TITLE: **COUPLES' DEMOGRAPHIC AND ECONOMIC DIFFERENTIALS: POINTERS TO CHILDHOOD COMPLETE IMMUNIZATION UPTAKE IN NIGERIA.**

By

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ABSTRACT:

Nigeria Demographic and Health Survey (NDHS), 2003 showed that only 13% of Nigerian children aged 12-23 months could be considered fully immunized, which happen to be the lowest vaccination rate among African countries in which DHS surveys have been conducted since 1998. This paper examines the differential in some demographic and economic characteristics of couples and the effect on complete immunization uptake of their children ≤5years in an urban setting in South Western Nigeria. Findings from the study showed that only a little above half (54%) of the children 12-60 months could be considered fully vaccinated with more male children having complete immunization uptake than the female children; and that differentials in couples demographic and economic characteristics determines to a large extent the levels of childhood complete immunization uptake.

Introduction

- ➢ Childhood immunization practices is an important indicator of childhood health worldwide, thereby making the vaccination of children a very important part of current preventive measures designed to improve child health, reduce morbidity and mortality from common vaccine-preventable diseases. These diseases include tuberculosis, diphtheria, pertusis (whooping cough), tetanus, poliomyelitis, measles and yellow fever [1,5,6,7,9]

- ➢ World Health Organization (WHO) recommends that, to be considered fully vaccinated, a child should receive;

- ✓ a dose of BCG vaccine against tuberculosis to be given at birth or soon after;

- ✓ three doses of DPT for the prevention of diphtheria, pertussis (whooping cough), and tetanus, to be given at approximately 6,10 and 14 weeks of age;

- ✓ at least three doses of polio vaccine , with a dose given at birth and;

- ✓ a vaccination against measles to be given at or soon after the child reaches 9 months.

➢ Further recommendation by WHO is that children receive the complete schedule of vaccinations before 12 months of age and that the vaccinations be recorded on a health card given to parents or caretaker [8]

➢ In spite of governmental and non- governmental efforts nationally and internationally to reduce infant morbidity and mortality via childhood immunization programs, infant and child mortality remain high in Nigeria. The 2003 Nigeria Demographic and Health Survey (NDHS) estimated infant mortality to be 100 per thousand live births and child mortality to be 201 per thousand children - most of these deaths have been found to have resulted from vaccine-preventable diseases.

➢ Information on children's vaccination status further showed that only 13 percent of Nigerian children age 12-23 months can be considered fully immunized, this is found to be the lowest vaccination rate among the African countries in which DHS surveys have been conducted since 1998. Less than half of children have received each of the vaccinations, with the exception of first dose of polio (67%) and the second dose (52%) [3,4]

➢ Couples' demographic and socio-economic status has to do with age, age at marriage, children ever born, level of income, level of education, occupation and social statuses in the community and these have been found to have a great influence on the complete immunization uptake of children globally [2,10,11,12,13]

➢ This paper examines the differentials between some demographic and economic characteristics of couples and their effects on the extent of complete immunization uptake of their children ≤ 5years of age.

Research method and design

➢ The multi-stage sampling technique was adopted in the selection of eligible respondents for this study. The respondents chosen were couples whose last two children were not more than five years of age at the time of data collection. In all, 200 couples were interviewed for this study.

➢ Structured questionnaire which contain both open and closed ended questions was used as the instrument for the data collection. Vaccination cards were requested from the couples to determine the extent of completeness of immunization of their last two children ≤5yrs at the time of the survey. The different vaccinations received with respective dates were copied directly into the questionnaires by the interviewers. In a situation where cards were not available, verbal reports were recorded for such children. The data were analyzed using SPSS version 11.

NOTE: The index children in this study refer to the next-to-last children. It is important to note here that, the information on the complete immunization uptake of the next-to-last children were used to determine the extent of complete immunization uptake of children in this study. This differs from most methodologies which make use of information on the last children. This is as a result of the fact that many last children were still far from the age at which children are expected to have had the complete immunization uptake – some were even found to be few days old. However, none of the next-to-last children were less than 12 months old – the age at which WHO expects that a child ought to have had a complete immunization uptake.

Findings

- ➢ Figure 1 below shows the extent of uptake of the various recommended vaccinations. The distribution of the completeness of each of those vaccinations shows that;

- ■ there is a fair uptake of each of the required vaccines.

- ■ However, the overall complete immunization uptake shows that, only a little above half (54.5%) of the children completed the necessary vaccinations with higher level of completeness among the male children compared with the female children.

