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Nutrition Status Among Pupils Aged (5 – 19) Years in Public Primary Schools in Mainland Tanzania

Predictors Influencing Uptake of Cervical Cancer Screening Among Women of Reproductive Age in Mara Region

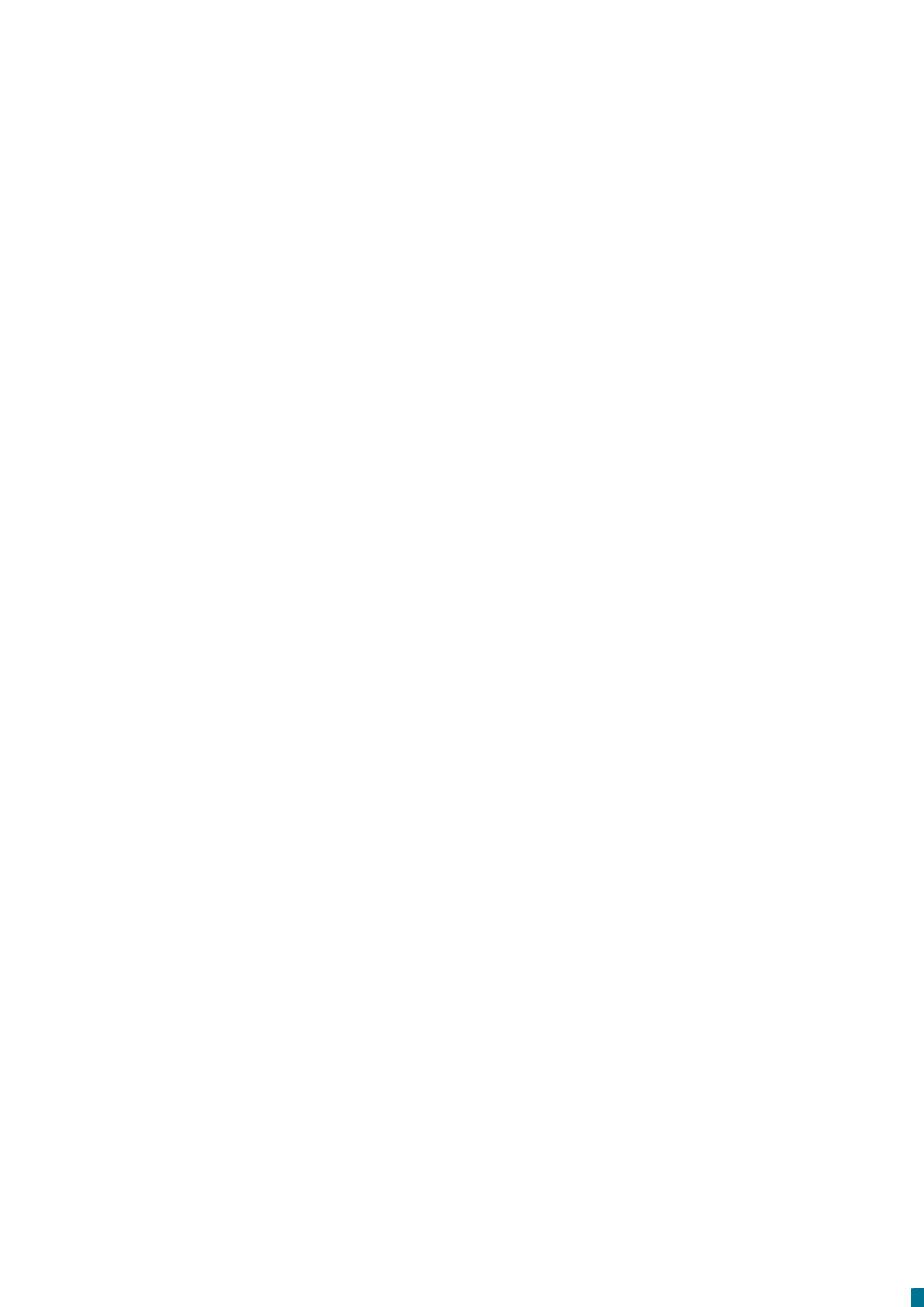
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**Integrated
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Integrated Disease Surveillance and Response (IDSR): Cumulative report for six months, July – September 2021 (WHO week 26 - 39)

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SUMMARY

Introduction: The Ministry of Health (MoH) uses the Integrated Disease Surveillance and Response (IDSR) strategy to monitor reportable diseases and conditions to detect and respond to the leading causes of illness, death, and disability. This paper reports the results of analysis of the cumulative IDSR data for the 3-month period of July to September 2021. Data were analyzed to assess regional performances in reporting data and to count the number of cases and deaths of each disease or condition by month and region.

Analysis: All 26 regions of Tanzania Mainland submitted weekly reports to the national level. The regions achieved an average of 98.6% in completeness (i.e., percentage of districts providing complete reports to the region) and 97.0% in timeliness (i.e., percentage of districts reporting on time to the region). The national target for both indicators is >80%. During the 3-month period, a total of 415,024 cases and 192 deaths were reported for all IDSR diseases and conditions. The most reported condition was diarrhea (n=204,884, 49.4%). Animal bites, pneumonia, diarrhea, typhoid and Acute Flaccid Paralysis (AFP) cases were reported in all 26 regions. Consequently, the month of September had the highest number of cases (n=151,961, 36.6%). Of the 192 reported deaths, most cases were caused by (n=186, 96.9%) were due to Severe Acute Respiratory Infection (SARI). The condition with highest case fatality rate was suspected cases of Cerebrospinal Meningitis (CSM). Of 13 cases with suspected CSM, 5 died (CFR=38.5%).

