

Since McGregor (2010) is claiming that Home Economics, as a profession, is informed by values such as social justice and equity and peace, these values not only position the profession within boundaries of particular theory but these same values also identify the moral-ethical and moral-political stance of the profession. As a profession Home Economics has long since claimed a social justice agenda, as events such as Lake Placid occurred in a
time when women were typically and routinely excluded from normal (democratic) social life including voting, higher education, professional careers or any employment after marriage. In looking to what home economists do, McGregor describes a substantial body of action that is readily claimed as praxis, as evidenced in Table 4. Lather (1986, p. 262) observes that “[f]or praxis to be possible, not only must theory illuminate the lived experience of progressive social groups; it must also be illuminated by their struggles”. This is clearly evident in the professional practice described in Table 4.

IFHE (2008, p. 1) articulates the position that “Home Economists are concerned with the empowerment and wellbeing of individuals, families and communities, and of facilitating the development of attributes for lifelong learning for paid, unpaid and voluntary work; and living situations”. It is this position that requires action that is praxis. Clearly there is both a moral-ethical and moral-political stance being taken here (Thompson, 1988, 1992). There is nowhere for home economists to hide if they are seeking to avoid difficult conversations or to claim that they don’t get involved in politics. If we are to work with every family then we need to know that:

- Social justice and equity are pre-requisites for health (WHO, 1986) and education,
- Poverty in every form or manifestation is bad for health and therefore those living in low and middle socio-economic circumstances experience illness and disease disproportionately to the wealthy (Renwick, 2013, 2014), and
- There is a relationship between socioeconomic background and how well young people do at school. For example, in Australia teachers may have a class consisting of students aged up to 18 months apart in chronological age but will have to cater for a difference in performance that can be up to three years (Thomson, De Bortoli, Nicholas, Hillman & Buckley, 2010; Wood, 2003).

Who, if not home economists, are in a better position to work with and for families, to not only develop skills that can improve daily life but to do so in a way that changes their world for the better? Surely this is critical if the profession is to rightly claim professional leadership and integrity (Brown, 1980, 1985; McGregor, 2008; Smith, 2004; Turkki, 2008; Vincenti et al., 2004). In reality the eight unique contributions of Home Economics provided by McGregor (2010) and the associated descriptions and justifications makes a strong case for Home Economics professional practice as phronesis, and therefore a need for closer consideration of what we actually do while also thinking about what we do, that is praxis.

Engaging in professional practice is a struggle (Peterat, 1989; Smith, 2004) “to become, and to be, the excellent, skilled, and moral practitioner of his or her trade or occupation” (Macklin, 2009, p. 88) and draws on all three of the Aristotelian human actions to be realised. To engage in professional practice does not require the professional to be consciously aware of their use of these three actions at any one time. However to deny each and all, is to ignore what is both possible and needed in claiming that the work is professional. For home economists to engage in professional practice we have to identify what is the good that is being sought (Brown, 1980, 1985, 1993; Peterat, 1989; Smith, 2004; Thompson, 1988, 1992; Vincenti, 1990) and to make decisions about which options and resources are available and
how they are used. For home economists this good is about engaging in professional practices that are critical to working with families, we aim to empower.

Conclusion

This paper has described the relationship between profession and practice using Aristotle’s human actions. McGregor’s eight unique contributions made by Home Economics were interrogated using a hermeneutic cycle to determine the extent to which they intentionally focus on the wellbeing of others—a key attribute of a profession. To do this a profession must be able to demonstrate shared work and principles that reflect a moral commitment. The very first issue of this journal focused on the launching of the IFHE position statement: Home Economics in the 21st Century, a policy document for Home Economics together with contributions from numerous home economists globally explores this very idea. The unique contributions developed by McGregor when analysed as Aristotelian human actions is another facet that supports the various claims that Home Economics is a profession.

While Home Economics has much to claim as professional practice we, as a profession, need to engage in practice in ways that acknowledge not only what is done but why and for what purpose (Peterat, 1989; Thompson, 1992). The conceptualisation of Home Economics through Aristotle’s human actions provides insights into our work, as social practice, that is guided by moral agency. As a profession Home Economics has been and continues to be contested by those within but usually in response to those outside the field. As a result practitioners are adept in defending the value of Home Economics. On the other hand practitioners have also been complicit in making Home Economics an agency of hegemonic demands and thereby not acting in the interests of those individuals, families and communities we have professed to work for. By exploring and developing our professional practice through techné, episteme and phronesis home economists are in a strong position to engage in reflective practice (Smith, 2004; Thompson, 1988, 1992). If, as Higgs (2012) contends, practice is a pre-cursor of knowledge then Home Economics as a profession has plenty to draw from in order to understand and develop its own praxis.

