

Socio-Economic Implications of Family Size on Child Health in Ibadan, Oyo State

Taiwo, Patricia A. (Ph.D) and Aremu, O.O.
Department of Sociology, Faculty of the Social Sciences, University of Ibadan
pataiwo@gmail.com

Abstract

The general effect of family sizes on the health of individual has aroused concerns and remained the focus of many researchers with negligible attention on children. This study examined the socio-economic implications of family size on the health of children in Oyo state. The research adopted a descriptive and cross-sectional survey design with Epidemiological transition theory as its theoretical framework for explanation. Data were collected using a semi-structured questionnaire administered to 420 randomly selected respondents from 8 selected communities in Ibadan North East local government, Ibadan. Quantitative data was analyzed using the statistical package for the social sciences using descriptive statistics such as frequencies and percentages and chi-square. The mean age of respondents was 38 years, only 26.1% had tertiary education, while a huge majority (80.3%) earned a monthly of income less than 30,000 naira. More than half of the respondents 52.4% had four or more children and shared a room. A significant association existed (x²=23.278, P<0.05) between the type of family and the number of children. Majority of the respondents with four or more children who shared a room reported their children often experienced catarrh (66.7%), typhoid fever (65.9%), malaria (66.0%) and measles (66.7%). The occurrence of hazards was connected to the number of children in a family which was largely influenced by parents' socio-economic status. There is need to enlighten parents from low socio-economic status on the effect of large family sizes on children's health in other to curb child morbidity and mortality.

Keywords: children, Family Size, Hazards, socio economic, health

DOI: 10.7176/JHMN/108-01 **Publication date:**May 31st 2023

Background to the Study/Statement of the Problem

Children all over the world have been plagued with diverse illnesses which have led to child morbidity and mortality (WHO 1978). Some childhood diseases that often result in mortality can be explained by well-known health hazards within the child's household environment (Rutstein, 2000). Indeed, environmental health hazards are threats to the health of millions of people in the settings where they live. Several health hazards, including poor air quality, poor building standards, and contamination of water and food are present in the household environment (Fayehun 2010). Family size is the number of people in a family. It can be influenced by religion, cultural and educational attainment. Family size does not only affect the country's development alone but also the healthy lifestyle of the individual, family and the society entirely (Jones 2012, Taiwo, Adio-Moses and Taiwo 2018).

Studies have shown that children from poor and low income families tend to come from large family sizes and have poor health outcomes due to their vulnerability to hazards. (Sharon, Elizabeth, Christina, Kevin, Michelle, and Astrid, 2006). On the contrary, children from smaller families have better health outcomes and perform better in school because the finances of the family is concentrated on them and not contested for by many (Downey 1995). Family size is thus believed to be a determinant of survival at an early stage of life and child out come. The phenomenon of large family size can also mean and result in overcrowding within poor households and poor hygiene which in turn affects the nutritional in-takenof members (Hatton and Martin, 2010). Hence, Keisha and Kabir (2017) discovered that the presence of an additional child in the family affects the child's health although triggered more by other social and economic factors (Taiwo, Adio-Moses and Taiwo 2018)

The 2002 millennium development goals reported that countries like Nigeria have a persistent increase in child mortality despite the measures taken to curb it. Each year, approximately 12 million children particularly the under-five children experience malaria, respiratory tract infections and diarrhea diseases which are the leading causes of child morbidity and mortality (WHO, 2012 in Ezeonwu 2013). According to George and Tabansi 2010, child mortality is caused by infectious diseases which can be preventable or taken care of if proper measures such as availability of health services and technology are put in place. However, factors such as poverty, residence in one room (face me I face you) apartment, low expenditure on food, and others, influence child health hazards. Individuals from poor households are prone to have less access to health facilities and food security (Kanjilal 2010). Family size have been reported to be one of the leading causes of child illness. Other factors include the child's age, quality and quantity of water, availability of toilet facilities, feeding practices, environmental conditions etc (Woldmeicael 2001). In sub-Sahara Africa, 800, 000 children die per year from