Conclusion: Regional performance, based on completeness and timeliness has improved significantly. Completeness and timeliness averages met the national standard of ≥80%, which suggests that the MoHCDGEC is improving in data capturing, early detection, and reporting that guides timely responses to control and prevent disease outbreaks. However, there is an urgent need for the government to strengthen preventive measures against diarrhea and pneumonia as were among the leading conditions

with high number of reported cases.

BACKGROUND

In Tanzania surveillance for reportable diseases and conditions under the Integrated Disease Surveillances and Response (IDSR) are electronically collected, and published weekly and monthly under the Ministry of Health (MoH). It should be noted that IDSR is a strategy for multi-disease surveillance of selected priority diseases or conditions. It links the community, health facility, district and national levels, for providing immediate information for helping public health managers and decision-makers improve detection and response to the leading causes of illness, death, and disability in African countries. The present paper report cumulative IDSR data for a period of 3 months of July to September 2021, that corresponds to WHO week 26 to 39. Data were analyzed to assess the national and regional performances in terms of timeliness and completeness reporting as well as determining the cumulative number of cases and deaths, and distribution by month and region.

ANALYSIS OUTCOME

Health Facility Performance

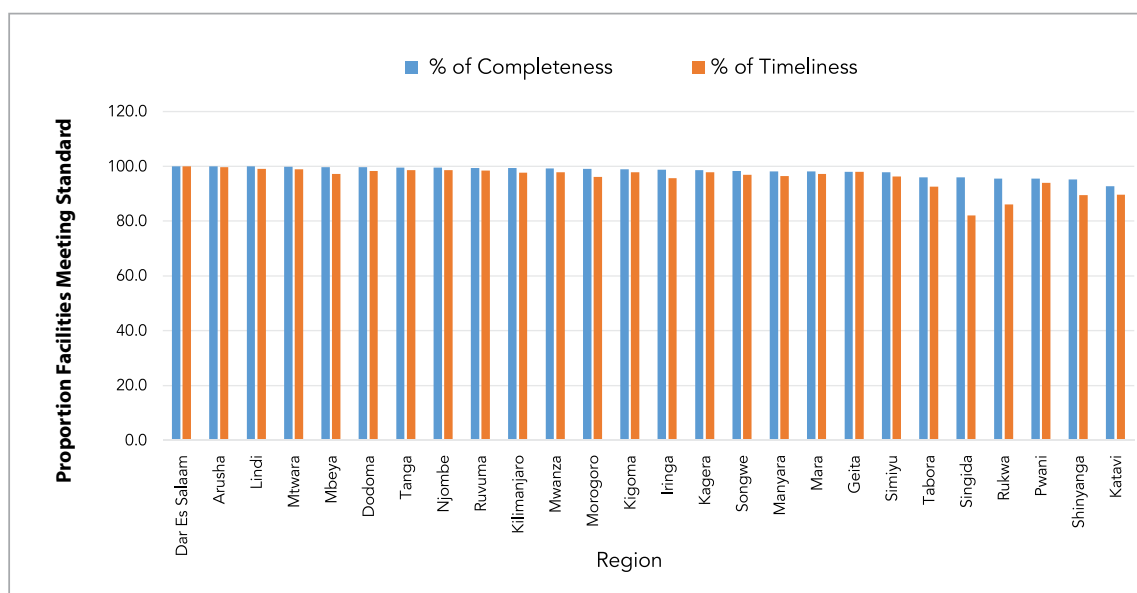
All 26 regions from Tanzania Mainland submitted weekly

reports of selected priority reportable conditions to the national level. The overall performance for timeliness and completeness for July to September 2021 was 97.0% and 98.6% respectively. This was the highest average scores far above the set national standard of ≥ 80% (Table 1). The Month of July and September had the highest scores for both timeliness (100.0%) and completeness (100.0%).

Table 1: Average Completeness and Timeliness of Health Facility Reporting by Month, July – September 2021

Month	% of Completeness	% of Timeliness
July	100.0	100.0
August	95.7	91.0
September	100.0	100.0
Overall Performance	98.6	97.0

Figure 1: Timeliness and Completeness of Health Facility Reporting from the 26 regions, July –September (26 -39 Week), 2021



The overall timeliness and completeness of health facilities reporting by all 26 regions are presented in Figure 1. All regions health facilities reporting for timeliness and completeness met the national target of $\geq 80\%$. The lowest timeliness was 83.1% from Singida and completeness was 92.7% from Katavi.

DISTRIBUTION OF CASES AND DEATHS

Total reported cases for all reportable diseases and conditions from July to September 2021 were 415,024 of which 204,884 (49.4%) were cases due to diarrhea (Table 2). Due to unavoidable circumstances, analysis by age group and sex was not possible. During the reporting period, there were a total of 192 deaths whereby 186 (96.9%) were due to Severe Acute Respiratory Infection (SARI).