Biography

Dr Kerry Renwick is a lecturer in the Department of Curriculum and Pedagogy at the University of British Colombia University. Her research areas include critical pedagogies; health education and promotion; and food and nutrition education. In an Australian context, she has served on the boards of the Victorian Home Economics and Textiles Teachers’ Association (VHETTA) and the Health Education Association of Victoria (HEAV) including a term as President. Kerry was instrumental in the development and introduction of Home Economics as a secondary specialisation in the Bachelor of Education (P-12) at Victoria University, Melbourne Australia. kerry.renwick@ubc.ca

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Activity level as correlate of post-pregnancy anthropometric changes among women

Patricia Mbah
Michael Okpara University of Agriculture

Abstract

The study was carried out to determine the effect of activity levels on anthropometric changes among women. Women of varying parities (n=300) were selected randomly by means of multistage cluster sampling of which 50 women were nulliparous (no child), 70 had one child, 86 had 2-3 children while 94 had 4 children or more. Activity level (AL) was estimated from the calculation of energy expended (EE) of the women per day while the anthropometric status was estimated with the measurement of body mass index (BMI). The results of the study showed that energy intake of the women were not significantly affected by parity although highest energy intake was observed for women with 4 children or more (P>0.05). The percentage of women who were overweight was 38.7% while 35.3% women were obese. About 25.6% of women had normal weight. The mean weight, BMI, Waist circumference, Hip circumference and WHR (Waist Hip Ratio) of the women were 79.14kg, 28.39cm, 98.0cm, 124.69cm and 0.812 respectively. The effect of parity on these anthropometric measurements of women was highly significant (P<0.01) on mean body weight, BMI, waist and hip circumference. Women with 4 children or more had the highest significant mean body weight, BMI, waist and hip measurement (P<0.05). The results also indicated a significant increase in mean body weight, BMI, waist and hip measurement with increasing parity. There was also a significant (P<0.05) increase in energy expended with increased parity. Women with 4 children or more had the highest mean EE (3404.80 kcal) while nulliparous women had the lowest mean EE (2192.44 kcal). AL correlated positively with anthropometric status of all the women. The trend of these results indicate a need for programmed nutrition counselling for women with varying parities to avert impending complications associated with overweight and obesity.

Key words: activity-level, anthropometry, post-pregnancy, women

Introduction

Activity level and post-pregnancy anthropometric changes among women of varying parities indicates that maternal experience may be critical period for the establishment of weight gain and obesity among women. Women of child bearing age who actively performed the reproductive roles of pregnancy, lactating or weaning are considered as nutritionally vulnerable especially in developing countries of the world (Kawatra & Sehgal, 2004). Women’s bodies react differently before and after childbirth and motherhood present a great
challenge. Pregnancy is noted to be one of the major causes of changes in physical structure in women (Rosenberg & Keteyian, 2003).

Physical activity plays a critical role in obesity development in Africa because urban women are more sedentary than their rural counterparts (Mokhtar, Elati, Chabir, & Bour, 2001). Sedentary lifestyles are increasingly involved in the prevalence of obesity (Taubes, 1988) The process of modern transport, labour saving devices, and TV viewing, has brought about a number of consequences affecting physical activity patterns that contribute to obesity (Goldblutt, Moore & Stunkard, 1995).

Martinez and Fruhbeck (1999) showed that age is an important aspect affecting the number of hours spent sitting down at work, in leisure time as well as the time spent walking. Also, that the proportion of individuals not participating in any sport increases with age. Increasing physical activity patterns are considered a major modifiable factor affecting excessive body weight gain, and key goal in reducing obesity rates (Barlow & Dietz, 1998).

