ORIGINAL ARTICLE

TRENDS IN HEALTH SERVICE UTILIZATION OF ICCM AND IMNCI IN FOUR REGIONS OF ETHIOPIA, from 2011 to 2015

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ABSTRACT

Background: *Integrated Management of Newborn and Child hood Illness (IMNCI), Integrated Community Case Management (ICCM),and Community Based Newborn Care (CBNC) are proven strategies used in Ethiopia to reduce child mortality, by treating major killer diseases of newborns and children, utilization of which can contribute to reduction of under five mortality.*

Methodology: *We conducted cross sectional household surveys every year from January to March 2011-2015 to monitor outcomes of health interventions in Integrated Family Health Program (IFHP) target areas. Data were collected using checklists for household containing selected questions for each area of focus. The data were entered and analyzed using SPSS16.0 version.*

Results**:** *In the last four years (2011 -2015), children 0-23 months who had illness with diarrhea/fever and cough, within two weeks of the survey declined significantly, from 32.5 to 29%, and health seeking behavior raised from 56.6 to 67.6% (p value 0.0391 and 0.0001 respectively). The number of children treated in Health Post (HP) was 13-17 per month, but decreased in Health Centers (HCs) from 112 to 80 per month, which is significant (p value 0.00). Proportion of children who sought advice or treatment for the illness, in HCs was 57.7% and HPs 30.8%. Mothers or caretakers were asked why they did not seek treatment or HPs, 37.9% said that HPs were not always open and, 29.2% do not know about treatment in HPs.*

Conclusion**:** *The significant drop in incidence of disease and increase in health seeking behavior showed that preventive interventions have brought change in Ethiopia which may be due to strengthening of Health Extension Program (HEP) and ICCM/CBNC scale up to treat sick children. Many mothers are still taking their children HCs for treatment which are far from HPs. There is a need to keep HPs open daily and conduct social mobilization about treatment given in HPs, which will increase utilization.*

INTRODUCTION

IMNCI and ICCM are strategies used to reduce under five mortality in Ethiopia.IMNCI training package was adapted in 1997,to build health workers skills at health centers to treat pneumonia,diarrhea,malnutrition and measles, which are the major causes of under -five mortality(1).ICCM was started in 2010,which aims to improve access to treatments by providing free treatments to the rural population to improve under five mortality outcomes, factors such as affordability, accessibility and availability were challenges mentioned by care givers (2).The terms access, utilization, availability and coverage are used interchangeably to reflect whether people are receiving the services they need (3).

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The Millennium Development Goal (MDG 4) aimed to reduce under-five mortality by two-thirds between 1990 and 2015, Ethiopia has achieved MDG 4 (under-five mortality), three years earlier (4). Diarrhea, pneumonia, and malaria, are responsible for 52% of child deaths worldwide. Child deaths could be reduced by 63% worldwide if coverage rates of effective prevention and treatment interventions were to increase to 99% (5).Lack of access to and utilization of health services for delivery are the main reasons for high maternal and neonatal mortality (6).Utilization of health care system may depend on socio- demographic, social structure, level of education of mothers, cultural beliefs and practices,gender,,economic ,political system ,disease pattern and health system (6,7,8,9). In rural areas, the distances to health care facilities and the poor condition of roads, time, effort and cost required to arrive at the point of delivery can be substantial.(5).The better off are more likely to seek care for a child when sick (10,11). In Kenya IMNCI utilization was only 14%, lack of training of HWs and follow up were mentioned as reasons for low utilization (12).

In Ethiopia health service utilization in Jimma zone was found to be 46%, household income, socioeconomic status, presence of disabling health problem, presence of illness episode, transport cost, perceived treatment cost and distance to health center were predictors (12).In other studies utilization was 62%, shortage of money was the major, followed by distance, poor quality of service and self-medication (12).

The objective of this paper is to show trends in health service utilization of IMNCI and ICCM identify the challenges and suggest solutions.

Checklist used as questioner; to mother or care taker with a child less than 24 months

I. Has (name had an illness with diarrhea/ fever/cough at any time in the last two weeks? Go to the next question if answered yes,

II.Did you seek advice to treatment for the illness from a health worker? If yes go to next question

III.Where did you take the child? 1. HP 2.HC, 3.hospital, 4.clinic 5.Other (specify)

IV.Why did you not take the child to the health post?

