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Editor-in-Chief

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Department of Mathematics/Statistics
Federal Polytechnic, Oko.

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Instruction to Contributors

Papers are invited from researchers

- In science (pure and applied) and technology
- The length of the articles should be between 6 and 10 typewritten pages excluding tables and appendices.
- Only papers not previously, published in journals should be sent in for publication.
- Footnotes/references follow the APA format.

GENERAL:

- a) Manuscripts should follow the outline stated above.
- b) Three copies of such manuscripts and correspondence should be addressed to the Editor-in-Chief, Department of Maths/Statistics, Federal Polytechnic Oko Anambra State, Nigeria.

Please send along a diskette of dimension 3.5" (8.75cm)/CD ROM containing the manuscript preferably in Ms Word, Ms Excel, Corel Chart, Page Maker and Corel Draw.

- c) The text should be written in English; subscription rate per volume is N6000.00 postage (excluded).

Note: a free copy of the journal will be sent to the author(s) while additional copies will be purchased from the Editor-in-Chief.

FOREWORD/ EDITORIAL COMMENTS

The vital role played by Science, Technology, Engineering and Mathematics (STEM), in the development of nations have for long been recognised and effectively utilised by the developed nations of the world.

Conversely, those nations that have failed to recognise or gave undue attention to the catalytic role of STEM in their national development agenda, are referred to as under- developed. Obviously, our country, Nigeria falls within this latter category. To this end serious effort is needed from all stakeholders in nation building including the Science Teachers Association of Nigeria (STAN), in redressing this ugly trend thereby paving the way for Nigeria to take its rightful position among the developed nations of the world, the so much canvassed vision 20/2020 agenda.

The Science Teachers Association of Nigeria (STAN), a non-profit making professional Association, has its cardinal goal as promoting Science, Technology, Engineering and Mathematics teacher effectiveness in Nigeria. This goal is anchored on the realisation that no meaningful national development initiative can be fully achieved if the role of the teacher is neglected. This goal is achieved through a number of avenues including workshops, seminars, conferences, excursions, quiz/ project competitions and a number of academic publications. Through these avenues, ideas are cross-bred among STEM teachers and researchers at primary, secondary and tertiary levels thereby engendering the professional development of the members.

The STEM JOURNAL OF STAN 2010, is a product of Anambra State Branch of the Association and this Maiden Edition is meant to encourage members to publish and make progress as well as facilitate the interchange of ideas among STEM teachers at the state, national and international levels on issues of relevance to national development particularly, those bordering on STEM.

Articles are invited from contributors on regular basis. The views and opinions expressed by the authors are not necessarily those of STAN but that of the individual contributors.

It may be pertinent at this juncture, to give credit to the Immediate past Executive of STAN, Anambra State under the able leadership of Dr. C. V. Nnaka (Mrs.) for initiating this journal project and the Editorial Board for bringing the job to a logical conclusion.

God Bless.

Dr. Mars C. Anaekwe
Chairman
STAN Anambra State.

The STAN Journal is a quarterly publication of the State Teachers' Association of Nigeria (STAN) and is published by the State Teachers' Association of Nigeria. The journal is published on the basis of a number of articles including research, reviews, and other contributions. The journal is published in English and is intended to provide a platform for the exchange of ideas and information among teachers and researchers in the field of education. The journal is published by the State Teachers' Association of Nigeria, which is a professional organization of teachers in Nigeria. The journal is published in the State Teachers' Association of Nigeria, which is a professional organization of teachers in Nigeria. The journal is published in the State Teachers' Association of Nigeria, which is a professional organization of teachers in Nigeria.

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COGNITION OF MENOPAUSAL COPING MECHANISMS AMONG RURAL WOMEN.

By

**MADUEKWE THERESA C.
ASUBEB HEADQUARTERS
AWKA**

Abstract

Women stand the risk of numerous health conditions as they advance in age and one of such conditions is cessation of menstruation commonly called menopause. Ensuring healthy ageing depends on the woman's ability to cope with menopause. The purpose of this research was to investigate level of cognition of menopausal coping strategies among rural resident women in Uke community of Anambra State. The descriptive survey research design was adopted. The sample consisted of 204 resident women aged 45 years and above. There was no sampling procedure, all the subjects were used. Structured interview was the major instrument for data collection. Data collected were analyzed. Result of the study revealed that the respondents have low level of cognition of menopausal coping strategies. Level of education, ages and religious affiliations of the respondents were recommended among others that community health talks on menopause should be periodically organized at the grassroots to enlighten rural resident women on menopausal coping strategies for healthy ageing.