Physical activity patterns

Physical activity is described as a rating of how much energy a person expends within a specific period of time (CDC, 2005). Physical activity when properly practiced leads to physical fitness (Prentice, 2005). Over the years, large number of studies evaluating Westernised dietary changes in various population in developing countries have been carried out, but little is known about the physical activity levels (PAL) in these populations (Torun et al., 1996; Stein, Johnson & Greiner, 1988) which has been said to be due to difficulties in measuring total daily energy expenditure in free-living situations (WHO, 1998). PAL is needed to quantitatively compare the patterns of physical activity between urban and rural dwellers that shared the same genetic traits and cultural background (often seen in rural-urban migrants and rural residents of the same group), which would be useful for determining the effect of urbanisation (Yamauchi, Umezaki, & Ohtsuka, 2001). The PAL is useful as it allows for comparison of individuals of different body size. PAL values are a universally accepted expression of energy expenditure and help to convey easy understanding of the concept of physical activity pattern (Ferro-Luzzi & Martin, 1996). PAL values also provide an insight in understanding physical fitness. According to Centre for Disease Control and Prevention (CDC, 2005) the terms in Table 1 are commonly used in discussion of exercise and physical activity.

<table>
<thead>
<tr>
<th>Term</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical activity</td>
<td>Physical activity is any bodily movement produced by skeletal muscles that result in an expenditure of energy.</td>
</tr>
<tr>
<td>Physical fitness</td>
<td>Physical fitness is a set of attributes a person has in regards to a person’s ability to perform physical activities that require aerobic fitness, endurance, strength, or flexibility and is determined by a combination of regular activity and genetically inherited ability.</td>
</tr>
</tbody>
</table>
| Regular physical activity | A pattern of physical activity is regular if activities are performed:  
- Most days of the week, preferably daily  
- 5 or more days of the week if moderate-intensity activities (in bouts of at least 10 minutes for a total of at least 30 minutes per day) or  
- 3 or more days of the week if vigorous-intensity activities (for at least 20-
60 minutes per session).

<table>
<thead>
<tr>
<th>Moderate-intensity physical activity</th>
<th>Moderate-intensity physical activity refers to a level of effort in which a person should experience:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Some increase in breathing or heart rate</td>
</tr>
<tr>
<td></td>
<td>• The effort a healthy individual might expend while walking briskly, mowing the lawn, dancing,</td>
</tr>
<tr>
<td></td>
<td>swimming, or bicycling on level terrain, for example.</td>
</tr>
<tr>
<td></td>
<td>• Any activity that burns 3.5 to 7 Calories per minute (kcal/min).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vigorous-intensity physical activity</th>
<th>Vigorous-intensity physical activity may be intense enough to represent a substantial challenge</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>to an individual and refers to a level of effort in which a person should experience:</td>
</tr>
<tr>
<td></td>
<td>• Large increase in breathing or heart rate</td>
</tr>
<tr>
<td></td>
<td>• A perceived exertion e.g. the effort a healthy individual might expend while jogging,</td>
</tr>
<tr>
<td></td>
<td>mowing the lawn with a no motorised push mower, participating in high-impact aerobic dancing,</td>
</tr>
<tr>
<td></td>
<td>swimming continuous laps, or bicycling uphill, carrying more than 11.4kg up a flight of</td>
</tr>
<tr>
<td></td>
<td>stairs, standing or walking with more than 23kg for example.</td>
</tr>
<tr>
<td></td>
<td>• Any activity that burns more than 7 kcal min</td>
</tr>
</tbody>
</table>

Source: Centres for Disease Control and Prevention

**Ways of monitoring physical activity intensity**

To determine whether a person’s pulse heart rate is within the target zone during physical activity.

**Moderate-intensity physical activity**

A person’s target heart rate should be 50 to 70% of his or her maximum heart rate. This maximum rate is based on the person’s age. An estimate of a person’s maximum age-related heart rate can be obtained by subtracting the person’s age from 220. For example, for a 50-year-old person, the estimated maximum age-related heart rate would be calculated as 220 - 50 years = 170 beats per minute (bpm). The 50% and 70% levels would be:

- 50% level: 170 x 0.50 = 85 bpm, and
- 70% level: 170 x 0.70 = 119 bpm

Thus, moderate-intensity physical activity for a 50-year-old person will require that the heart rate remain between 85 and 119 bpm during physical activity.