dehydration and diarrhea according to World health organization in (1996). The socio-economic status of households has been reported to be a major determinant of the experience of cough and diarrhea (Stallard, Phillips, Montgomery, Spears, Anderson, Taylor, Araya, Lewis, Ukoumunne, Millings, Georgiou, Cook, & Sayal, 2007). The disadvantages of large family sizes outweighs its advantages, which makes them more uneconomical and unattractive. The values placed on family sizes also differ based on the families. Jones (2012) opined that larger families are poorer than smaller families and is reflected in the nutritional status, housing condition of both family sizes. Health, income, education, culture and accommodation are some of the socioeconomic factors affecting the choice of family sizes. Family size is mainly influenced by socio economic factors like education, socio cultural factors, economic and environmental factors. These further determine the kind of exposure and access the child would have. Jones (2012), reported that families with between 1 to 3 children do not visit hospital often because they can access whatever they want. Thus, people with large families are reported to be among those who visit the hospitals often and spend more on health (Williams 2012). A relationship had been reported to exist between family size and socioeconomic variables, such that the wellbeing of children of 93.2% of respondents had been affected by the level of income of parents. It was further discovered that families with large family size of 7-10 children wished they had less than that number of children (Jones 2012). Many studies on the influence of socioeconomic status and family size on the health of children are prominent abroad but few have focused on communities in developing countries such as Nigeria. This paper therefore examined the effect of socio economic status and family size on the health of children in Ibadan North Local Government Area (LGA).

Theoretical framework

Epidemiological Transition Theory

The theory of Epidemiological transition is best known to vividly explain the cause of death and shift away from diverse chronic and infectious diseases between societies overtime despite its ambiguity (Mackenbach 1999). The theory of epidemiological transition starts with a premise that mortality is a fundamental factor in population dynamics (Omran 1998). This implies that mortality determines the changes in population. When there is an increase in children mortality, the population will be affected. Jones 2012 observed that decrease in death rate in developed countries is as result of improvement in health facilities and increase in the level of education. At the epidemiologic transition, the most common changes in health and disease pattern are obtained among young women and children (Omran 1971). Women and children are vulnerable in the population which further exposes children to hazards as a result of the transition. Children are exposed to infections from droplets, sneezing and coughing and this leads particularly among population with large family sizes and poor living conditions. According to (Omran 1971) demographic and socio economic changes that made up the modernization complex are linked to the shifts in health and disease patterns that determines the epidemiologic changes. Child health hazards are directly related to some major determinants which includes demographic factors and socioeconomic factors.

Research methodology

The study was conducted in Ibadan North Local East Government. The cross sectional survey design was adopted for the study. Both quantitative and qualitative methods were combined for the collection of data. A total of 420 copies of a questionnaire were administered on married men and women, household heads, adult members. A total of interviews were conducted comprising of 3 In-depth interviews (IDIs) each with a father and a mother and 3 key informant interviews (KIIs) with health practitioners such (Midwives) from 3 selected communities in Ibadan. The study population therefore comprised of married men and women, household heads, adult members. Health records in the primary health care centers were also included. The study location is Oyo state. Oyo state is one of the states in south western Nigeria. Ibadan North East is a local Government in Ibadan, Oyo state and was purposively selected as the study area because of the socioeconomic condition, cultural and practices of the residents. Six wards were chosen using the simple random sampling. After the community /wards had been picked, both accidental and purposive sampling of the streets was carried out starting from the main entrance into the community. Households were selected for the study using the systematic sampling technique. Data were analysed using the statistical package for the social Science (SPSS) at the univariate and bivariate levels f analysis and presented with descriptive statistic such as frequencies, percentages and chi-square 0.05 level of significance, while the qualitative date were content analyzed.

Findings and Discussion

Socio Demographic Characteristics of Respondents

A total of four hundred and twenty respondents with an average age of 38 years participated in this study. From table 1 below (73.2%) of the respondents were females while a huge majority (93.7%) were married. Slightly above half of the respondents are Christians. Furthermore, only a bit above a quarter of the respondents (26.1%)



have tertiary education. While nearly half of the respondents (45.8%) are less than 35 years. This may be due to the fact that majority of the respondents are females who are within the reproductive ages of 15-49 years or due to socio cultural reasons as suggested by Jones 2005. For instance in the expected role of women particularly in rural societies, women are mainly care caregivers, many of whom stay at home after returning from the farm, a few have shops close to their home of visit early morning markets or bush markets, while the men go out to work, women are to be taken care of by the men because they are weaker vessels. Hence, it is easier to meet them at home and get them impregnated numerous times in the course of "taking care of them as the weaker vessels".