1.I do not know about treatment in HP 2.HP is not always open 3.Drugs were not available in HP 4.I do not trust HEWs 5.HP is far 6.Others specify

V.At any time during illness did (name) given any drug by health worker for illness (diarrhea/fever/cough)?

Methodology

We conducted cross sectional household surveys every year from January to March 2011 -2015 to monitor outcomes of health interventions in IFHP target areas. The surveys include interviewing mothers and household

heads with children under two years old about the childhood immunization, nutritional status, ITN utilization, household sanitation, and family planning status.

Sample Selection Procedures

We determined that 2,560 households (640 in Amhara, 960 in Oromia, 480 in Tigray, and 480 in SNNP) would allow for detection of a 12% change in coverage, assuming an initial prevalence of 50%, a design effect of 1.5, and a non-response rate of 10%.

IFHP is supporting 300 woredas in the country, through 16 implementation clusters or zones (groups of *woredas*): four in Amhara, six in Oromia, three in Tigray, and three in SNNPR. Zonal cluster offices prepared sampling frames, from which we randomly selected *woreda* health offices, health centers (HC), health posts (HP), and households (HH), applying the following ratios in the field: five HH/HP, two HP/HC, and two HC/*woreda* health offices. Interviewers selected HHs using a random walk technique (in randomly selected kebeles, and gots spinball technique used to identify the direction, and every fifth HH interviewed. Each cluster provided 160 households (2560 total households/16 total clusters).

Data collection methods and processes

Data were collected using checklists for household containing selected questions for each area of focus for recording purposes. Each interviewer observed and verified whether key behaviours were in place in selected HHs. The checklists included standard questions that are used to calculate key indicators in household surveys. Data collectors were IFHP cluster office and regional programme office staff. All attended a 2 days training on completing the checklist, eligible household selection and other data collection procedures.

Data quality control

During data entry, a random sample of checklists (10% of the checklists at each level) was double-entered with to verify the quality of data entry, and the matching report showed excellent agreement (99.0%). Country office and regional program office monitoring and evaluation officers supervised quality of data collection and data in the field.

Data processing and analysis

All completed checklists from the structured interviews were submitted to the IFHP country office. A team of data entry clerks well versed with the basics of the checklists performed the data entry. Their roles included office editing, coding of open-ended questions, data entry, and random verification of entered data. Data encoding, entry and processing were managed by the country office monitoring and evaluation team. The data were entered and analyzed using SPSS16.0 version. Basic analysis tools such as univariate tables, percentage analysis and graphs were produced.

We reported key coverage indicators in both ICCM and non-ICCM areas using X^2 testing to determine whether there were any statistical differences

Ethical aspects Consensus was reached with RHBs, zonal and woreda health offices to conduct the follow up and verbal consent was obtained from households before collecting in formation.

Results

In the last four years (2011 -2015), children 0-23 months who had illness with diarrhea/ fever and cough in the last two weeks of the survey (incidence of illness) declined from 32.5 to 29%, and those who sought treatment from HWs (health seeking behavior) raised from 56.6 to 67.6% (fig.1) .The proportion of children who sought advice or treatment for the illness in health centers was 57.7%, health posts 30.8% (fig.2). The average number of children treated in health was 13 - 17 per HP /month, but decreased in health center per week decreased from 112 in 2012 to 80 per HC/month (fig 3).When mothers or caretakers were asked why they did not seek advice in HPs 37.9% said that health posts were not always open, and 29.2 % do not know about treatment service in health posts (fig 4).