**Vigorous-intensity physical activity**

A person’s target heart rate should be 70 to 85% of his or her maximum heart rate. To calculate this range, follow the same formula as used above, except change 50 and 70% to 70 and 85%. For example, for a 35-year-old person, the estimated maximum age-related heart rate would be calculated as 220 - 35 years = 185 beats per minute (bpm). The 70% and 85% levels would be:

- 70% level: 185 x 0.70 = 130 bpm, and
85% level: $185 \times 0.85 = 157$ bpm

Thus, vigorous-intensity physical activity for a 35-year-old person will require that the heart rate remain between 130 and 157 bpm during physical activity (CDC 2005).

Justification of the study

There are metabolic changes during pregnancy and lactation, which result in higher intake of nutrients (Prentice, 2005). Could these demands be responsible for the prolonged effect, which results in changes in anthropometry with parity? Lack of physical activity has been seriously implicated as one of the predisposing factors for general increase in an individual’s body fat (CDC, 2005). Could activity level be responsible for the anthropometric changes among the post-pregnant women in Lagos State? The specific justification for this study therefore was to determine the influence of activity level on post-pregnancy anthropometric changes among nulliparous and multiparous women in mainland local government area of Lagos state.

Objective of the study

The general objective of this study was to determine how physical activity affects anthropometric changes among women of different parities in Mainland Local Government area of Lagos State.

The specific objectives were to:

- Assess the differences in the activity level of nulliparous women and women with varying parities in Lagos State.
- Determine the correlation between BMI, Waist Hip Ratio (WHR) and activity level of women with varying parities and compare them with nulliparous women.

Hypotheses of the study

The following research hypotheses were formulated for the study:

1. There will be no significant difference in the activity level of nulliparous women and women with varying parities.

2. There will be no significant relationship among body mass index, waist/hip ratio and activity level of nulliparous women and women with varying parities.

Materials and methods

This study was carried out in Lagos Mainland Local Government Area of Lagos State. Lagos Mainland Local Government Area is centrally located in Lagos State ranging from the popular Oyingbo market through old Yaba road, Murtala-Mohammed Way, which is parallel to Herbert Macaulay road and terminates at the well-known Ikorodu road (NPC, 1991). Mainland Local Government is selected for this survey because it is one of the oldest and centrally located LGA in Lagos state.
Mainland Local government is one of the Local Government Areas in Lagos State with two development councils namely Yaba and Ebute-Metta. Mainland LGA has 32 identified communities 25 (78%) of which are urban. The rests are semi-urban. The LGA has one general hospital 10 health/maternity centres, 128 registered private hospitals, 58 public Primary Schools and 33 public Secondary Schools (CERUD, 1993).

Study design
The survey design employed to investigate the post-pregnancy changes in anthropometry and among women in Mainland Local Government Area of Lagos State with a structured interview technique developed to obtain information on the respondent’s demographic data, behavioural data, anthropometric data and activity level as it relates to parity.

The population

The sample
The sample for the study consisted of those women within the age group of 15-49 years of age. The figure was given by NPC (1991) as 96,081.4, which is 24.8% of the population of Mainland Local Government Area. 1% of 96,081.4, is approximately 960. Out of this, 300 women were selected through multi-stage cluster sampling.

Multistage cluster sampling is a complex form of cluster sampling where by using all the selected clusters may be prohibitively expensive or not necessary. Under these circumstances, multistage cluster sampling becomes useful. Instead of using all the elements contained in the selected clusters, the researcher randomly selects elements from each cluster. Comprising 50 women without children (Nulliparous), 70 with one child, 86 with 2-3 children and 94 with four children or more.

Measuring instruments
The following measuring instruments were employed during data collection.

- A digital scale for weight
- A flexible non-stretch tape for waist/hip
- A graduated vertical measuring rod for height

Activity level
The activity levels of the subjects were calculated based on the energy expenditure of each respondent per day. This was done using Bowman (2001) formula:

\[ \text{Energy used} = \text{BMR} + \text{PAL}^* + \text{TEF}^{**} \]
where BMR (basal metabolic rate) for intensive activity =0.605, moderate activity= 0.554 and 0.404 for light activity.

*pal= physical activity level, **thermal energy of food.

Subjects were asked to report time spent on activity carried out.

Results

Table 2 contains results on the demographic and socio-economic characteristics of the respondents presented in frequency and percentages.

