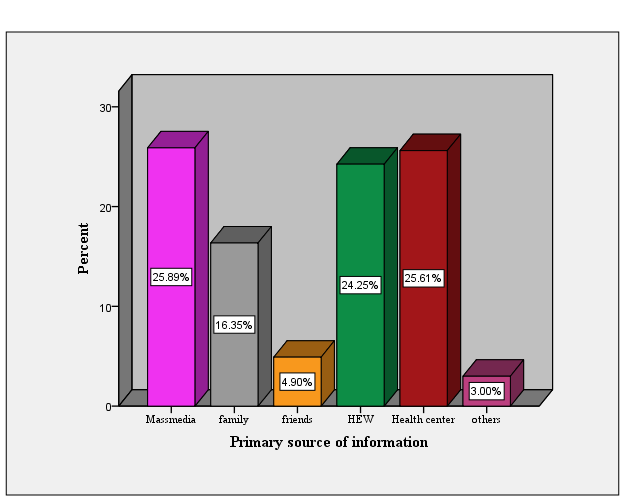
Additional file 1: The socio-demographic characteristics of mothers and Under-five children in Northwest, Ethiopia, 2019

|  |  |  |  |
| --- | --- | --- | --- |
| Variables | | Frequency (N=422) | Percent (%) |
| Age of mothers(year) | 16-27 | 106 | 25.1 |
| 28-33 | 109 | 25.8 |
| 34-42 | 107 | 25.4 |
| 43-80 | 100 | 23.7 |
| Religion of mother | Orthodox | 264 | 62.6 |
| Muslim | 97 | 23.0 |
| Protestant | 49 | 11.6 |
| Catholic | 9 | 2.1 |
| Others | 3 | 0.7 |
| Family monthly income (ETB) | <500 | 257 | 60.9 |
| 500-2500 | 47 | 11.1 |
| 2501-3500 | 36 | 8.5 |
| 3501-5100 | 41 | 9.7 |
| 5101+ | 41 | 9.7 |
| Educational status of mothers | Illiterate | 122 | 28.9 |
| Literate | 300 | 71.1 |
| Sex of child | Male | 211 | 50.0 |
| Female | 211 | 50.0 |
| Place of residence | Urban | 238 | 56.4 |
| Rural | 184 | 43.6 |
| Age of children in Month | 2-26 | 108 | 25.6 |
| 27-36 | 107 | 25.4 |
| 37-46 | 110 | 26.1 |
| 47+ | 97 | 22.9 |
| Marital Status | Unmarried | 179 | 42.4 |
| Married | 243 | 57.6 |

**Additional file 2: The primary source of information of mother’s about hand washing practice in Northwest Ethiopia, 2019**



|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Additional file 3: hand washing practice of mothers in Northwest Ethiopia, 2019** | | | | | | | | |  |
| Items | | | Always | | Usually | Sometimes | | | Never |
| N (%) | | N (%) | N (%) | | | N (%) |
| Do you wash your hands after using toilet? | | | 274(64.9) | | 120 (28.4) | 26 (6.2) | | | 2 (0.5) |
| Do you wash your hands before eating meal? | | | 364(86.3) | | 38 (9.0) | 16 (3.8) | | | 4 (0.9) |
| Do you use chemicals when you are washing your hands? | | | 113(26.8) | | 53 (12.6) | 120 (28.4) | | | 136 (32.2) |
| I always remind the children to wash hands before eating? | | | 229(54.3) | | 101 (23.9) | 88 (20.9) | | | 4 (0.9) |
| I always remind the children to wash hands after eating | | | 226(53.6) | | 100 (23.7) | 94 (22.3) | | | 2 (0.5) |
| I wash hands after interacting with children/ sick person | | | 84 (19.9) | | 81 (19.2) | 219 (51.9) | | | 38 (9.0) |
| I always wash my hands before and after handling raw material such as vegetables/ chicken/mutton etc. | | | 74 (17.5) | | 77 (18.2) | 218 (51.7) | | | 53 (12.6) |
| I wipe my wet hands until dry | | | 68 (16.1) | | 47 (11.1) | 185 (43.8) | | | 122 (28.9) |
| Washing hands with soap is my routine practice | | | 161(38.2) | | 157 (37.2) | 94 (22.3) | | | 10 (2.4) |
| **Hand washing methods** | | | Frequency | | | Percent | | | |
| Washing hands by Water only | | | 87 | | | 20.6 | | | |
| Washing hands by Water and grass | | | 3 | | | 0.7 | | | |
| Washing hands by Water and ash | | | 28 | | | 6.6 | | | |
| Washing hands by Water and soap/detergent | | | 304 | | | 72 | | | |
|  | | |  | |  |  | | |  |
|  | | |  | |  |  | | |  |
|  | | |  | |  |  | | |  |
| **Additional file 4: the correlation of health outcomes of under-five children and mother’s hand washing practice in Northwest Ethiopia, 2019** | | | | | | | |
| **Health outcomes of under-five children** | | **Hand washing practice of mothers** | | | | | **P-value** |
| Good | | Poor | | |
| Diarrheal disease | Yes | 62 | | 65 | | | 0.001 |
| No | 103 | | 192 | | |
| Acute respiratory tract infection (ARTI) | Yes | 42 | | 73 | | | 0.5 |
| No | 123 | | 184 | | |
| Meningitis | Yes | 17 | | 28 | | | 0.84 |
| No | 148 | | 229 | | |
| Malnutrition | Yes | 32 | | 71 | | | 0.05 |
|
| No | 133 | | 186 | | |
| Other childhood illness | Yes | 27 | | 39 | | | 0.74 |
| No | 138 | | 218 | | |