Figure 1.Incidence of illness and health seeking behavior

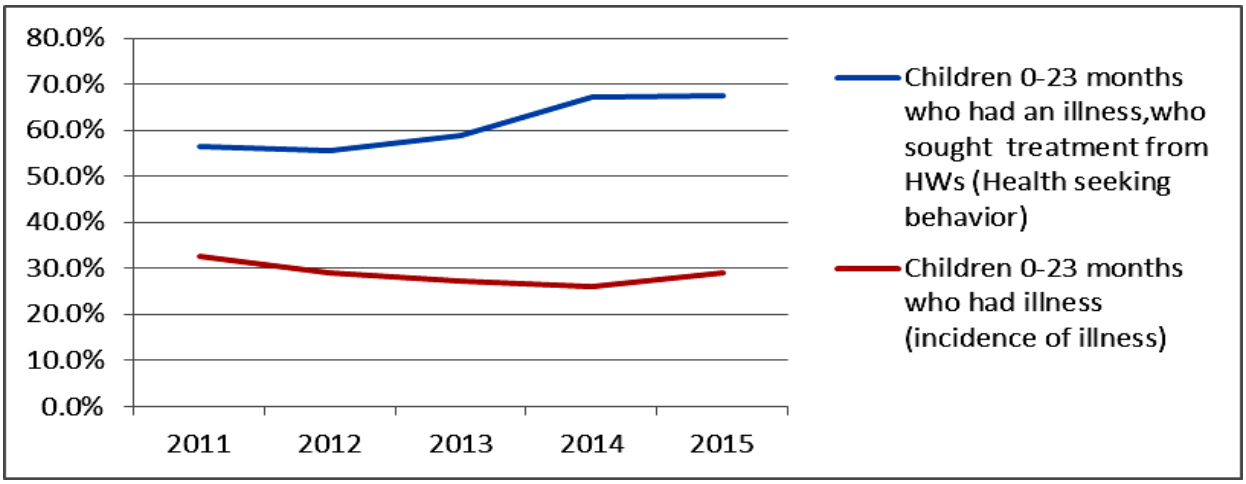


Figure 2, Places where parents sought treatment

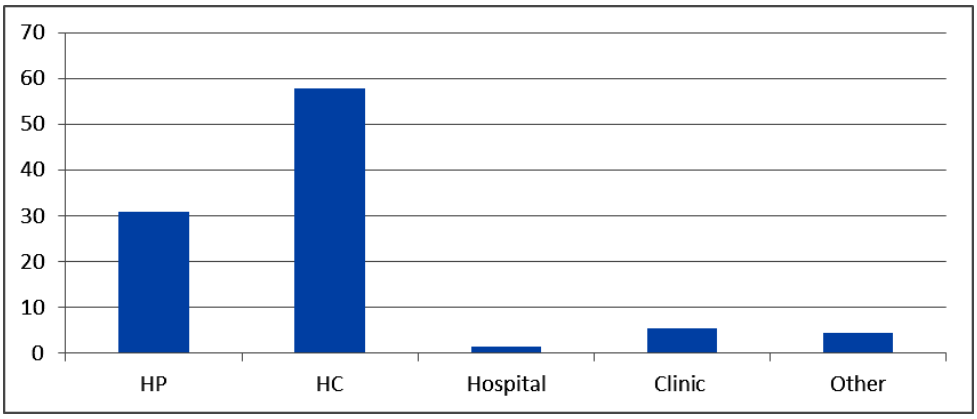


Figure 3.Majour reasons for not seeking not seeking treatment from HP

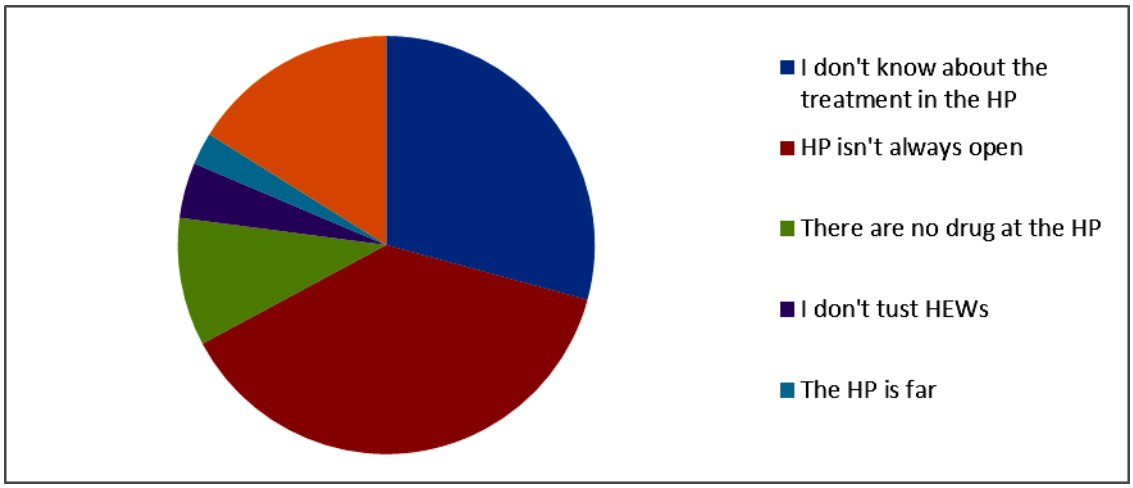
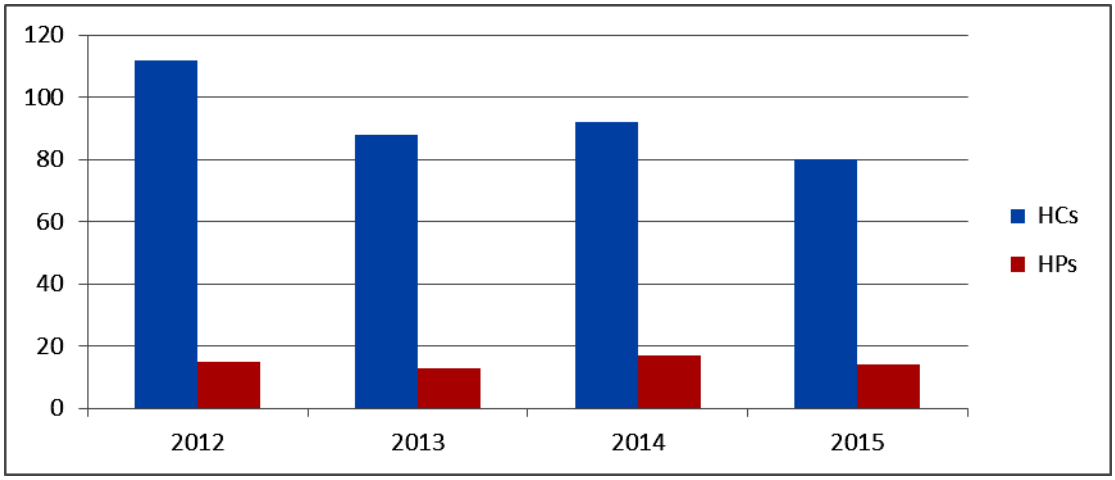