<table>
<thead>
<tr>
<th>A. Age</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;20</td>
<td>12</td>
<td>4.0</td>
</tr>
<tr>
<td>20-24</td>
<td>24</td>
<td>8.0</td>
</tr>
<tr>
<td>25-29</td>
<td>78</td>
<td>26.0</td>
</tr>
<tr>
<td>30-34</td>
<td>90</td>
<td>29.5</td>
</tr>
<tr>
<td>35-39</td>
<td>51</td>
<td>17.5</td>
</tr>
<tr>
<td>40-44</td>
<td>45</td>
<td>15.0</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Level of Education</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-formal Education</td>
<td>24</td>
<td>8</td>
</tr>
<tr>
<td>Primary</td>
<td>30</td>
<td>10.0</td>
</tr>
<tr>
<td>Secondary</td>
<td>126</td>
<td>42.0</td>
</tr>
<tr>
<td>Tertiary</td>
<td>120</td>
<td>40.0</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C. Profession</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trading (Self-Employed)</td>
<td>165</td>
<td>55</td>
</tr>
<tr>
<td>Paid Employment</td>
<td>54</td>
<td>18</td>
</tr>
<tr>
<td>Students</td>
<td>81</td>
<td>27</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D. Family Monthly Income</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>N5,000</td>
<td>18</td>
<td>6.0</td>
</tr>
<tr>
<td>N6,000– N10,000</td>
<td>30</td>
<td>10.0</td>
</tr>
<tr>
<td>N11,000–N15,000</td>
<td>93</td>
<td>30.5</td>
</tr>
<tr>
<td>N16,000–N20,000</td>
<td>138</td>
<td>46.0</td>
</tr>
<tr>
<td>&gt;N21,000</td>
<td>21</td>
<td>7.5</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E. Parity Level</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>50</td>
<td>16.7</td>
</tr>
<tr>
<td>1 Child</td>
<td>70</td>
<td>23.3</td>
</tr>
<tr>
<td>2-3 Children</td>
<td>86</td>
<td>28.7</td>
</tr>
<tr>
<td>4-Children or more</td>
<td>94</td>
<td>31.3</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>F. Marital Status</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>198</td>
<td>66.0</td>
</tr>
<tr>
<td>Unmarried</td>
<td>87</td>
<td>29.0</td>
</tr>
<tr>
<td>Divorced</td>
<td>15</td>
<td>5.0</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
<td>100%</td>
</tr>
</tbody>
</table>

In the table below, 4% of the respondents that participated in the study were below 20 years of age, 8% of them were between 20 and 24 years old, 26% of them were between 25 and 29 years; 29.5% were between 30 and 34 years of age; 17.5% of them were between 35 and 39 years old, whereas 15% of them were between 40 and 44 years old.
In terms of education, 8% of the respondents did not have any formal education; 10% of them had only primary education; 42% had both primary and secondary education; while 40% had up to tertiary education. 55% of the respondents were self-employed, while 27% were still in school.

Table 2 shows that 6% of the respondents were on monthly income of N5,000; 10% of them were on monthly income range of N6,000 to N10,000; 30.5% of them were on monthly income range of N11,000 to N15,000, 46% of them were on monthly income range of N16,000 to N20,000, whereas 7.5% of them were earning N21,000 or more monthly.

Further analysis reveals that 66% of the respondents were married, 29% were single parents, while 5% were divorcees.

**Bio data Of Respondents**

**Table 3 Behavioural characteristics of Respondents**

<table>
<thead>
<tr>
<th>A. Physical Activity</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light</td>
<td>159</td>
<td>53.5</td>
</tr>
<tr>
<td>Moderate</td>
<td>78</td>
<td>26.0</td>
</tr>
<tr>
<td>Intensive</td>
<td>63</td>
<td>20.5</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Use Vitamin Supplement</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>138</td>
<td>46.0</td>
</tr>
<tr>
<td>No</td>
<td>168</td>
<td>54.0</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C. Lactation Duration</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1 month</td>
<td>33</td>
<td>11</td>
</tr>
<tr>
<td>1-6 months</td>
<td>63</td>
<td>21</td>
</tr>
<tr>
<td>7-12 months</td>
<td>84</td>
<td>28</td>
</tr>
<tr>
<td>13-18 months</td>
<td>54</td>
<td>18</td>
</tr>
<tr>
<td>19-24 months</td>
<td>16</td>
<td>5.3</td>
</tr>
<tr>
<td>Not yet bearing children</td>
<td>50</td>
<td>16.7</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
<td>100%</td>
</tr>
</tbody>
</table>

Result on the mean, standard deviation, maximum, and minimum weight, Body Mass Index (BMI), waist, and hip and waist-hip ratio of women in Lagos state are shown in Table 3. The mean weight of women investigated in this study was 79.14kg and the mean BMI of the women was 28.39. The waist and hip measurement of the women had mean of 98.0cm and 124.69cm respectively. Also, the mean waist and hip ratio was 0.81.