Table 2: Numbers of cases and deaths caused by reportable conditions, July –September 2021

Conditions/Diseases	Cases/Deaths	Total
AFP	Cases	135
	Deaths	0
Animal Bites	Cases	8,085
	Deaths	0
Anthrax	Cases	55
	Deaths	0
Blood Diarrhea	Cases	1
	Deaths	0
CSM	Cases	13
	Deaths	5
Dengue Fever	Cases	2
	Deaths	0
Diarrhoea	Cases	204,884
	Deaths	0
SARI	Cases	4,929
	Deaths	186
Measles	Cases	396
	Deaths	0

Conditions/Diseases	Cases/Deaths	Total
Pneumonia	Cases	164,993
	Deaths	0
Rabies	Cases	5
	Deaths	1
Trypanosomiasis	Cases	1
	Deaths	0
Typhoid	Cases	31,525
	Deaths	0
Total	Cases	415,024
	Deaths	192

Table 3: Number of cases and deaths caused by reportable conditions, by month, July – September 2021

Conditions/ Diseases/ Month	July		August		September		Total		CIF %
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	
AFP	74	0	34	0	27	0	135	0	-
Animal Bites	2,957	0	2,100	0	3,028	0	8,085	0	-
Anthrax	11	0	14	0	30	0	55	0	-
Blood Diarrhoea	0	0	1	0	0	0	1	0	-
CSM	1	0	1	1	11	4	13	5	38.5
Dengue Fever	2	0	0	0	0	0	2	0	-
Diarrhoea	63,401	0	60,851	0	80,632	0	204,884	0	-
SARI	1,409	35	2,059	82	1,461	69	4,929	186	3.8
Measles	231	0	105	0	60	0	396	0	-
Pneumonia	58,800	0	50,003	0	56,190	0	164,993	0	-
Rabies	2	0	1	0	2	1	5	1	20.0
Trypanosomiasis	0	0	0	0	1	0	1	0	-
Typhoid	10,383	0	10,623	0	10,519	0	31,525	0	-
Total	137,271	35	125,792	83	151,961	74	415,024	192	

Table 3 provides the number of cases and deaths caused by immediate reportable conditions each month during July through September 2021. Most cases were reported every month with exception of Dengue and Trypanosomiasis, which were only reported in the month of July and September respectively. The

month total cases varied from 125,792 in August to 151,961 in September. Of the total 192 reported deaths most were caused by diarrhea 186 (96.9%). The condition with highest case fatality rate was suspected cases of Cerebrospinal Meningitis (CSM), 5 (38.5%) of 13 persons with suspected CSM, 5 died.

Table 4: Number of reported cases of illnesses by region, July – September 2021

Region	AFP	Animal bite	Anthrax	Blood Diarrhoea	CSM	Dengue Fever	Diarrhoea	Measles	Pneumonia	Rabies	SARI	Trypanosomiasis	Typhoid	Total
Arusha	11	650	50	0	0	0	9,684	34	17,027	1	1,334	1	922	29,714
D'Salaam	3	599	0	0	0	1	16,019	31	12,733	0	307	0	2,717	32,410
Dodoma	6	513	0	0	0	0	16,080	34	11,290	1	929	0	5,580	34,433
Geita	5	123	0	0	0	0	8,316	6	3,880	0	0	0	775	13,105
Iringa	1	391	0	0	0	0	3,813	9	3,187	0	0	0	440	7,841
Kagera	7	182	0	0	0	0	7,163	40	4,383	0	0	0	669	12,444
Katavi	3	65	0	0	7	0	3,019	0	899	0	0	0	236	4,229
Kigoma	5	309	0	0	1	0	9,713	38	5,132	0	948	0	570	16,716
Kilimanjaro	2	389	5	1	0	0	3,881	6	9,771	0	0	0	927	14,982
Lindi	6	101	0	0	0	0	4,664	31	4,240	0	0	0	752	9,794
Manyara	3	537	0	0	0	0	8,867	6	13,255	0	1,111	0	1,136	24,915
Mara	8	361	0	0	0	0	8,009	18	5,761	0	0	0	689	14,846
Mbeya	6	363	0	0	0	0	10,109	6	7,046	0	0	0	2,461	19,991
Morogoro	2	492	0	0	0	0	10,460	5	8,580	0	0	0	1,867	21,406
Mtwara	10	192	0	0	0	0	5,361	23	4,251	1	170	0	626	10,634
Mwanza	21	382	0	0	0	0	14,584	19	7,604	0	130	0	966	23,706
Njombe	3	79	0	0	0	0	1,805	8	2,496	0	0	0	1,418	5,809
Pwani	10	348	0	0	1	0	5,590	20	4,263	0	0	0	418	10,650
Rukwa	2	276	0	0	3	0	6,876	1	3,431	1	0	0	1,051	11,641
Ruvuma	3	250	0	0	0	0	6,913	12	5,884	0	0	0	1,757	14,819
Shinyanga	4	94	0	0	0	0	4,880	10	3,213	0	0	0	259	8,460
Simiyu	2	242	0	0	0	0	7,124	10	4,659	0	0	0	552	12,589
Singida	3	183	0	0	0	0	5,209	18	2,699	0	0	0	1,250	9,362
Songwe	2	117	0	0	0	0	7,416	0	3,207	0	0	0	1,512	12,254
Tabora	5	242	0	0	0	0	11,183	5	6,410	1	0	0	1,373	19,219
Tanga	2	605	0	0	1	1	8,146	6	9,692	0	0	0	602	19,055
Total	135	8,085	55	1	13	2	204,884	396	164,993	5	4,929	1	31,525	415,024

During the 3 months beginning July 2021, a total of 415,024 cases of reportable conditions were reported whereby all 26 regions reported animal bites, pneumonia, diarrhea, typhoid and Acute Flaccid Paralysis (AFP) cases (Table 4). All regions reported measles cases except Songwe region. A single case of blood diarrhea and trypanosomiasis was reported in Kilimanjaro and Arusha region respectively. The number of diarrhea cases was high in major cities of Dodoma 16,080 of 204,884 (7.9%), Dar es Salaam 16,019 (7.8%) and Mwanza 14,584 (7.1%) whereas pneumonia cases were high in Arusha region, 17,027 of 164,993 (10.3%).