Table 1: Distribution of respondents' Socio-Demographic Characteristics (N=420)

Variables		Percentage
Gender		
	Male	26.8
	Female	73.2
Marital status		
	Single	2.8
	Married	93.7
	Divorced	0.3
Age (in years)		
, ,	18-35 (young adults)	45.8
	36-55 (middle-aged adults)	51.2
Level of education	,	
	No formal education	11.6
	Primary	28.1
	Secondary	34.2
	Tertiary	26.1
Religion	•	
· ·	Christianity	50.5
	Islam	48.2
Type of family		
v v	Monogamy	70.1
	Polygamy	29.9
Age at marriage	≤25	65.4
8	>	34.6
Number of children	≤4	60.6
Number of children	_ >4	39.4
Sexes of Children	both sexes	78.6
	Same sexes	21.4

Findings on the type of family of respondents revealed that half of the respondents practiced monogamous type of marriage. This is expected as half of the respondents are Christians and over a quarter had tertiary education and can also be influenced by the economic situation of the country. Majority (60.1%) of the respondent had 4 children or less with over 75% having children of both sexes. This perhaps accounted for the reasons why respondents who had more than for children were lesser in numbers (39.4%) than those who had 4 children or less (60.4%). As the desire to give birth to children of both sexes had accounted for the main reasons why couples give birth to more children. This is more obvious where the desired sex is a male due to the increased preference for male children. Angrist and Evans 1998 had shown that parental preference for sex composition determines the number of children and the size of the family as observed in this study shows that more respondents had children of both sexes.

Table 2 below shows that a huge majority (87.%) of the respondents are employed, with a large majority (71.7%) being self employed, while a large majority (71.3%) earned between 5000 naira to 15,000 naira monthly which is still less than the minimum wage. A huge majority (90.7%) of the respondents stay with their spouse majority (77.0%) of whom are self employed and earn between 10,000 naira to 25,000 naira monthly (70.9%). This results shows clearly that the respondents are from a low socio-economic background.



Table 2: Distribution of socioeconomic status affecting family size Distribution of socioeconomic status affecting family size

Distribution of socioeconomic status affecting family size			
Variables	categories	Percentage	
Employed			
	employed	87.5	
	Unemployed	22.5	
Type of employment			
	Self-employed	71.7	
	Privately employed	9.8	
	Government employed	18.5	
Monthly income (N)	• •		
	< 5000	3.5	
	5,000-10,000	39.3	
	10,001 - 15,000	32.0	
	15,001-20,000	11.9	
	20,001-25,000	7.5	
	25,001-30,000	5.8	
Living with spouse			
3 1	I live with my Husband/Wife(s)	90.7	
	I do not live with my Husband/Wife(s)	9.3	
Type of spouse employment			
	Self employed	77.0	
	Privately employed	13.5	
	Civil service	9.5	
Spouse monthly income			
T S	< 5000	0.8	
	5,000-10,000	4.1	
	10,001 - 15,000	28.8	
	15,001-20,000	26.9	
	20,001-25,000	15.2	
	25,001-30,000	13.9	
	>30,001	10.3	

Cross tabulation of Socio-economic characteristics and number of children

Table 3 shows are cross tabulation to show some other demographic characteristics with the number of respondents' children. Here, the pearson Chi-square was used to test if any significant relationship existed between some soio-enomic factors and number of children respondents had. The first socio economic factor considered as seen in the table below is the type of respondents' employment. The Pearson chi square test of association revealed that the association between the type of employment and number of children is statistically significant ($x^2 = 8.743$ and p value < 0.05). Parenthesis-% * - significant at p value < 0.05. Therefore there is a statistical significant in the number of children and the type of respondents' employment. Another variable paired with the number of children to check for the association was the type of family. The Pearson chi square test of association affirmed that the association is significant ($x^2 = 23.278$ and p value<0.05). Therefore there is a statistically significant association between the type of family and the number of children.



Table 3: Socio demographic characteristics and Number of children (N=420)