The effect of parity on anthropometric measurement of women in Lagos state was highly significant at P< 0.01 on mean body weight, BMI, waist circumference and Hip circumference. However, parity had no significant effect on mean waist—hip ratio of the women (Table 4).
Women with 4 children or more had the highest significant mean body weight, BMI, waist and hip measurement. Also as parity increases, there is a significant increase in mean body weight, BMI, waist and hip measurement. The nulliparous women had the lowest significant \((P<0.05)\) mean body weight; BMI, waist and hip measurement compared to women with at least a child. However, parity had no significant effect on mean WHR of the women involved in this study (Table 5 below).

Table 5 Effect of parity on Mean Body weight, BMI, waist, Hip and Waist-Hip Ratio (WHR) of women in Mainland Local Government in Lagos state.

<table>
<thead>
<tr>
<th>Parity</th>
<th>Body weight(kg)</th>
<th>BMI</th>
<th>Waist (cm)</th>
<th>Hip (cm)</th>
<th>WHR</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>59.53d</td>
<td>20.90d</td>
<td>75.65d</td>
<td>104.10c</td>
<td>0.74a</td>
</tr>
<tr>
<td>1</td>
<td>73.44c</td>
<td>26.49c</td>
<td>96.32c</td>
<td>123.43b</td>
<td>0.78a</td>
</tr>
<tr>
<td>2-3</td>
<td>80.61b</td>
<td>29.77b</td>
<td>105.44b</td>
<td>130.10b</td>
<td>0.81b</td>
</tr>
<tr>
<td>4</td>
<td>92.49a</td>
<td>32.55a</td>
<td>108.66a</td>
<td>133.55a</td>
<td>0.88b</td>
</tr>
</tbody>
</table>

Means with the same letter(s) in columns do not differ significantly based on Duncan multiple range test at \(P < 0.05\).

The Body mass Index status of the women investigated was analysed as shown in Figures 1 and 2 below. On the overall, 77 of the women had a normal BMI and were significantly smaller in number compared to those that were overweight (116) and obese (106). (Figure 1).
Further analysis showed that the 50 nulliparous women involved in this study had normal BMI. The number of women with normal BMI decreased as the parity (for women with 2-3 children and women with 4 or more) increased as shown in Figure 3. In addition, the number of overweight and obese women increased as parity increased, with the highest number of obese women found among those with parity 4 or more (Figure 2).

The status of the women with respect to waist-hip ratio was analysed and the result are contained in Figure 3 below. Most of the nulliparous women (46) had ideal WHR compared to women with at least one child. The number of women with overweight WHR status significantly increased with parity, while within the category of women with 2-3 and women with 4 or more children, there was no significant (P>0.05) difference in the number of women with ideal and overweight WHR status.

Parity effect on energy expenditure was significant at P<0.01. Women with parity 4 expended the highest energy (mean = 3404.80 kcal) followed by women with 2-3 children (mean =
3009.28) and the lowest energy expenditure was expressed by the nulliparous women (mean = 2192.44). Also, energy expenditure was significantly lower among nulliparous women compared to women with at least one child as shown in Table 5.

**Activity level of nulliparous women and women with varying parities**

Parity effect on energy expenditure was significant at P<0.01. Women with parity 4 expended the highest energy (mean = 3404.80 kcal) followed by women with 2-3 children (mean = 3009.28) and the lowest energy expenditure was expressed by the nulliparous women (mean = 2192.44). Also, energy expenditure was significantly lower among nulliparous women compared to women with at least one child as shown in Table 5.

Table 6  Effect of Parity on energy expenditure of nulliparous women and women with varying parities in Lagos state.