Figure 4.Trends in health service utilization of HCs and HPs



Discussion

Incidence of illness has dropped from 32 in 2012 to 29 % in 2015 (p value 0.0391). Health seeking behavior has increased significantly from 56.6 in 2011 to 67.6% (p value 0.0001). Those who received any kind of treatment varied from 96 to 90%. Alive and Thrive survey also showed done in same area showed decrease in incidence of illness in 2010 to 2014, in under five children (fever 26-16%,cough 31.9-21.6%,diarrhea 15.9-11.4%, p<0.001) (15).A study in L10KE areas also showed decrease in incidence of illness (ARI 10-6%, diarrhea 23-13%,fever 23-10%) and increase in treatment (ARI 35-69%,diarrhea 44-51%, fever 41-66%,p<0.05),in 12-23 months children (2008-2014) (16).IFHP end line survey done in 2013 did not show much increase in diarrhea and ARI treatment from 2008 to 2013 (32.5-34.6%, 46.8%-36.5% respectively) (17).There is seasonal variation in incidence of illness, and it is difficult to compare results of different surveys. The study done in India showed, prevalence of diarrhea, fever and cough was 9.1%, 14.8% and 17.7% respectively. The proportion of children, who did not receive any type of medical treatment during an episode of diarrhea and fever/ cough, was 36.9% and 28.9% respectively (10). Incidence of illness is lower, but more children received treatment in our country.

The utilization in health posts was low, the average number of children treated in health post was 13- 17 cases per HP/month, increasing slowly, other studies also showed increasing trend The results are higher than study done in SC areas 6-10 cases /month (18), but similar with findings in West Harargie and Jimma ,16/HP/month (19).The average number of children treated in per health center per month decreased significantly from 112 in 2012 to 80 per HC/month, (p value-0), which is different from findings from previous study, before and after introduction of ICCM, in which there was increasing trend two years after introduction of ICCM (20).The major reasons for not using HPs was that they closed 37.9% (similar to finding in study done Jimma and West Harargie (21), and 29.2% of mothers do not know about treatment of child illness in the health posts. The Ugandan survey on acceptability and utilization of showed 27-57% of caregivers took their febrile children to Community Health Workers (CHW) for treatment, those located 1-3 km.utilized more than others (22,23).

Conclusion

The drop in incidence of illness and increase in health seeking behavior show that preventive methods being promoted are bringing change in the community. This is also reflected in the data that cases in HCs are decreasing, and increasing in HPs. There are many sick children who are not taken to health facilities for treatment. The utilization in health posts where treatment is free is still low and mothers are taking their children to health centers, The need for daily opening of HPs and conducting social mobilization using HDA is crucial.

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