

THE INFLUENCE OF FAMILY SIZE ON PHYSICAL HEALTH STATUS OF CHILDREN: IMPLICATIONS FOR FAMILY HEALTH EDUCATION

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Abstract

The study utilized the ex-post facto research design to examine the influence of family size on the physical health status of children in Nsukka L.G.A. of Enugu state Nigeria. The instruments for data collection included a researcher made questionnaire, tape measure, weighing scale and a check list. The population of the study comprised all children 1-5 years in nursery and day care centers in Nsukka and their parents. A sample of 400 children and their parents was used for the study. The data collected from the study were analyzed using mean, standard deviation and the t-test for independent groups. The result shows that children from small families have slightly higher mean score on physical health status (39.47) than children from large families (38.09). There was however no statistically significant difference between the mean scores of health statuses of under-five children in small and large families. It was concluded that family size does not significantly influence the physical health status of under-five children in Nsukka L.G.A. Among the recommendations was that parents in large families should use all available human and material resources to ensure that their children receive adequate care and attention.

Key words: Family size, physical health, children, health status

Introduction

Physical health status is an important determinant of individuals' survival and achievements in life. Physical health to a large extent determines the wellbeing of individuals. Though all the dimensions of health (i.e. physical, mental and social health) are essential aspects of the total wellbeing of individuals (Edlin, Golanty & Brown, 2000), the physical health of an individual is capable of influencing the other dimensions and is also the one dimension of health that can objectively be measured. Healthy people are more likely to survive and to achieve greater success in life. Hence individuals strive to achieve optimum health in order to actualize their dreams. Several factors, however, are capable of influencing the health of individuals and one of such factors is family structure. The health of individuals in the family has been shown to correlate with family structure (Parke & Buriel 1998, Izuorah, 2004; National Institute Of Child Health and Human Development, 2006). It has also been reported that such family traits as education, income, marital status, and family size have important impacts on the health of family members (Oyerinde, 2001; Blackwell, 2010). The above report noted that in general, children in two-parent households, and those in families with higher education and income were the healthiest.

The family has been conceptualized as a group of people who are closely related by birth, marriage, or adoption (Laizos 2004). Traditionally in Nigeria, the family is not restricted to the father-mother-child triangle. It rather encompasses a wider group of people related by blood, marriage or by adoption. Hence, family members in the traditional Nigerian family include such persons as grandparents, aunts, uncles, nieces, cousins among others (Mbakwe, 2005). The family is the basic social unit of any society. The structure of the family affects the lives of members of the family in several ways especially that of children in the family.

Family structures in Nigeria have changed over the years as a result of industrialization and the introduction of modern family planning methods. Couples are now more able to determine the number of children they will have and when to have them. Also the inception of the Christian religion coupled with urbanization has contributed to the changing structure of families in Nigeria. The new family structures are characterized by smallness in size, nuclear family structure, divorce and separation, adoptive families and single parent families while the traditional families are characterized by large

family size, (family size of eight people and above) extended family structure and polygamy. Traditionally, Fenske (2011) observed that in most rural areas of West Africa, men had more than one wife and many children. Prior to industrialization and urbanization, the traditional families needed the large family size to work in the farm since many of such families were farmers. Couples in those days also produced more number of children because the infant and child mortality rates were higher and couples were not sure of the number of their children that will survive to maturity.

However, with industrialization, urbanization, and technical advancement a lot of changes have occurred. Now there are modern drugs for treatment of diseases and infections and couple are more confident that their children will survive to maturity. Industrialization has also given rise to a different type of occupation other than farming; hence the large family size is no more needed to work in the farm. Again, women are increasingly joining the active work force, thereby sharing their time for child care with that of being bread winners (Ogunniyi & Dosunmu). Child rearing is also more complex in this modern era since children have to be given formal education, adequate medicare, proper feeding among others. The performance of these duties unto children, affect their health. Optimal physical health in a child requires that the child eats well, exercises and rests adequately, gets regular medical and dental health checkups including immunization, is protected from injuries and accidents (Insel & Roth, 2004). Children under the age of five years are vulnerable to diseases and injuries. According to the Federal Ministry of Health - Nigeria (2009), the survival of under-5 year old children depends largely on the knowledge and practice of key household behaviours of parents and care givers. The quality of care given to children by family members goes a long way to determine their physical health status (Ajayi & Owumi, 2013). This also will be influenced by the size of the family.

Family size in this study refers to the number of people living together and sharing the family's resources and responsibilities. Berk (2001) was of the view that adults and children benefit from small family sizes. This is because in small families, parents are less stressed economically and emotionally. Again in small families, family members are more patient with each other and have more time to devote to each child's development (Fahey, Keilthy & Polek, 2012). It is also more likely that children are more widely spaced (born with more than two years apart) in small families. This adds to the attention and resources parents can invest in one another and in the upkeep of each child which in turn translates to better physical health.