<table>
<thead>
<tr>
<th>Parity</th>
<th>Mean Energy expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nulliparous</td>
<td>2192.44d</td>
</tr>
<tr>
<td>Women with a Child</td>
<td>2704.68c</td>
</tr>
<tr>
<td>Women with 2-3 children</td>
<td>3009.28b</td>
</tr>
<tr>
<td>Women with 4 or more children</td>
<td>3404.80a</td>
</tr>
</tbody>
</table>

Means with the same letter are not significantly different based on Duncan Multiple Range Test at P < 0.05.

**Correlation of activity level and anthropometric parameters of women with varying parities**

The results of correlation matrix among BMI, parity and activity level of women involved in this study are contained in Tables 7 to 11 below. The relationship between parity and BMI was positive and significant (P<0.01) with r-value of 0.74. Similarly, Parity correlated positively and significantly with activity level of women with r-value of 0.902 (Table 7).

Table 7  Overall correlation of nutrient intake, BMI and activity level of nulliparous women and women with varying parities.

<table>
<thead>
<tr>
<th></th>
<th>Energy intake</th>
<th>Parity</th>
<th>Activity level</th>
<th>BMI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Energy intake</strong></td>
<td>Pearson Correlate</td>
<td>1</td>
<td>0.037</td>
<td>0.053</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.52</td>
<td>0.361</td>
<td>0.948</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>300</td>
<td>299</td>
<td>299</td>
</tr>
<tr>
<td><strong>Parity</strong></td>
<td>Pearson Correlate</td>
<td>0.037</td>
<td>1</td>
<td>.902*</td>
</tr>
<tr>
<td></td>
<td>Sig (2-tailed)</td>
<td>0.52</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>299</td>
<td>299</td>
<td>299</td>
</tr>
<tr>
<td><strong>Activity level</strong></td>
<td>Pearson Correlate</td>
<td>0.053</td>
<td>.902*</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig (2-tailed)</td>
<td>0.361</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>299</td>
<td>299</td>
<td>299</td>
</tr>
<tr>
<td><strong>BMI</strong></td>
<td>Pearson Correlate</td>
<td>0.004</td>
<td>.740*</td>
<td>.736*</td>
</tr>
<tr>
<td></td>
<td>Sig (2-tailed)</td>
<td>0.948</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>299</td>
<td>299</td>
<td>299</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed), *Correlation is significant at the 0.05 level (2-tailed)**
Table 8: Correlation of BMI and activity level of nulliparous Women

<table>
<thead>
<tr>
<th></th>
<th>Energy intake</th>
<th>Activity level</th>
<th>BMI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy intake</td>
<td>Pearson Correlate</td>
<td>1.0</td>
<td>0.079</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.488</td>
<td>0.586</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Activity level</td>
<td>Pearson Correlate</td>
<td>0.1</td>
<td>0.241</td>
</tr>
<tr>
<td></td>
<td>Sig (2-tailed)</td>
<td>0.488</td>
<td>0.092</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>BMI</td>
<td>Pearson Correlate</td>
<td>0.079</td>
<td>0.241</td>
</tr>
<tr>
<td></td>
<td>Sig (2-tailed)</td>
<td>0.586</td>
<td>0.092</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed)

Table 9 Correlation of Nutrient intake, BMI and Activity level of Women with Child.

<table>
<thead>
<tr>
<th></th>
<th>Energy intake</th>
<th>Activity level</th>
<th>BMI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy intake</td>
<td>Pearson Correlate</td>
<td>1.0</td>
<td>-0.232</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.708</td>
<td>0.053</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>Activity level</td>
<td>Pearson Correlate</td>
<td>-0.046</td>
<td>0.086</td>
</tr>
<tr>
<td></td>
<td>Sig (2-tailed)</td>
<td>0.708</td>
<td>0.479</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>BMI</td>
<td>Pearson Correlate</td>
<td>-0.232</td>
<td>0.086</td>
</tr>
<tr>
<td></td>
<td>Sig (2-tailed)</td>
<td>0.053</td>
<td>0.479</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>70</td>
<td>70</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed)

Table 10 Correlation of nutrient intake, BMI and activity level of women with 2-3 Children.