- ➢ Table 1 is the result of the bivariate analysis relating couples demographic and economic differential with children's immunization completeness.

  NOTE: The median value of the age differential was found to be 4, hence the groupings under the table. Also, the median value of the couplers' income differential was found to be N10, 000, hence the grouping under the table.

- ■ The smaller the age differential among couples, the more likely the children are to complete the required immunizations;

- ■ Couples with low income differential tend to have their children complete the required immunizations compared with couples with high income differential.

- ■ A significant relationship ($p \leq 0.05$) exists between Couples' CEB differential and children's immunization completeness.

Figure 1: Immunization status of the index children
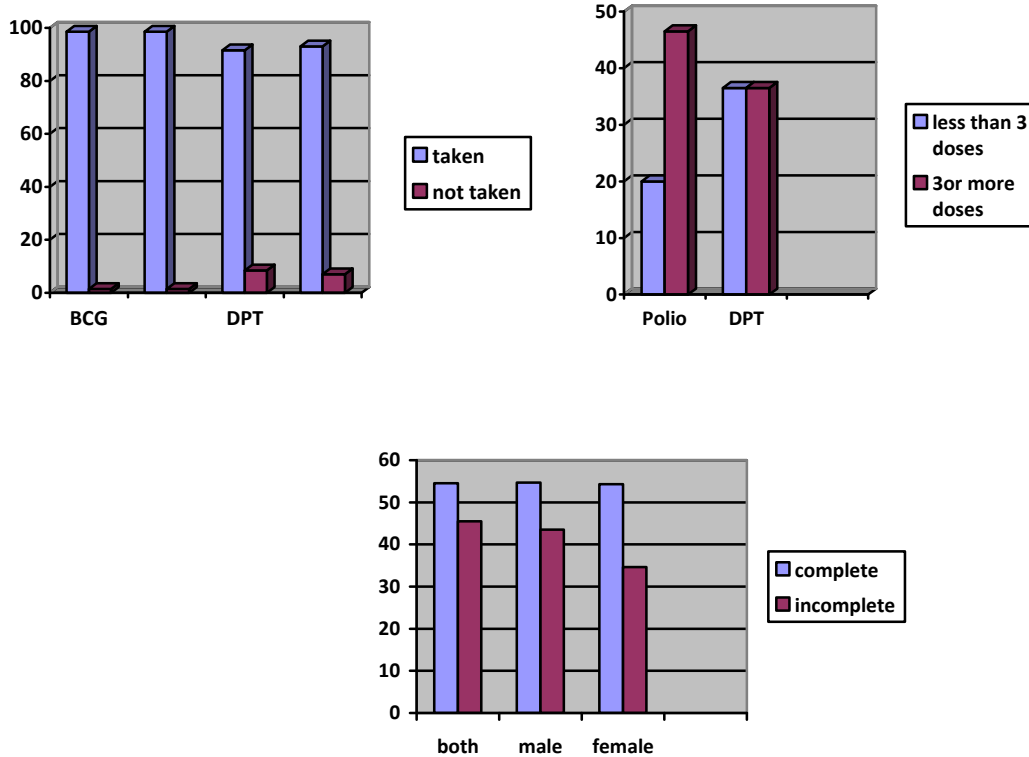
> Table 2 below is the result of the logistic regression showing Children's immunization completeness as a function of couples' income differential, CEB differential, age differential and education differential.

    IC = f (Inc diff, CEB diff, Age diff, Educ diff).

- An inverse relationship exists between couples' age differential and children's complete immunization uptake.

- Also, an inverse relationship is observed between couples' income differential and children's immunization completeness.

- Couples with CEB differential 5 and above have a tremendous odd of completing immunization compared with couples with lower CEB differentials.

Table 1: Bivariate analysis relating Couples' demographic and economic differential with children's immunization completeness.