Closely spaced large families affect the health of the mother as well as that of the children negatively (University of Southampton, 2010). The mother is not allowed to recover fully from the stress of pregnancy and childbirth before another pregnancy. This places the mother at high risk of complications of pregnancy. Children in such families might receive little attention and care as these has to be shared among the siblings. This invariable affects the health and wellbeing of the child. Children from larger families were less likely to receive treatment for their illness than children from smaller families (Jensen & Ahlburg, 2000). A healthy mind in a healthy body is, however, essential for optimal growth and development of children. In a study of problems of students with physical disability, Sulaiman (2005) observed that a significant relationship exist between students' problem and academic performance. Children with physical health problems perform less in school.

Laizos (2005) nevertheless pointed out that in spite of the numerous problems associated with large families; families adopting the extended family structure were seen to thrive better irrespective of family size. This is due to the facts that children growing up in the extended families have multiple care givers. At times, these children after weaning are given to extended family members to take care off. Fahey, Keilthy and Polek (2012) opined that the involvement of grandmothers and other experienced family members in the extended families in childcare have positive effect on the child's growth and development. Again, Jensen and Ahlburg (2000) found that children from larger families became ill less often than those from smaller families. They argued that this may be associated with the experience of mothers in such families who probably acquired more experience in child care with more children than those in smaller families with fewer children. This makes them to become better able to protect their children from diseases and this overcomes any effect of large family size. Similarly, Bramlett and Blumberg (2007) noted that although family size affects the health status of children, this effect is moderated by family structure and culture.

The health of the Nigerian child could depend on the quality of his environment and health – related care he receives from family members. With the economic down turn in Nigeria, the cost of providing clothing, food, accommodation, and medicare has gone beyond the reach of average parents.

The low income earners could be finding it difficult to care for large family size that characterizes them. The direct implication is the possibility that the higher the family size the lower the physical health status of the children. Exploration of this possibility is the challenge before this study. Again the high mortality rate for under-five children (World Bank, 2014) is a source of worry which needs to be addressed as a matter of emergency. Every factor related to poor health status and its associated high mortality need to be given adequate attention to redress such a situation.

Among the various dimensions of health; physical, emotional and mental health status, the physical health status is the one that could be easily assessed objectively using such anthropometric measures as weight, height, head circumference and upper limb circumference. This study is therefore limited to the physical health status of children.

Research Questions

Two research questions and one null hypothesis guided the study and they are;

1. What is the physical health status of children from small and large families?
2. How does the physical health status of children from small family compare with that of their counterparts from large families?

Hypothesis

There is no significant different ($p < .05$) between the health status of children in small families and that of their counterparts from the large families.

Methods

The ex-post facto design was used to compare physical health status of children in small and large families. The population for the study comprised all children 1-5 years in nursery and day care centers in Nsukka and their parents. Random sampling of eight nursery schools out of the 28 nursery schools in Nsukka was done. From the eight sampled schools, random sampling was again utilized to sample fifty (50) children from each school. Parents of the selected children became automatically selected for the study. The sample size was therefore 400 children and their parents.

The instruments used to collect data for the study were; check list - used as a guide for the general physical examination of the selected children, weighing scale - for weighing the children, a tape measure - for measuring the head circumference, the height and the upper limb circumference of the selected children and a questionnaire for eliciting information from the parent about the age of their children, and their family size.

The check list contained twenty five statements structured to elicit information about the physical condition of the following parts of the body; scalp, skin, eyes, nose and throat, mouth, ear, upper limbs lower limbs and the vital signs (i.e. temperature, pulse and respiration). The questionnaire consisted of one section and was designed to collect information from the parents about the age of the child and the family size. The questionnaire and the checklist were given to three experts in health education who validated the instrument. The reliability of the questionnaire as an instrument for data collection was established using the Cronbach Alpha statistic which yielded a reliability coefficient of .96. This was considered high enough for the study.

Two research assistants who were undergraduates of Health and Physical Education Department in the University of Nigeria, Nsukka were trained on the use of the instruments. They conducted the physical examinations and recorded the data under the supervision of the researcher. In order to check for experimenter's bias and inconsistency in measurements, one of the research assistants did all the measurements while the other did all the observation. The parents of the selected children were given the questionnaire to elicit information from them on their children's age and their family size. The questionnaire was given to parents at the end of school when the parents came to collect their children from the schools. For children who were collected by house helps and older siblings, the questionnaire were sent to the parents through the house helps or the older siblings. The illiterate parents were guided by the research assistants to fill the questionnaire. Out of the 400 parents that filled the questionnaire, only 386 (96.5 %) were properly completed. Only these were used for data analysis.