CONCLUSION

Analysis of IDSR data for reporting period July to September 2021 showed that regional performance, based on completeness and timeliness, improved significantly. Completeness and timeliness averages met the national standard of $\geq 80\%$, which suggests that the MoH is improving in data capturing, early

detection, and reporting that guides timely responses to control and prevent disease outbreaks. There is an urgent need for the government to strengthen preventive measures against diarrhea and pneumonia, which were among the leading conditions with high reported cases.

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³ Tanzania Public Health Bulletin

MUHTASARI

Mkakati wa Ufuatiliaji na Udhhibiti wa Magonjwa ya Mlipuko (IDSR): Ripoti ya mitatu, Julai-Septemba 2021

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Utangulizi: Wizara ya Afya (WAF) hutumia mkakati wa Ufuatiliaji na Udhhibiti wa Magonjwa ya Mlipuko (IDSR) kufuatilia magonjwa na hali zinazoripotiwa kugundua na kudhibiti magonjwa ambayo ni chanzo cha vifo, na ulemavu. Makala hii inaripoti matokeo ya uchambuzi wa taarifa za IDSR kwa kipindi cha miezi 3 ya Julai hadi Septemba 2021. Takwimu zilichambuliwa kutathmini utendaji wa mkoa katika utoaji wa taarifa na kufahamu idadi ya visa vya kila ugonjwa kulingana na mwezi na mkoa.

Uchambuzi: Mikoa yote 26 ya Tanzania Bara iliwasilisha ripoti za kila wiki kwa ngazi ya kitaifa. Mikoa ilipata wastani wa asilimia 98.6 kwa ukamilifu (yaani, asilimia ya wilaya zinazotoa ripoti kamili kwa ngazi ya kitaifa) na asilimia 97.0 kwa wakati unaofaa (ufanisi) (kwa mfano, asilimia ya wilaya zinazoripoti kwa wakati kwa ngazi ya kitaifa). Wasitani wa ukamilifu na ufanisi vilifika lengo la kitaifa la zaidi ya asilimia 80 ($>$ asilimia 80). Katika kipindi cha miezi 3, jumla ya visa 415,024 na vifo 192 viliripotiwa kwa magonjwa yote ya IDSR. Ugonjwa ulioripotiwa zaidi ni kuhara ($n = 204,884$, asilimia 49.4).

Kung'atwa na wanyama, kuhara, homa ya mapafu, homa ya matumbo (typhoid) na ugonjwa wa kupooza kwa ghafla

(Acute Flaccid Paralysis) ni magonjwa yaliyoripotiwa katika mikoa yote 26. Visa vingi ($n = 141,961$, asilimia 36.6) viliripotiwa katika mwezi wa Septemba. Kati ya vifo 192 vilivyoripotiwa, visa vingi vilisababishwa na maabukizi makali ya njia ya kupumua (Severe Acute Respiratory Infection) ($n = 186$, asilimia 96.9). Ugonjwa uliokuwa na kiwango cha juu cha vifo ilikuwa ni homa wa uti wa mgongo (Cerebrospinal Meningitis). Kati ya visa 13 vilivyoshukiwa kuwa na homa ya uti wa mgongo, 5 walikufa (CFR = asilimia 38.5).

Hitimisho: Utendaji wa mikoa, kulingana na ukamilifu na ufanisi, umeboreka sana. Wastani wa ukamilifu na ufanisi ulifikia kiwango cha kitaifa cha asilimia 80 au zaidi (≥ 80), ambayo inaonyesha kwamba MoH inaboresha katika unasaji wa takwimu, kugundua mapema, na kutoa taarifa ambayo inatoa mwongozo wa utekelezaji wa haraka wa kudhibiti na kuzuia milipuko ya magonjwa.

Hata hivyo kuna umhimu kwa Serikali kuimarisha hatua za kinga kwa ugonjwa wa kuhara na homa ya mapafu, ambapo ndiyo yalikuwa miongoni mwa magonjwa yaliyoongoza kuwa na visa vingi.

Improving Infection Prevention and Control practices in Referral Hospitals in Tanzania: A Seven Months Implementation Report (June-December 2021)

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SUMMARY

Background: Implementation of Infection Prevention and Control (IPC) guidelines and standards in hospitals in Tanzania is still inadequate regardless of ongoing IPC capacity building initiatives. This continues to challenge quality of healthcare service provision as poor IPC implementation fuel Health care associated infections (HAIs) and Antimicrobial Resistance (AMR) problems. Study aimed to describe implementation of IPC practices in Referral Hospitals between June and December, 2021.

Methods: In order to improve the situation, the Ministry used a multimodal approach which comprised the following: dissemination of guidelines, standards and tools; training of Health Care Workers (HCWs) using both basic and comprehensive training package; mentorship; assessment using Standard Based Management and Recognition (SBMR) tools to enable monitoring of performance trend. Also, Quality Improvement Focal Persons (QIFPs) and IPC Focal Persons (IPCFFPs) were capacitated to enable them to conduct: in-hospital trainings; internal supportive supervision and mentorship; and monitoring and evaluation. A protocol for Healthcare-Associated Infections (HAIs) Surveillance has been developed, disseminated and implementation had started.

Results: The report presented a seven months implementation (June – December, 2021) in which “assessment and mentorship” was conducted to 37 referral hospitals, which include: 28 Regional Referral Hospitals (RRHs), 4 Zonal Referral Hospitals and 5 Special Hospitals. The scores for RRHs ranged from 24% to 72%. For Zonal Referral Hospitals, the scores ranged from 31% to 71%; while for Special Hospitals, the scores ranged from 28% to 59%. “Training and dissemination” activities implemented include: comprehensive training to special hospitals including Military, Prison and Police Facilities; dissemination of HAIs Surveillance Protocol; comprehensive training on IPC; and training on IPC Monitoring and Evaluation Tools to 40 HCWs from Zonal and RRHs from 22 hospitals.