INTRODUCTION

By nature, women are subjected to some femininity that calls for special counseling for effective health maintenance. At puberty, the female is faced with menarche and its crises situation. During the middle age period, the women are faced with procreation and all the strains involved. As a woman advances in age, she experiences cessation of the ovarian and uterine cycles referred to as the menopause. Masters and John (1999) defined menopause as the end of menstruation. It is the turning point in any woman's life because it marks the end of her reproductive function. Menopause sets in at about the age of 45 or 50 years in Nigerian and 51 years in United States of America (Michinglay, 1999). Menopause can begin earlier than 40 years or later than 53 years. (Jones, Shainberg & Byer, 1990). At menopause, the ovaries are no longer active with the consequent absence of ovulation and hormone imbalance.

Cutler (1990) explained that during menopause, there is the shutting down of the ovarian "egg factory" and the ovaries diminish production of estrogen and progesterone, thereby lowering down the sex hormones. With some women the end of menstruation happens suddenly. One period finishes and another never occurs. For others, the period becomes erratic, occurring at intervals of three weeks to several months. Clayton (1992) opined that to some women the period remains regular but the amount of blood loss gradually diminish until it stops. When a full year goes without a woman experiencing a menstrual period, she can reliably conclude that menopause occurred at the time of her last menstruation (Seaman and Seamen, 1999).

Menopausal women experience the following: hot flashes, vaginal dryness and palpitation. Hot flashes (sudden heat sensation followed by sweating at the forehead, palms and legs); and vaginal dryness (due to estrogen insufficiency), palpitation refers to rapid and forceful contraction of the heart. Others include: headaches, insomnia, incontinence (inability to hold urine), dryness of the skin, memory lapses, weight increase, generalized body pain as well as bone muscle

and joint pains (Burt, 2008; Jones, 2006 & Smith 2007). Menopausal women are usually faced with phobia, depression, lack of confidence, and are irritable, irrational and quarrelsome (Kase, 2000). This situation has led to broken homes, polygamy, loss of love and affection, extra-marital affairs, drug abuse, self-esteem, self medication and misuse of drugs among others.

Most women feel that menopause is a frustrating moment because of ignorance of coping mechanisms. Medical scientists (Combs, Hales & Williams 2005) suggested coping mechanisms like adequate rest, regular/moderate exercise, drug therapy (like vitamin E, B, C and D), personal hygiene, regular medical care, adequate sleep, music therapy, ecclesiastical therapy, water therapy, effective stress management and positive communication with spouse and family members. Regular exercise enhances the ability to cope with stress and depression as well as helps in keeping off weight. In coping with hot flashes, regular exercises helps the body to cope with excess heat, thus cooling down more quickly, use of estrogen pills is not encouraged because of the fear of cancer of the uterus and gall bladder. However, vitamin tablets as prescribed by qualified medical doctors equally help in maintaining hormonal balance.

This present study sought to ascertain the level of cognition of rural women in Uke community to these menopausal coping mechanisms with a view to suggesting ways of sensitizing the subjects towards effective coping strategies. Some women feel bad, look sick and complain sick when they reach menopause. Menopause is not a disease. It is a stage in a woman's life cycle that may attract some inconveniences as earlier pointed out.

Menopausal women ought to live normal life like other women, hence there is need for proper coping mechanisms. Such coping mechanisms may be related to level of education and religious affiliation.

It is against the background of healthy ageing and healthy menopause that the researcher was motivated towards ascertaining cognition of menopausal coping mechanisms among rural women of "Uke" Community in Idemili North Local Government Area of Anambra State. The following research questions were posed to guide the study.

RESEARCH QUESTIONS

1. What are the rural women's cognitive levels of menopausal coping mechanisms through health promotion principles?
2. What are the rural women's cognition levels of menopausal coping mechanisms through stress management techniques?
3. What are the rural women's cognition levels of menopausal coping mechanisms through appropriate Medicare?
4. What are the relationships among respondents of various levels of education in their cognition of menopausal coping mechanism?
5. What is the relationship among respondents of various religious affiliations in their cognition of menopausal coping mechanisms?

HYPOTHESES

There would be no significant relationship among respondents of various levels of education in their cognition of menopausal coping mechanisms.

There would be no significant relation among respondents of various religious affiliations in their cognition of menopausal coping mechanisms.