In order to ascertain the children's health status, each feature on the check list for physical examination was scored one (1) mark each giving a total of 25 points. The anthropometric measures i.e. weight, height, head circumference and upper limb circumference were compared with the National

Centre for Health Statistic-NCHS values (Fryar, Gu & Ogden, 2012.) and a maximum score of 5 was given to each. The upper limb circumference was scored 1, 2, 3, 4, or 5 corresponding to measurements falling in the 5th, 25th, 50th, 75th and 95th percentile respectively. For weight and height, a score of 5 was given to each where the two fall in the same percentile while a score of 2.5 was given to each of weight and height where the two fall in different percentile. A score of 5 was also given for head circumference within the normal range for age. The maximum score for physical health status when summed up was 45.

The family sizes ranged from 4 to 11. Children whose family size ranged from 4 to 7 were group as small families, while children whose family size ranged from 8 to 11 were group as large families. The data collected from the study were analyzed using mean, standard deviation and the t-test for independent groups.

Results

The data collected from the subjects were analyzed and the results presented below as they relate to the research questions and hypothesis.

Table 1: Physical Health Statuses of Children from Small and Large Families

Children	N	Sum of scores	Mean score	Standard Deviation
From Small Family	244	9630	39.47	3.24
From Large Family	142	5409	38.09	2.51
Total	386	15039	38.62	2.87

Table 1 above shows that children from small families had a mean score of 39.47 and a standard deviation of 2.34 on their physical health status. On the other hand, children from large families had a mean score of 38.09 and a standard deviation 2.51 on their physical health status.

Comparing the physical health status of children in small and large families, Table 1 shows that children from small families have slightly higher mean score on physical health status (39.47) than children from large families (38.09). The large families however showed less variability.

Table 2 Summary of t-Test Analysis of the Difference between the Mean Scores of the Physical Health

Statues of Children from Small and Large Families

Group	N	Mean score	SD	df	t-cal	t-crit	Decision
Small family	244	39.47	3.24				
				384	1.30	2.00	Accept H ₀
Large families	142	38.09	2.51				

Table 2 shows the finding of the t-test analysis for the significant of difference between small and large families with regard to the physical health status of under-five children. The t critical required at .05 level of significance for 384 degree of freedom is 2.00. Since the calculated t-value of 1.30 is less than the critical t value, there was no evidence to reject the hypothesis at .05 level of significance. The null hypothesis was accepted. The result, therefore, shows that there was no significant difference between the mean scores of health statuses of under-five children in small and large families in Nsukka L.G.A.

Discussion

The data in Table 1 revealed that children from small families had only slightly higher physical health status than children from large families. The extent of the difference in the children's physical

health statuses was further examined in Table 2 which shows that the calculated t value was 1.30. This is not significant at .05 level of significance. Hence, the null hypothesis of no significant difference in the mean health status of children from small and large families was accepted. This was surprising, since it was anticipated that children from small families will be markedly higher in their physical health status but they rather showed only slight difference. The finding contradicts previous research findings (Jensen & Ahlburg, 2000; Sulaiman 2005) which showed that children from small families were healthier and do better than children from large families. Jensen and Ahlburg (2000), however, noted that resources are not necessarily fixed and parents in large families may reduce their consumptions in favour of their children. Older siblings may work and increase family resources while larger kin groups can share the cost of child-rearing. Hence the total number of children may not impact the health of individual child (Jensen & Ahlburg, 2000). Bramlett and Blumberg (2007) corroborated the above statement by noting that although family size influence the health of children, this effect is moderated by family structure and by culture.

The reason for this lack of significant difference in the mean scores of physical health status of children from small and large families could be explained from the stand point that Nsukka LGA is not purely an urban area. Many sections of Nsukka LGA were still largely rural in nature. People living in rural area often adopted the extended family structure whereby you have up to three generations living together in one house hold. In such families, caring for children is not left to the parents alone, but grandparents and other relations are involved. Therefore, the child from a large family may have adequate care and attention depending on the number of adults available in the home to assist with caring for the child.

Implications for Family Health Education

The findings of this study have some important implications for family health education.

1. Since there was no significant difference between the mean scores of health statuses of under-five children in small and large families, family health education should emphasize adequate child care with less emphasis in the number of children. Parents should be encouraged to take good care of their children. Large families with many children and with limited resources should be encouraged to prioritize their needs putting the care of and provisions for the younger children at the top of their priorities.
2. The extended family network should be encouraged to help provide needed care for the under five children.
3. Since children from small families had higher physical health status than their counterparts from large families, couples should be encouraged to limit their children to the number they can cater for and to space them adequately to ensure better health of their children.

Conclusion

Based on the results of this study, it was concluded that although children from small family sizes had better physical health status than those from large family sizes, the physical health statuses of children from both type of families does not differ significantly in the area of study.

Recommendations

1. Parents in large families should use all available human and material resources to ensure that their children receive adequate care in order to ensure optimum health.
2. Adequate spacing of births limiting the number to a manageable size is also essential.

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