Conclusion: Implementation of IPC practices in 37-referral hospitals in Tanzania was inadequate. The average performance of all hospitals was 47% whereas the lowest score was 24% and highest score was 72%. We recommend all the HFs to strengthen implementation of IPC practices so that to reach required target of at least 80% score for each Hospital. This will enhance reduction of the HAIs and AMR burden as well as frontline HCWs will be ready to respond against emerging and re-emerging diseases.

BACKGROUND

Infection Prevention and Control (IPC) is a scientific approach designed to minimize infections to healthcare workers, patients and community. This approach is required to be applied by all health facilities and all healthcare workers [1]. Poor IPC implementation fuel health care associated infections (HAIs) [1]; and antimicrobial resistance (AMR) threat which increases burden of mortality and morbidity, this may result to Government and individual health care cost elevation [2]. Also, poor implementation of IPC practices has been shown to predispose healthcare workers to emerging and re-emerging diseases including coronavirus disease of 2019 (COVID -19) [3].

For the past decade implementation of IPC guidelines and standards in hospitals in Tanzania have been shown to be inadequate [4]. The Ministry revised the National IPC Guidelines in 2018 and the IPC standards in 2020 and currently, efforts are ongoing countrywide to disseminate, train and monitor their

implementation at all levels [5]. This paper presents a seven months implementation report from June to December 2021 covering implementation in referral hospitals which include Regional Referral Hospitals (RRHs), Zonal Referral Hospitals, and Special Hospitals. The report describes improvement approach; implemented activities and results of the IPC assessment using Standard Based Management and Recognition (SBMR) approach [5].

IPC IMPROVEMENT APPROACH

Tanzania is using multimodal approach which is comprised of the following: dissemination of guidelines, standards and tools; training of health care workers (HCWs) using both basic and comprehensive package; mentorship; assessment using SBMR tools to enable monitoring of performance trend. Also, Quality Improvement Focal Persons (QIFPs) and IPC Focal Persons (IPCFFPs) were capacitated to enable them to conduct: in-hospital trainings; internal supportive supervision/mentorship; and

monitoring and evaluation. Given, the importance of “surveillance Healthcare-Associated Infections (HAIs)” as one of the eight core components of IPC programs [6], the Ministry has developed and disseminated HAIs Surveillance Protocol.

IMPLEMENTED ACTIVITIES FROM JUNE TO DECEMBER 2021

Implemented activities were mainly in two categories of: assessment and/or mentorship; and training and dissemination. Under “assessment and/or mentorship”: from June to December 2021, it was conducted to 37 referral hospitals which include: 28 Regional Referral Hospitals (RRHs), 4 Zonal Referral Hospitals and 5 Special Hospitals. SBMR scores were calculated by dividing

the total number of standards achieved to the total number of standards required to be met by facility level and multiply the results by 100.

The SBMR scores and number of HCWs mentored are shown in Table 1 (for RRHs) and Table 2 (for Zonal Referral and Special Hospitals). The lowest score for RRHs was 24% (for Tumbi RRH) and the highest score was 72% (for Morogoro RRH). For Zonal Referral Hospitals, the scores ranged from 31% for Bugando Medical Centre to 71% for Benjamin Mkapa Hospital; while for the Special Hospitals, the scores ranged from 35% for Mirembe Mental Health Hospital to 59% for Jakaya Kikwete Cardiac Institute (JKCI).

Table 1: Results of Standard Based Management and Recognition for the 28 Regional Referral Hospitals

IPC ASSESSMENT RESULTS REGIONAL REFERRAL HOSPITALS 2021					
SN	RRH	HCWs Mentored	Score SBMR	Date	Funder
1	Sekou Toure RRH	35	46%	Between 07 th – 25 th June 2021	MSH-MTaPS
2	Temeke RRH	64	42%		
3	Amana RRH	63	41%		
4	Morogoro RRH	20	72%		
5	Mbeya RRH	24	31%		
6	Bukoba RRH	55	54%		
7	Maweni RRH	39	49%		
8	Iringa RRH	No mentorship, as they were part of the implementation aiming at “testing the role of competition” [2]	71%	Between 21 st June and 03 rd July, 2021	CRS
9	Vwawa		53%		
10	Njombe RRH		43%		
11	Singida RRH	36	54%	Between 2 nd and 15 th August, 2021	CDC – MoH CoAg
12	Sokoine RRH	35	39%		
13	Mwananyamala RRH	64	39%	August / September 2021	Global Fund
14	Tumbi RRH	104	24%		
15	Sumbawanga RRH	33	58%		
16	Katavi RRH	47	44%		
17	Musoma RRH	59	41%		
18	Manyara RRH	26	60%		
19	Tabora RRH	36	58%		
20	Simiyu RRH	33	46%		
21	Shinyanga RRH	20	50%		
22	Dodoma RRH	60	60%		
23	Ruvuma RRH	82	39%	26 Sept- 24 October 2021	
24	Ligula RRH	48	55%		
25	Tanga (Bombo) RRH	201	26%		
26	Mawenzi RRH	74	35%		
27	Mount Meru RRH	57	65%		
28	Geita RRH	107	46%	29 Nov-03 Dec 2021	OC – MoH (HQUA)

RRH-Regional Referral Hospital; HCW-Health Care Workers; OC-Other Charges

Table 2: Results of Standard Based Management and Recognition for the Zonal and Special Hospitals

