INDEPTH Network

Changes in household structure and equity and contribution to achieving the Millennium Development Goals: the role of INDEPTH-Network data

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Background

Earlier studies have shown relationships between household[1] characteristics and the MDG indicators. Household is the basic building block of society and the unit of production as well as of reproduction. It is the primary context of socialization and decision-making regarding the nutrition, health care and schooling of the children. Household is also a key context for the regulation of new unions, fertility, and migration. Almost all other social institutions hinge on the household, and household structure reflects the living arrangement of persons, individually or in groups. However, household structure is not static. Children or women may move from one type of household to another. The different situations described above may force individuals to change dwellings as well as social and economic environments.

Despite increasing changes being observed in connection with the structure and composition of households in developing countries, less is known about the relationship between changes in household structure and human development indicators including children related MDGs. Indeed, using cross-sectional data such as censuses, World Fertility Surveys (WFS), Demographic and Health Surveys (DHS) and Multiple Indicators Cluster Surveys (MICS), mostly scholars have described trends in proportion of female-headed households, changes in the average number of household members at aggregate level. Furthermore, it is difficult to distinguish the effects of household structure from the effects of household structure stability[2]. Elsewhere, in the USA and Europe longitudinal surveys allow the investigation of the relationship between transitions in living arrangement and life outcome for children, adolescent, women of reproductive age and elders.

Against this background, this paper aims to show how data from Health and Demographic Surveillance Systems (HDSSs) of INDEPTH-Network can contribute in understanding the relationship between changes in household structure and the female and childhood related outcomes at the individual level.

[1] Household is defined as a group of persons who make common provision for food or other essentials for living. They may be related or unrelated persons, or combination of both (Petersen & Petersen, 1986).

[2] The household structure stability or dynamic refers to the changes in the household structure.

Methods

This study relies on information collected from 17 INDEPTH sites among which 11 from SSA and 6 from Asia in 2011. Each sites filled data template including list of key variables, when the site started collecting the specific information and periodicity of data collection. Table 1 presents the 17 HDSS. An HDSS is a set of field and computing operations to handle the longitudinal follow-up of well-defined entities or primary subjects (individuals, households, and residential units) and all related demographic and health outcomes within a clearly circumscribed geographic area. Unlike a cohort study, an HDSS follows up the entire population of such a geographic area. In such a system, an initial census defines and registers the target population. Regular subsequent rounds of data collection at prescribed intervals make it possible to register all new individuals, households, and residential units and to update key variables and attributes of existing subjects.

Table 1 – List of HDSS included in the study

HDSS	Country	Year (initiated)
AMK	Bangladesh	1982
Bandarban	Bangladesh	2009
Butajira	Ethiopia	1986
Dodalab	Vietnam	2007
Dodowa	Ghana	1990
Ifakara	Tanzania	1996
Kanchanaburi	Thailand	2000
Kaya	Burkina Fasso	2007
Kintampo	Ghana	2005
Kisumu	Kenya	2002
Matlab	Bangladesh	1982
Nanoro	Burkina Faso	2009
Navrongo	Ghana	1993
Nouna	Burkina Faso	1992
Ouagadougou	Burkina Faso	2008
Rufiji	Tanzania	1998
Vadu	India	-

Source: INDEPTH Network

HDSSs of INDEPTH Network (www.indepth-network.org) began in the 1960s as a means of tracking longitudinal demographic changes to populations in developing countries. All of them have for mission to collect data from whole communities over extended periods of time, and therefore accurately reflect developing-country health and population problems (Bangha et al, 2010). These systems also provide the requisite infrastructure in resource-poor countries to monitor progress made by the MDGs as well as for evaluating nationally driven health interventions.

Statistics analyses include description method to estimate number of sites that collect relevant information and the periodicity of data collection.

Results

Overall, the routine household questionnaires from most of the sites (16 out of 17) collect information on all household members, usually stored in the HDSS membership table[3]. This table includes the following variables: sex, date of birth, the relationship to the head

[3] The HDSS membership table contains demographic information on household members including gender, age, relationship to the head of household

household, the entry events into the DSA (birth, immigration, in-fosterage, marriage or cohabitation), the date of entry into the DSA, and the exit events (death, out-migration, out-fosterage, divorce) and their dates. From the residence table, one can compute number of household' members over-time; create variables such as "individual living arrangement" and "household structure". Therefore the table allows:

(1) Monitoring changes in household structure as well as identify their predictors (migration, mortality, union) at the individual level over time;

(2) Analyze the influence of changes in the children's living arrangement or the structure of household on child mortality;

(3) Assess the influence of changes in the children's living arrangement or the structure of household on children's education;

(4) Evaluate the effect of changes in female living arrangement on their parity progression.

However, current data have some limitations regarding other indicators:

- Less than half of the 17 HDSSs on average collect information on child's morbidity and nutritional status. For instance, 5 HDSSs only out of 17 ask question about suspected pneumonia (whether the child had suffered from cough and rapid breathing), and questions on diarrhea and fever are asked only by 9 HDSSs involved in this study.
- Only half of all studied collect information on the level attended during the current school year.
- Majority of HDSS do not collect sexual and reproductive behaviour data. For instance, 6 centres only collect occasionally data on contraceptive use.

Therefore, some HDSS could serve as pilot centres to monitor the effects of changes in household structure on these indicators.

Conclusion

The main objective of this paper was to show how data from Health and Demographic Surveillance Systems (HDSSs) can contribute to assess the influence of changes in household structure on MDGs related to children and female reproductive health behaviour. Analysis of information from 17 HDSS revealed that HDSS databases include relevant for monitoring changes in household structure (relationship to the head of household, membership start event, membership end event, membership start and end dates), child mortality and child education. By contrast, few HDSS collect data on reproductive health and child morbidity. The study recommends empirical studies using these data to improve understanding the millennium development indicators trends in LMICs.