<table>
<thead>
<tr>
<th></th>
<th>Energy intake</th>
<th>Activity level</th>
<th>BMI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy intake</td>
<td>Pearson Correlate</td>
<td>1.0</td>
<td>-0.002</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.989</td>
<td>0.011</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>Activity level</td>
<td>Pearson Correlate</td>
<td>-0.002</td>
<td>1.0115</td>
</tr>
<tr>
<td></td>
<td>Sig (2-tailed)</td>
<td>0.989</td>
<td>0.294</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>BMI</td>
<td>Pearson Correlate</td>
<td>0.275*</td>
<td>0.115</td>
</tr>
<tr>
<td></td>
<td>Sig (2-tailed)</td>
<td>0.011</td>
<td>0.294</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>85</td>
<td>85</td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.05 level (2-tailed)
** Correlation is significant at the 0.01 level (2-tailed)
Table 11: Correlation of nutrient intake, BMI and activity level of Women with 4 or more children

<table>
<thead>
<tr>
<th></th>
<th>Energy intake</th>
<th>Activity level</th>
<th>BMI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Energy intake</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlate</td>
<td>1</td>
<td>0.039</td>
<td>-0.138</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.709</td>
<td>0.185</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>94</td>
<td>94</td>
<td>94</td>
</tr>
<tr>
<td><strong>Activity level</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlate</td>
<td>0.039</td>
<td>1</td>
<td>0.358</td>
</tr>
<tr>
<td>Sig (2-tailed)</td>
<td>0.709</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>94</td>
<td>94</td>
<td>94</td>
</tr>
<tr>
<td><strong>BMI</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlate</td>
<td>-0.138</td>
<td>0.358*</td>
<td>1</td>
</tr>
<tr>
<td>Sig (2-tailed)</td>
<td>0.185</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>94</td>
<td>94</td>
<td>94</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed)

Conclusion and recommendations

This study has succeeded in examining the relationship between activity level and post-pregnancy anthropometric indices among childbearing age women in Mainland Local Government Area of Lagos State. The survey results indicated a significant change in the anthropometric characteristics of the post-pregnant women in Lagos State when compared to nulliparous women. Weight gain is observed in this study to be a function of individual increase in sedentary activity as the situation may demand. Although results of the study revealed increase in BMI with increasing parity. However, multiparous women seem to engage in more intensive activities than the nulliparous women.

The survey on anthropometric changes and activity level of post pregnant women presented a clue to the relationship and variation among different BMI and activity levels of women. The results from the study survey equally recorded that with increasing parity there is tendency to increasing BMI and physical activity level (PAL). This study therefore recommends as follows:

- There is an urgent need for adequate non-formal awareness campaign on increased activity level for childbearing age women.
- Nutrition education should be given a boost with emphasis on how it affects anthropometric status of childbearing age women.
- Physical activity in form of routine exercise awareness campaign should be given a boost.
- Physical activity should be encouraged in line with adequate nutrient intake.
- Women should be counselled to understand the need for exercise during their physiological and vulnerable stages.

Biography

Patricia Etuna Mbah (PhD, MSc, M.Ed., BSc/Ed) is a Professor of Home Economics. She believes and advocates the vision and mission of the philosophy
and objectives of Home Economics. She commenced her working career after graduation and National Youth Service Corps (NYSC) with the Federal College of Education (Technical) Akoka, Lagos, Nigeria as a Lecturer in 1993 and, having reached the pinnacle of academic progression in the College of Education system in 2005 she joined Michael Okpara University pf Agriculture in search of academic satisfaction and to engage in more challenging academic research and development. Patricia currently heads the Home Economics/Hospitality Management & Tourism department among other responsibilities. She is also the liaison co-ordinator for International Federation for Home Economics (IFHE) for Nigeria.patr mbah@yahoo.com

References


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Author's biography
Please provide a brief (less than 100 words) paragraph for each author, including current role or memberships and an e-mail address for correspondence. For example:

Professor Donna Pendergast, PhD is Dean of the School of Education and Professional Studies at Griffith University, Brisbane, Australia. Donna researches and writes about Home Economics philosophy, education and practice. Donna recently completed her 4-year term as Vice President of the Pacific Region and member of the IFHE Executive. She continues to serve the profession as Chairperson of the IFHE Think Tank Committee and Editor of the International Journal of Home Economics. She has served as National President of the Home Economics Institute of Australia, and President of the Queensland division.
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Manuscripts should be sent electronically to Professor Donna Pendergast, School of Education by e-mail at d.pendergast@griffith.edu.au. Please send files as Microsoft Word documents (doc, docx) or in Rich Text Format (rtf). Paper length should not exceed 6000 words. Each document should be double-spaced, with generous margins.

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