Variables		Immunization Completeness		X^2 Value	p-Value
		Incomplete(0)	Complete (1)		
Couples' age differential					
	0-3	39 (42.9)	57(52.3)	1.769	0.413
	4-7	22 (24.2)	22 (20.2)		
	8 & above	30 (33.0)	30 (27.5)		
Couples' Income differential					
	<₦10,000	43 (47.3)	48 (44.0)	1.274	0.529
	₦10,000-₦14,000	17 (18.7)	16 (14.7)		
	>₦14,000+	31 (34.1)	45 (41.3)		
Couples' CEB differential	0-4	87 (95.6)	109 (100.0)	4.889	0.027
	5 & above	4 (4.4)	-		
Couples' education differential	No level of education differential	61 (67.0)	63 (57.8)	1.795	0.180
	Some level of education differential	30 (33.0)	46 (42.2)		

Table 2: Logistic regression relating couples' demographic and economic differentials with children's immunization completeness

Variables		Log b co efficient	Odd Ratio	p-value
Couples' age differential	0-3	RC	1.000	-
	4-7	-0.135	0.873	0.781
	8 & above	-0.065	0.937	0.905
Couples' Income differential	<₦10,000	RC	1.000	-
	₦10,000-₦14,000	-0.216	0.806	0.507
	>₦ 14,000+	-0.424	0.654	0.319
Couples' CEB differential	0-4	RC	1.000	-
	5 & above	7.367	1583.569	0.685
Couples' educational differential	No educational differential	RC	1.000	-
	Some level of educational differential	0.032	1.033	0.857

RC   Reference Category

> In conclusion, this study found that the complete immunization uptake of children ≤ 5yrs is still on the low side in Nigeria, despite efforts by the Nigerian Government to ensure a wider coverage via national programs on Immunization. Couples' demographic and economic differentials have also been found to be important determinants of children's complete immunization uptake. In achieving the goal 4 (child mortality reduction) of the Millennium Development Goal (MDG), there is the need for parents, particularly couples, to be thoroughly educated and be more economically empowered to meet up with the challenges of their children's health as a wide gap still exist between couples in the study area in economic terms.

References

1. **C Edith, D.M Andrew and A. M Karen,** Understanding Health Disparities: The role of race and economic status in children's Health, *American journal of public health*. 96: 4, 2006.

2. **G Elese – Karin, S. Hein, N. Rannveig and K Lennart,** Children with chronic health conditions in the Nordic countries in 1996 influence of socioeconomic factors, *Ambulatory child health* 7:, pp 177 – 189, 2001.

3. **O.A Esimai, E.O Ojofeitimi and O.M Oyebowale,** Sociocultural Practices influencing under five (U5) nutritional status in an urban community in Osun State, Nigeria, *Nutrition and Health*, 15:, pp 41-46, 2001.

4. **National Population Commission (NPC) [Nigeria] and ORC Macro,** Nigeria Demographic and Health Survey 2003 Calverton, Maryland, *National population Commission and ORC Macro.* pp 128-165, 2004.

5. **R.K Sporton and S Francis,** Choosing not to immunize: are parents making informed decisions, *Family Practice* 18:2, pp 181-188, 2001.

6. **Unicef**, Children's and women's rights in Nigeria: a wakeup call; Situation assessment and analysis, pp 62, 151-166, 2001.

7. **P.H Wise, M Kotelchuck., M.L Wilson. and M Mills,** Racial and socioeconomic disparities in childhood mortality in Boston, *New England Journal of Medicine* 313:6, pp 360-406, 1985.

8. **World Health Organization (WHO)**: Child and Adolescent Health and Development, Nutrition "Infant and Young Child Feeding and Nutrition" 2000-2004, 2004.

9. **M.A. Magadi, S**tatus of women and infant/child health in Kenya with particular reference to the high mortality zone in Nyanza Province *Population studies and Research Institute*; University of Nairobi, 2007.

10. **K.E Heck, and J.D Parker,** Family Structure, Socio economic status and access to health care for children, *Health Services Research* 37:1, pp 171-184, 2002.

11. **S Louise, X Quian, G Lise, Z Maria-Victoria, P Louise and L.F Katherine,** Understanding the dimensions of Socioeconomic status that

influence toddlers' health: Unique impact of lack of money for basic needs in Quebec's birth control *Journal of Epidemiology and Community Health 2005;* 59:pp 42-48, 2004

12. **J.I Hawker, B. Olowokure, A.L Wood, R.C Wilson and R. Johnson,** widening inequalities in MMR vaccine uptake rates among ethnic groups in an urban area of UK during a period of vaccine controversy (1994-2000) *Vaccine 25:43,* pp 7516-7519, 2007.

13. **K. Rowe-Finkbeiner,** The Wage Gap: Why it Matters*. Seattle Women Magazine: the wage gap;* recent articles pp 1-8, March 2005.

14. **NT Agatha, Eguavoen, O.O Sims, I.O Godfrey,** the Status of Women, Sex Preference, Decision-Making and Fertility Control in Ekpoma Community of Nigeria. *Journal of Social Science* 15:1, pp 43-49, 2007.