IPC ASSESSMENT RESULTS ZONAL AND SPECIAL HOSPITALS 2021					
SN	Name of Zonal / Special Hospital	HCWs Mentored	Score SBMR	Date	Funder
1	Benjamin Mkapa (Zonal)	20	71%	Between 07 th and 25 th June, 2021	MSH-MTaPS
2	Bugando Medical Centre (Zonal)	26	31%		
3	Mbeya Zonal Referral	101	54%		
4	Kibong'oto Infectious Diseases Hospital (Special)	27	46%	August / September, 2021	Global Fund
5	Mirembe Mental Health Hospital (Special)	131	35%	26 th September - 24 th October 2021	
6	KCMC (Zonal)	123	41%		
7	Ocean Road Cancer Institute (Special)	59	28%		
8	Muhimbili Orthopaedic Institute (Special)	76	57%		
9	JKCI (Special)	35	59%		

KCMC = Kilimanjaro Christian Medical Centre; JKCI = Jakaya Kikwete Cardiac Institute

Training and dissemination activities included: comprehensive training to special hospitals including Military, Prison and Police Facilities; dissemination of HAIs Surveillance Protocol; comprehensive training to Kitete RRH using their own funds and Tanga RRH with funding support from GIZ; and training on IPC Monitoring and Evaluation Tools, as follows:

- » Training on IPC Monitoring and Evaluation Tools to 40 HCWs from Zonal and RRHs from 14 Regions namely Dodoma, Mtwara, Tabora, Morogoro, Mara, Mbeya, Dar es Salaam, Kigoma, Ruvuma, Kagera, Mwanza, Katavi, Njombe and Kilimanjaro regions. This activity was conducted from 11 to 15 October 2021 at Dar es Salaam through the support from MSH – MTaPS Project.
- » Monitoring of implementation of IPC Guidelines at Maweni RRH on 08 – 09 November, 2021 (as part of follow-up to hospitals that are supported by MSH-MTaPS Project).
- » IPC comprehensive training to 111 HCWs from Kitete RRH (Tabora) through the support from Kitete RRH own source of funds from 29th November to 06th December 2021.
- » PC comprehensive training to 77 HCWs from 15 Hospitals, i.e., Specialized Hospitals (Mirembe, JKCI, Ocean Road, Kibong'oto, MOI and Mzena Hospital); National and Zonal Hospitals (KCMC, Mloganzila, and MNH); Military Hospitals (Mbeya Zonal Military Hospital, Lugalo Hospital, Tabora Military Hospital and Navi Hospital); and Police / Magereza Hospitals (Kilwa Road Police Hospital, Magereza Ukonga – Hospital). Training was conducted at Dodoma and Dar es Salaam with funding support from MSH - MTaPS Project on 06 - 09 December, 2021.
- » Dissemination of HAIs Surveillance Protocol to 119 HCWs from 37 Hospitals (i.e., 28 RRHs, 6 Special Hospitals, 3 Zonal and 1 National Hospital) through the support from Global Fund on 12th-18th December 2021.

CONCLUSION

Results of the assessment of IPC practices using SBMR tool

in the 37 referral hospitals has shown that IPC implementation is adequate. This may predispose patient and HCWs to HAIs and facilitate transmission of resistant organisms to antimicrobials. We hope that the mentored HCWs as well as those who received comprehensive training will be able to further strengthen IPC practices in their hospitals. Also, the Ministry will strengthen HAIs surveillance through further dissemination of and training on the HAIs Surveillance Protocol. Furthermore, IPC Monitoring and Evaluation will be strengthened through the use of online tools, whose dissemination and use has already started.

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MUHTASARI

Uboreshaji wa Afua za Kuinga na Kudhibiti Maambukizo katika Hospitali za Rufaa nchini Tanzania: Taarifa ya Utekelezaji ya Miezi Saba (Juni-Desemba 2021)

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Usuli: Utekelezaji wa miongozo na viwango vya Kuinga na Kudhibiti Maambukizo (IPC) katika hospitali nchini Tanzania bado hautoshi licha ya mipango inayoendelea ya kuwajengea uwezo Watoa Huduma za Afya katika eneo la Kuinga na Kudhibiti Maambukizo. Hali hii inaendelea kutoa changamoto katika ubora wa utoaji wa huduma za afya nchini. Utekelezaji duni wa miongozo na viwango vya Kuinga na Kudhibiti Maambukizo unachangia kuongezeka kwa Maambukizi yanayotokana na utoaji wa Huduma za Afya (HAIs) na Matatizo ya Usugu wa Vimelea Dhidi ya Dawa (AMR). Hivyo, utafiti huu unalenga kuelezea utekelezaji wa afua za Kuinga na Kudhibiti Maambukizo katika Hospitali za Rufaa, Tanzania kuanzia mwezi Juni hadi Desemba 2021

Mbinu: Wizara ya Afya, imeendelea kutumia mbinu jumuishi kukabiliana na changamoto zilizopo, ambazo ni: usambazaji wa miongozo, viwango na nyenzo; mafunzo kwa watoa huduma za afya (HCWs) kwa kutumia mfumo wa mafunzo ya msingi na ya kina; mafunzo maalum (mentorship); kufanya tathmini kwa kutumia nyenzo ya Menejimenti inayozingatia Viwango na Utambuzi wa utendaji bora (SBMR) ili kuwezesha ufuatiliaji wa mwenendo wa utendaji. Pia, Waratibu wa Uimarishaji Ubora (QIFPs) na Waratibu wa Kuinga na Kudhibiti Maambukizo (IPCFPs) wamejengewa uwezo ili kuwawezesha: kuendesha mafunzo katika hospitali zao; kufanya usimamizi shirikishi wa ndani; na ufuatiliaji na tathmini. Pia, kuandaa na kusambaza protokali na nyenzo za Ufuatiliaji wa Maambukizi Yatokanayo na utoaji wa Huduma za Afya (HAIs) ambapo utekelezaji umeanza.