Variables	Number of children		χ^2	p-value
	≤4	>4		
	%	%		
Гуре of family				
Monogamy	(67.5)	(32.5)	23.278	< 0.001*
Polygamy	(41.8)	(58.2)		
Religion				
Christianity	(65.8)	(34.2)	11.833	0.008^{*}
Íslam	(65.8)	(34.2)		
Γraditional	(0.0)	(100)		
Level of education				
No formal	(65.2)	(34.8)	8.755	0.033^{*}
Primary	(52.7)	(47.3)		
Secondary	(57.1)	(42.9)		
Гertiary	(71.3)	(28.7)		
Gender				
Male	(49.5)	(50.5)	7.395	0.007^{*}
Female	(64.7)	(35.3)		
Employment status	, ,	, ,		
Yes	(56.3)	(43.7)	17.648	< 0.001*
No	(87.8)	(12.2)		
Age at marriage	. ,	` /		
≤25	(59.8)	(40.2)	1.091	0.296
≥26	(65.8)	(34.2)		
House ownership		, ,		
Rented apartment	(60.7)	(39.3)	3.590	0.464
Family property	(65.3)	(34.7)		
Personal	(51.1)	(48.9)		
Share a room		, ,		
≤4	(69.8)	(30.2)	12.647	< 0.001*
>4	(52.1)	(47.9)		

Also, a test was made to ascertain if there is an association between age at marriage and the number of children. This was to cross tabulated to check if respondents that marry before twenty five years had more children than those that marry after 25 years. The result generated by the Pearson chi square test of association revealed that the association between the age at the marriage and the number of children is statistically not significant (x^2 1. 091 and p value >0.05). Thus, the numbers of children born to a large extent is dependent on the desire and decision to do so not the age at marriage. Although fecundity has a role to play in this. In addition, a Pearson chi square test of association was also used to check the association between the level of education and the number of children. The result revealed that there is a statistically significant association in the number of children and respondents level of education ($x^2 = 8.755$ and p value <0.05) as the higher the level of education of respondents, the less likely they are to have the children they want to have. Respondents with higher education understand that having more children mean more responsibility if they are to maintain the required quality of life for them. This view was corroborated by the data from the qualitative elicited through an interview with a mother of 4 who lives in a one bedroom apartment with her husband and narrated the effect of education on their decision to stop at 4.

....ofcourse the fact that my husband has a degree from the university had influenced the decision for us not to have more than 4 children particularly because he was not gainfully employed and I am just a trader whose income is so low. Infact he was very mad at me when I told him I was pregnant with our 4th baby. He only accepted the pregnancy and because to relate with me well when he found out through the scan on the 8th month that it was a boy. We already had 3 girls. He kept scolding me till then that I was careless and did not come to sleep with me again for several month because I was pregnant, I did find it funny. He kept screaming that house is too small for us and I did not think it was supposed to be a problem because I saw several of my mates who had 6 children and stayed in one bedroom like us too. So I think his education was a main factor. I am sure that if not for our religious background, he would have asked us to go and remove the pregnancy. I thank God that I finally gave him a male child. We went for immediate family planning after the boy. (woman/30years/IDI)

The above response confirms the view that the level of education, religion and desired sex of a children have very important effect on the prevalence of large family sizes even amidst unavailable space, employment



level and income.

Socio-economic factors, common sickness and number of children

In order to ascertain the implication of family size of the health of children, the common sicknesses experienced by children in families, their residence type and the differences in the experiences of the ailment particularly with reference to the family sizes (as it relates to family with 4 or less children and families with more than 4). Respondents were asked the common sicknesses experienced by their children in the last 6 months preceding the study. Table 4 below revealed that nearly 60% of the respondents with 4 children or less, and stayed in face me I face room which meant that all family of at least 5 persons stayed in one room and experienced the common illness associated with overcrowding. For instance over 45% of respondent with four children or less who reside in face me I face you apartment often experienced catarrh, while those who live in flat with more than 4 children who experienced catarrh often stood at well over half (53.8%).

TE 1 1 2 C C C C C C C C C C C C C C C C C	• •	1 6 1 11 1
Table 3: Socio-demographic,	common sickness and	number of children
Table 5. Socio-delliogiaphic	common sickness and	mumber of children

	Number of children	- A	χ^2	p-value
	≤4	>4		
House setting				
One bedroom room flat /self-contained	(62.2%)	(37.8%)	0.301	0.583
Face me I face you	(59.3%)	(40.7%)		
Common sicknesses (≤3)	Face me I face you	Flat		
Catarrh	(46.7%)	(33.8%)	1.267	0.737
Typhoid Fever	(55.9%)	(44.1%)		
Malaria	(56.0%)	(44.0%)		
Measles	(56.7%)	(23.3%)		
Common sicknesses(≥4)	Face me I face you	Flat		
Catarrh	(66.7%)	(53.8%)	0.267	0.0437
Typhoid Fever	(65.9%)	(54.1%)		
Malaria	(66.0%)	(44.0%)		
Measles	(66.7%)	(33.3%)		