Method:

The entire population of 204 resident menopausal rural women aged 40 years and above in Uke community, Idemili North local government area was used for the study. There was no sample and sampling technique because the populations of 204 female menopausal rural women were small and within the reach of the researcher. The appreciateness of using the entire population when the sample is small could be adduced from the use in similar studies

by previous researcher including Onuzulike (2003) Abanobi (1999); and Umeh & Okafor (1994).

The accessible population for the study were all the resident women 40 years and above, from the six villages in Uke. The sample consisted of 204 resident women age 40 years and above. The major instrument used for the data collection was structured interview. The structured interview protocol was developed by the instruments. The structured interview was segmented into two sections. The first section sought biological information of the respondents while the second section sought information on the respondent's cognition of the menopausal coping mechanisms as guided by the objectives of the study.

The instrument was submitted to jury of health education experts in Nigerian University for validation. All their corrections were adequately effected in restructuring the instrument.

The reliability of the instrument was established by exposing the structured interview twice to a pilot study group of ten respondents from Abatete, which was not part of the study population. A re-test was done after sixteen days using the same subjects. Two sets of scores obtained were correlated using Pearson Product Moment Correlation Co-efficient and a high positive reliability value of 0.88 was obtained. Consequently, it was inferred that the instrument could be used to collect valid and reliable data from the sample under study.

Administration of Research Instrument

A face-to-face method of interview was used in gathering needed information for the study. Twenty interviewers who were 2008/2009 final year degree Health Education students of Nwafor Orizu College of Education, Nsugbe were trained for five days and used for interviewing the respondents. The interviewers were from Idemili North Local Government Area of Anambra State and were fluent in the local dialect.

The investigator got entry into the community and got familiarized with the help of the Parish Priest and Archdeacon who introduced her to the Executive of the Uke Development Union (Women Wing). The town crier of the six villages used for the study were engaged to inform the resident women of the age cohorts (40 years and above) who are indigenes to assemble on the community square on the agreed date. On the fixed date, the researcher accompanied by twenty trained interviewer travelled to the community square and solicited voluntary response option in the interview protocol. Each of the nineteen trained interviewers interviewed ten respondents; while one trained interviewer interviewed seven respondents. At the end, one hundred and ninety seven (197) subjects were interviewed.

Method of Data Analysis

Data collected were tallied and analyzed using descriptive statistics of mean and percentage, as well as inferential statistic of chi-square, attempts to determine if there is a true relationship between two variables (Wright and Belser1994).

Results

The results of the data analyzed are shown in Table 1 – 6.

Table 1:
Respondents' cognition of menopausal coping mechanism through health promotion principles (N = 197)

	Items	Cognizant	Not Cognizant
1	Adequate rest	85 (43.1%)	112 (56.9%)
2	Adequate sleep	98 (49.7%)	99 (50.3%)
3	Regular moderate physical exercise	97 (49.2%)	100 (50.8%)
4	Adequate nutrition	99 (50.3%)	98 (49.7%)
5	Personal hygiene	100 (50.8%)	97 (49.2%)
	Total	479	506
	Average	96 (48.7%)	101 (51.3%)

Table 2:**Respondents' cognition of menopausal coping mechanism through stress management technique (N = 197)**

	Items	Cognizant	Not Cognizant
6	Diversional therapy	80 (40.6%)	117 (59.4%)
7	Ecclesiastical therapy	102 (51.8%)	95 (45.2%)
8	Music therapy	90 (45.7%)	107 (54.3%)
9	Counseling therapy	97 (49.2%)	100 (50.8%)
10	Effective communication with spouse and family members	98 (49.7%)	99 (50.3%)
	Total	467	518
	Average	91 (47.21%)	104 (52.79%)

Table 3:**Respondents' cognition of menopausal coping strategies through appropriate medicare (N = 197)**

	Items	Cognizant	Not Cognizant
11	Seeking regular medicare services/check up	94 (47.7%)	103 (52.33%)
12	Drug therapy (as prescribed by the medical (doctor)	90 (45.7%)	107 (54.3%)
13	Water therapy	98 (49.7%)	99 (50.3%)
	Total	282	309
	Average	94 (47.72%)	103 (52.28%)

Table 1, 2 and 3 revealed that only 97 (49.2%) of the respondents were cognizant that engagement in regular moderate physical exercise is a menopausal coping strategy. Also 99 (50.3%) knew that adequate nutrition helps menopausal women to cope with their condition. However, majority of the respondents 117 (59.4%) and 112 (56.9%) were not cognizant that stress management and adequate rest respectively are modes of coping with menopause. Appreciable number of the respondents 99 (50.3%) knew that adequate nutrition

helps menopausal women to cope with their condition. However, majority of the respondents 117 (59.4%) and 112 (56.9%) were not cognizant that stress management and adequate number of the respondents 99 (50.3%) were unaware that effective/positive communication with spouse and family members aid in coping with menopause. Furthermore, 103 (52.3%) of the respondents were not knowledgeable that medical check up is a way of coping with menopause. The major findings revealed that on the average, 96 (48.7%) of the respondents were cognizant.