Matokeo: Taarifa hii imeangazia matokeo yaliyobainika katika utekelezaji wa Mpango wa Kuinga na Kudhibiti maambukizo nchini katika kipindi cha miezi saba (Juni – Desemba, 2021). Tathmini na mafunzo maalumu (mentorship) ilifanyika kwa hospitali 37 za rufaa, ambazo ni pamoja na: Hospitali za Rufaa za Mikoa (RRHs) 28, Hospitali 4 za Rufaa za Kanda na Hospitali Maalum 5. Alama za mafaniko ya utekelezaji wa Hospitali za Rufaa za Mikoa zilianzia asilimia 24 hadi asilimia 72. Kwa Hospitali za Rufaa za Kanda, alama za mafaniko ya utekelezaji zilianzia asilimia 31 hadi asilimia 71; wakati kwa Hospitali Maalum, alama za mafaniko ya utekelezaji zilianzia asilimia 28 hadi asilimia 59. Shughuli za “mafunzo na usambazaji” zilizotekelezwa ni pamoja na: mafunzo ya kina kwa hospitali maalum ikiwa ni pamoja na

hospitali za Jeshi, Magereza na Polisi; usambazaji wa Protokali ya Ufuatiliaji wa Maambukizi yatokanayo na utoaji wa Huduma za Afya; mafunzo ya kina kwa Hospitali ya Rufaa ya Mkoa wa Tabora (Kitete) (kwa kutumia fedha zao wenyewe); na mafunzo juu ya kutumia rasimu ya Ufuatiliaji na Tathmini ya Kuinga na Kudhibiti Maambukizi kwa watoa huduma za afya 40 kutoka Hospitali za Kanda na Hospitali za Rufaa za hospitali 22.

Hitimisho: Utekelezaji wa afua za Kuinga na Kudhibiti Maambukizo katika hospitali 37 za rufaa bado hauridhishi. Wastani wa utendaji wa hospitali zote ulikuwa asilimia 47 ambapo alama za mafaniko ya utekelezaji za chini zaidi zilikuwa asilimia 24 na alama za juu zaidi zilikuwa asilimia 72. Tunapendekeza vituo vyote vya kutolea Huduma za Afya kuimarisha utekelezaji wa afua za Kuinga na Kudhibiti Maambukizo ili kufikia lengo linalohitajika la angalau asilimia 80 kwa kila Hospitali. Hii itasaidia kupunguza tatizo la maambukizi yanayotokana na utoaji wa Huduma za Afya (HAIs) na usugu wa vimelea dhidi ya dawa. Pia, maboresho haya yataongeza uwezo na ari ya Watoa Huduma za Afya katika kujitayarisha na kukabiliana na magonjwa ya kuambukiza; yawe mapya au yanayoibuka tena.

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Predictors Influencing Uptake of Cervical Cancer Screening Among Women of Reproductive Age in Mara Region

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ABSTRACT

Introduction: Despite the national target of 80% cervical cancer screening for all women from 30 to 50 years old by 2020, Mara Region screened only 4% of all eligible women in a year. Regarding these reasons, client-based factors for low uptakes of cervical cancer screening were investigated and reported in present paper.

Methodology: This cross-sectional study included 296 randomly selected women of reproductive age, 18-49 years, from three district councils in Mara region. Data on uptake of cervical cancer screening were generated through an interviewer-administered questionnaire. Health Belief Model and self-determination theory were used to guide the study. Descriptive analysis was employed to establish the status of uptake of cervical cancer screening. Likewise, bivariate and multivariate logistic regression models were used to establish predictors of cervical cancer screening uptake.

Results: This study found that, 68.2% (n=202) of all respondents were not screened for cervical cancer. The multivariate logistic regression by adjusting for confounders, indicate that awareness, marital status and occupation were associated with cervical cancer screening. The odds of cervical cancer screening were low among those unaware compared to those aware [Unaware (Adjusted Odds Ratio (AOR)=0.52 (95%CI: 0.31-0.88), p=0.01)], being married compared with single [married AOR=0.51 (95%CI: 0.28-0.91, p=0.02)] and being employed compared with not employed [employed (AOR=0.16 (95%CI: 0.04-0.68), p=0.01) were significantly associated with cervical cancer screening uptake

Conclusions: Cervical cancer screening uptake in Mara region was found to be very low, whereby those women who were not aware, married and employed were less likely to participate in cervical cancer screening, suggesting introduction of integrated health education to create awareness among the population.

Key words: cervical cancer, screening uptake, women of reproductive age, Mara region

INTRODUCTION

Cervical cancer is a malignant lesion which affects the cervix uteri [1]. Globally, it is estimated that about 570,000 new cases are detected and 273,000 deaths due to cervical cancer occur worldwide each year [2]. Most of these deaths occurred in low and middle-income countries [2].

Statistics show that 16 out of 20 Sub-Saharan African countries (SSA) suffer acute problems of cervical cancer [3]. Approximately, 80% records of cancer and 85% of mortality are a result of cervical cancer that occurs in SSA [4,5] country and the human development index. The 5-year global cancer prevalence is estimated to be 28.8 million in 2008. Close to half of the prevalence burden is in areas of very high human development that comprise only one-sixth of the world's population. Breast cancer continues to be the most prevalent cancer in the vast majority of countries globally; cervix cancer is the most prevalent cancer in much of Sub-Saharan Africa and Southern Asia and prostate cancer dominates in North America, Oceania and Northern and Western Europe. Stomach cancer is the most prevalent cancer in Eastern Asia (including China). East Africa has the highest number of deaths related to cervical cancer worldwide [6]. The region

accounts for 42.7 cases per 100,000 women [7]. Tanzania is 2nd in the region with the age-standardized incidence rate (ASR) of 54.9 per 100,000 women after Kenya, which has 40.1 per 100,000 [7].