Parenthesis-% * - significant at p value < 0.05

Typhoid fever was a common ailment also experienced by the respondents with over half of the respondents who had four children or less and stayed in face me I face you apartment experiencing it, while those with more than four children staying in flat who experience typhoid fever were 65.9%. Malaria was reported experienced often by respondents (44.0%), while those with same number of children who lived in face me I face apartment who experienced malaria fever were over 65% with more than four children even though they lived in flat. The same was reported for measles. There is an increase in the occurrence and spread of diseases as the number of children increase. This fact was confirmed by the narration provided by a mother who spoke out during the interview thus:

Well, I really think it is true that when the house is very full with people, sickness spread easily, I noticed that we treat malaria, cough and catarrh more among our children when they increased in number in our small house. In fact if one get catarrh, not up to two days, it will spread to every one even malaria self sometimes it even affect me and their father, we are 6 altogether in one bedroom flat....

The Key informant interview with the health professional corroborated the above quantitative responses who stated thus:

...it is a know fact that that a family with more members of household in a smaller space will certainly experience more communicable diseases such as catarrh, cough and even infections. Malaria spread more among children under-5 and pregnant women in such homes. Once we have more that 4 people in a standard room size, it is certainly overcrowded and diseases will easily spread. Hence we advice that family planning should be practiced in the event of having a small apartment and low income until you can afford a bigger space and you have enough money to cater for more children and even at that, for the sake of the woman's health, I think that more than for is still too much even if you live in a duplex... (Midwife/46years old/KII)

The African family system celebrates more children, in fact when parent have just two children, they are assumed not to have finished having their children particularly where the children are same sexes. Religion plays a role in the increase in the number of children, as the holy book clearly stated, children as the heritage of the lord and many believe that they are fulfilling the scriptures by having more children as evident in the bible where God said "be fruitful and multiply". Children serve economy value especially when they become adults. The size of the room or numbers of persons will not stop promoting the interest in having more children because there are other factors that encourage having more. Although Cassidy 1997 revealed overcrowding in its self cannot not be



sufficient to affect a child's health but it works alongside with some other factors like poverty, pollution, poor living condition and poor nutrition. The study has also revealed that over crowding contributes a great deal to the spread of diseases among children.

Conclusion

Increased family size and its attendant consequences on child health and mortality is still not uncommon in developing countries particularly because many are from low socio-economic backgrounds. Findings from the study has corroborated those of many other studies that increased family size, is closely associated with low socio-economic status as more than half of the respondents are from low socioeconomic background which contributed to their family sizes, type of residence and disease experience. Many preventable and communicable diseases associated with overcrowding and large family sizes such as cough, catarrh, malaria, diarhoea, and measles often affect children. In fact, children in Nigeria are been affected by some of these diseases that are less chronic and preventable due to lack of proper education, occupation, lack of exposure, poor enlightenment, poor environment and poor financial capacity which can affect family size and socio-economic status.

Recommendations

The study therefore recommends the need to improve the socioeconomic status of individuals in Ibadan by encouraging people to further their education particularly the women. Government should also provide more employment opportunities and soft loans for those that are self-employed to expand their businesses and improve their economic standard. Good housing facilities should be made available and affordable to residents in the study area. There is need for enlighten on family planning and the need to give birth to the number of children that a family can comfortably provide for even in terms of their housing facilities. Lastly, there should be free health services for indigent children below 18 years, so they could maintain healthy status from childhood to adulthood, while traditional medicine which is a major source of health cares should be integrated into medicine for improved health services both for adult and children. Many children are dependent on their parent, hence, free drugs should be made available to primary health care centres that serve low income communities, hospitals and clinics for minor illnesses and subsidized for other major childhood diseases particularly the ones commonly experienced by the respondents.