Table 4:
Cognition of menopausal coping strategies among the respondents by level of education.

	Items			Total
	Level of education	Cognizant	Not Cognizant	
14	No formal education	11 (5.6%)	53 (26%)	64
15	Primary education	15 (7.6%)	27 (13.7%)	42
16	Secondary education	25 (12.7%)	11 (5.6%)	36
17	Tertiary education	45 (48.7%)	10 (5.1%)	55
	Total	96 (48.7%)	101 (51.3%)	197

$$X^2 = 58.77 > 7.815. df = 3; P < .05$$

Table 4 showed that there was significant relationship among subject of various level of education in their cognition of menopausal coping strategies ($P < .05$). The highest level of cognition came from subject with tertiary level of education; while the lowest level of cognition came from subjects with no formal education. They are minimally related.

Table 5:
Cognition of menopausal coping strategies among the respondents by Ages.

	Items			Total
	Age	Cognizant	Not Cognizant	
18	40 – 44 years	11 (5.6%)	30 (15.2%)	41 (20.81%)
19	45 – 50 years	12 (6%)	65 (32.9%)	77 (39.0%)
20	51 and above	30 (14.7%)	50 (25.9%)	79 (40.1%)
	Total	52 (26.3%)	145 (73.6%)	197 (100%)

$$X^2 = 9.00 > 5.991, df = 2; P < .05$$

Table 5 showed that there was significant relationship among subjects of various age groups in their cognition of menopausal coping strategies ($P < .05$). The highest level of cognition came from the subjects whose age brackets fell within 51 and above; while the lowest level of cognition came from subjects of age brackets of 40 – 44, the results are moderately related.

Table 6:
Cognition of menopausal coping strategies among the respondents by Religious Affiliation.

	Items			Total
	Religious Affiliation	Cognizant	Not Cognizant	
21	Roman Catholic	32 (16.3%)	23 (11.7%)	55
22	Anglicans	25 (12.7%)	19 (9.6%)	44
23	Baptist	13 (6.6%)	38 (19.3%)	51
24	Pentecostals	26 (13.2%)	21 (10.79%)	47
	Total	96 (48.7%)	101 (51.3%)	197

$$X^2 = 14.96 > 7.815, df = 3; P < .05$$

Table 6 disclosed that there was significant relationship among subjects of various affiliations in their cognition of menopausal coping strategies. Roman Catholics reveal highest level of cognition response, while Baptist revealed the lowest. The results are moderately related.

DISCUSSION

Result of the study (table 1) revealed that the level of cognition of the respondents on menopausal coping strategies was low. This was unexpected. One would have expected a moderate level of knowledge of the subject matter among the respondents because menopause is a natural phenomenon which women who attain the age experience. Related literature confirmed that cognition of menopausal coping strategies among women generally is still low; probably because less of sexuality problem/circumstances are discussed in developing countries (Wood, 1990). Imogie (1998) found out that 84 percent of the women used for a study in Benin-Nigeria were not knowledgeable about health problems of menopause. Culturally, femininity matters are discussed with reservations (Wilson, 1998). The risk of low level of knowledge is that most of the respondents will be exposed to the inconveniences of poor coping strategies.

Significant relationships existed among subjects of various levels of education, ages and various religious affiliation. It is expected that subject with tertiary education revealed highest level of cognition while those with no formal education revealed lowest level of cognition of menopausal coping strategies. Literature confirmed that the degree of enlightenment and ability to accept menopausal experience as a natural phenomenon depend on one's educational attainment (Alakija, 2002). This is not unconnected with the fact that education exposes one to various concepts. Hence an educated person has wide spectrum. Clifford (1990) equally opined that high level of education increases level of cognition and subsequently increases the tide of change of attitude and behavior.

Age of the subjects were found to influence the cognition of menopausal coping strategies, subjects between ages fifty one (51) and above revealing highest level of cognition while 40-44 age brackets disclosed the lowest. This was unexpected. One had expected at least moderate level of awareness from various age brackets. Related literature confirmed that rural women of various age brackets indulge in unhealthy life style (Flora and Lang, 1992; Burnt and Meeks, 1985). There is immediate need to target rural women of all ages in sensitization programmes for healthy living.