References

- Abdel R. Omran, "The Epidemiologic Transition Theory Revisited Thirty Years Later," World *Health Stat. Q.*, 1998,51,99 –119,102.127. Ibid., 114.128. See for example, Henry Blackburn, "Cardi
- Blake, J, 1989: Number of siblings educational attainment. Science, 245, 32-36.
- Blaney, H. C. 1992. III World Scientists' Warning to Humanity, Statement Signed by 1600 Scientists, Union of Concerned Scientists
- Downey, D. B. (1995). When bigger is not better: Family size, parental resources, and children's educational performance. *American Sociological Review*, 60(5), 746–761
- Ezeonwu BU, Oguonu T, Ikefuna AN, Okafor HU, 2013 Urinary findings in HIV positive children by dipstick screening test in Enugu *African journal online* vol 40, No 1
- Fayehun, O. 2010, Household Environmental hazards and child survival in subsahara Africa; Demography and health research, United states agency international development. ICF Macro, 11785 Beltsville Drive, Suite 300, Calverton, MD 20705
- George IO., Tabansi PN. 2010. An audit of cases admitted in the children emergency ward in a Nigerian tertiary hospital. *Pak J Med Sci* 2010;26 (3):740-743
- Hatton T. and Martin R. 2010. The effects on stature of poverty, family size, and birth order: British children in the 1930s, *Oxford Economic Papers*, 62, (1), 157-184
- Jones L. 2012: Family size and its socio economic implications in the sunyani municipality of the Brong ahafo of Ghana ,*International Journal of Academic Research in Business and Social SciencesApril 2012, Vol. 2, No. 4 ISSN*: 2222-6990 83 www.hrmars.com/journals
- Kabir Dasgupta & Keisha T.-Solomon, 2017. "Famly size effects on Child Health: Evidence on the quantity-Quality Trade offs using the NLSY" Working papers" 2017-04, Auckland University of Technology, Department of Economics.
- Kanjilal B, Mazumdar P, Mukherjee M, Rahman M, 2010: Nutritional status of children in India: household socio-economic condition as the contextual determinant. *Int J Equity Health*; 9(1):19. PubMed | Google Scholar
- Mackenbach JP., Kunst AE, Groenhof F., Borgan JK., Costa G., Faggiano F., Jozan P., Leinslau M., Martikainen P., Rychtarikova J., Valkonen T. 1999. Socioeconomic inequalities in mortality among women and among men: an international study. *Am J Public Health*. Dec;89(12):1800-6
- Mary G, Megan O, Jennifer H, 2009; Health Care and Family Stability: Policy Decisions and Costs Family



- Impact Seminar, Arizona state university
- McLennan, J.D., & Kotelchuck, M. 2000: Parental Prevention practices for young children in the context of maternal depression. *Pediatrics*, 105(5),1090–1095
- Primary Health Care Advisory Committee (PHCAC) 2010. Improving Access and Delivery of Primary Health Care Services in New Brunswick Discussion Paper
- Rutstein, S.O. 2000. Factors Associated With Trends in Infant and Child Mortality in developing countries during the 1990s. *Bull World Health Organ*. 2000;78 (10):1256-70
- Sean M. 2011; Essays in Children's access to health care; Health Services Organization and Policy in The University of Michigan
- Sharon V, Elizabeth C, Christina T, Kevin C, Michelle M, and Astrid A2006; Funders'Network for Smart Growth and Livable Communities 1500 San Remo Avenue, Suite 249, Coral Gables, FL 33146 www.fundersnetwork.org
- Stallard P, Phillips R, Montgomery A, Spears M, Anderson R, Taylor J, Araya R, Lewis G, Ukoumunne OC, Millings A, Georgiou L, Cook E, and Sayal K. 2007; A cluster randomized controlled trial to determine the clinical effectiveness and cost-effectiveness of classroom-based cognitive-behavioural therapy (CBT) in reducing symptoms of depression in high-risk adolescents. Pub med, National Library of Medicine. National Institute of Health.
- Taiwo P.A., Adio-Moses R.O. and Taiwo, Y. M. 2018. "An Assessment of Residential Overcrowding and Associated Health Risk on the Girl- Child in Low-Income Communities in Oyo State, Nigeria" *Ibadan Journal of Peace and Development* Vol. 8. No.1. pp 152-172
- WHO, 2012: Barriers and facilitating factors in access to health services in the Republic of Moldova. Copenhagen, WHO Regional Office for Europe.
- Williams B, Gouws E. 2002; Estimates of world-wide distritubution of child death from actute respiratory infections. Lancet infect Dis; 2(1) 25-32. PubMed
- Woldemicael G. 2001. Diarrhoea morbidity among young children in Eritrea: Environmental and socioeconomic determinants. *Journal of health, population, and nutrition.* 19. 83-90.
- World Health Organization. (1978). WHO activities in child mental health and psychosocial development. *International Journal of Mental Health*, 7(1–2), 148–157.
- World Health Organization. (1998). WHO activities in child mental health and psychosocial development. *International Journal of Mental Health*, 7(1–2), 148–157.