Religious affiliations equally influence menopausal coping strategies with Roman Catholics revealing highest level of cognition; while Baptist disclosed the lowest. This was unexpected. One had expected at least moderate level of awareness from various religious affiliation because of activities of women in religious gathering that expose them to talk on feminine related matters. However, Gail (1995) confirmed that women who enjoy a boost in menopausal status are those who perform roles in which their intellectual judgments, creativity and spiritual strength are primarily valued. Hence, women who are happily devoted to expanding their knowledge and understanding of the biblical teaching have a worthwhile value.

Conclusion and Recommendation

An appreciable number of the respondents have been found to have poor cognition of menopause coping strength irrespective of their level of education and religious affiliations. This low level of cognition will predispose the respondents to numerous physical, social and emotional consequences. Therefore, teachers, curriculum planners, health educators, guidance counselors and religious leaders should target women 40 years and above and enlighten them on positive steps toward coping with menopause in order to ensure healthy ageing.

Specifically, health and allied educators should organize health talks during August meetings and important women gatherings to enlighten them on menopausal coping strategies and other feminine health

issues. Curriculum and educational planners should introduce sex and family life education into senior primary, secondary and tertiary institutions curriculum as a means of creating awareness early in life.

Directors of planned parenthood federation of Nigeria and organizers of society for family should periodically organize community based health talks on menopause at the grassroot so as to enlighten women on menopausal coping strategies. Various religious affiliation leaders should include themes and subthemes like healthy menopause as one of the family counseling issues to be discussed in religious gatherings like "Mothering Sunday". Health and allied educators should periodically sponsor media programmes that will enlighten women on reproductive health concepts like menopause.

REFERENCES

- Abanobi, O.C. (1999). Knowledge and attitudes of mothers about etiology and management of febrile convulsion in children, *Journal of Health & Movement Behaviour* 3 (1) 62-72.
- Alakija, W.A. (2007: Oct. 24th). *Women and menopause*. A paper presented at the annual seminar of Alvan ladies Association.
- Burnt, J.J & Meeks, L.B (1998). *Education for sexuality: Concepts and Programmes for Teaching*. Philadelphia.
- Clayton, S.G. (1992). *Gynecology by Ten Teachers*. London: Edward Arnold Publisher Ltd.
- Clifford, S.D. (1990). *Principles of education Psychology*. Enugu: Academic Publishing Co.
- Combs, O., Hales, D. & Williams, B. (1981). *An invitation to health*. London: The Begamin/Chumming Pub. Company Inc.
- Cutler, W.B. (1990). *Hysterectomy before and after, with essential information on Menopause*. New York: Haper Perennial Publishers.
- Flora-Read, R. & Lang, T.A. (1992). *Health Behaviours*, St. Paul's M,N; West Publishing Company.
- Gail, S.G. (1995). *Improving family health*. News letters of planned Parenthood Federation of Nigeria (PPFN) Federal International, 28-40.
- Imogie, A.O. (1998). Post menopausal health problems and coping mechanisms of women. *Nigeria Journal of Health Education* 7. (1). 45-55.

- Jones, L.I., Shanberg, L.W. & Byer, C.O. (1990). *Health Science*, New York: Happers and Raw Publishers.
- Kase, P. (1999). *Better Understanding of Menopause: Journal of American Medical Association* 2(1) 55-63.
- Masters, B. & Johnson, S. (1999). *Human Sexual Response*, Chicago University Press.
- Michinglay, S.N. (1999). *Selecting Studies on Menopause: Journal of Bio-Social Science*, 5(50), 53-75.
- Onuzulike, N.M. (2003). *Cognition of Menopausal Coping Mechanisms among Rural Women: Journal of Health and Kinesiology ESUT*. 4(1) 47-57.
- Seaman, F. & Seaman, G. (1999). *Women and the crisis in hormones*. New York: Rawson Publishers.
- Umeh, D.C. & Okafor, J.O. (1994). *AIDS knowledge, attitude, behavior and belief of students in a Nigerian University, Orient Journal of Education Research*. 1 (1), 78-89.
- Wilson, F. (1998). *Feminine forever*. New York Pocket Books Ltd.
- Wood, V. (1990). *The plight of the older women*. Manchester; black well publishers.
- Wright, R.R. & Belser, J.R. (1994). *Social and Education Statistics*. Japan: Tosho Printing Co. Ltd.