Currently, about 9,772 new cases are diagnosed in Tanzania each year and nearly 7,000 women die each year due to cervical cancer [6]. Risk factors for cervical cancer are sexual intercourse at a young age, high parity, multiple sexual partners, and co-infection with HIV [6].

The World Health Organization (WHO) urges all sub-Saharan African countries to perform VIA approach for cervical cancer screening among women of reproductive age (WRA), to ensure timely detection of precancerous signs and symptoms of cervical cancer for timely treatment [8]. VIA is an attractive alternative to cytology-based screening in low and middle income countries, like Tanzania [8]. In Tanzania, cervical screening services are provided from all hospitals, health centers and some selected dispensaries, where healthcare providers are trained and capacity strengthened to offer the service [9].

Several studies appreciated that majority of the women get screened when healthcare providers encouraged them. Very few visit health facilities for cervical cancer screening. However,

some WRA fail to access the service because of many factors; one being lack of knowledge to the appropriate method, place and its availability of the service [13]. Being aware of the service is also a crucial predictors to cervical screening services utilization [11]. Other factors include sociodemographic and reproductive related variables such as residence, education, number of children the woman has [14,15] and working status of the woman (employed or not employed) [16,17]. Individual behavior towards taking healthy desired actions is another possible factor regarding uptake of cervical cancer screening [18,19].

Healthy behaviors can be explained by the use of theories and models. The Health Belief Model (HBM) is one such theory that has served as one of the most widely used models for examining health-related behavior. The main components of the HBM are perceived susceptibility, perceived severity, perceived benefits, perceived barriers, and cues to action. According to this model, perceived susceptibility is an indicator to individual ability to taking the desired behavior such as undertaking a cervical cancer screening using VIA [20]. The HBM suggests that the perception of an individual health behavior, threat is influenced by at least three elements; general health values, which include interest and concern about health; specific health beliefs about vulnerability to a particular health threat; and beliefs about the consequences of the health problem. If an individual perceives a threat to their health, is consecutively cued to action, and their perceived benefits outweigh the perceived barriers, then they are likely to undertake the recommended preventive health action [20].

The Health Sector Strategic Plan 2015 – 2020 (HSSP IV) documented that by 2020, 80% of women between 30 and 50 years should be screened for cervical cancer, in Tanzania [9]. However, despite government efforts and commitments, the uptake of cervical cancer screening in Mara region remained low. Therefore, the aims of using Health Belief Model (HBM) in this study was to determine predictors influencing uptake of cervical cancer screening among women of reproductive age in Mara region.

METHODOLOGY

The Study Area

This study was conducted in rural and urban areas of Mara region. The region is among 26 regions of Tanzania Mainland. It has 30,150 square kilometers and an estimated population of 1,743,830 of which 840,020 (48.2%) are male and 903,810 female (51.8%) (21). A total of 515,596 (57.0%) are women of reproductive age [9].

Design and Study population

This was a cross-sectional study that included all women of the reproductive age, between 18-49 years, attending the Reproductive and Child Health (RCH) clinic in Mara Region between April and

July 2020. Three district councils, among seven were selected by using simple randomly sampling method. One district hospital, one health center, and one health dispensary were randomly selected from each of the three district councils. A total of 9 health facilities was selected.

Data Collection Procedures

This study used a structured questionnaire to obtain information regarding the factors influencing uptake of cervical cancer screening among women of reproductive age attending the RCH clinics in the Mara region. This included demographic information about level of education, occupation, marital status and residence. Other questions covered issues related to health seeking behaviours, reproduction (parity) knowledge about cervical cancer and about cervical cancer screening. Research assistants were recruited and oriented about the aim and objectives of the study as well as ethical issues related to data collection procedures. Data collection tools were pretested and piloted for validation purposes. The pilot survey was conducted in a community with similar characteristics to the study area. The questionnaire was written in English and translated into Kiswahili, the national language and back translated into English. The Kiswahili version was checked for accuracy and preservation of meanings. The information collected were discussed and used to improve the questionnaire.

Data Analysis and Management

Questionnaires were checked for completeness. The available data were cleaned, validated, and analyzed using Statistical Package for Social Science (SPSS) Version 20. The outcome variable was cervical cancer screening. Cervical cancer screening was measured in terms whether respondents underwent any cervical cancer-screening test ever. Explanatory variables including: age, place of residence, marital status, parity, knowledge about cervical cancer and cervical cancer screening. Chi-square tests were used to determine the relationship between the independent variable and dependent variables. Values with p-value of less than 0.05 are considered statistically significant for this study. Then explanatory variables (factors) which odds ratio (OR) p-values were less than 0.05 during the Chi-square tests were included in the binary logistic regression model to adjust for confounding variables that could bias or in one-way influence the outcome. The adjustment aimed at determining the likelihood predictors (adjusted odds ratio, AOR) that were independently associated with low uptake of screening services. Odds ratio were reported with accompanying 95% confidence intervals

Ethical Consideration

The study received ethical approval from the University of Dodoma. Regional and district administrative and health authorities endorsed the study objectives and methodology. Written informed consent was obtained from each participant prior to interview. Confidentiality was maintained and questionnaires were securely stored.

RESULTS

Socio- Demographic Characteristics

The study included 296 women of reproductive age. The majority (n=158, 53.4%) of respondents were aged 20-29 years old, married (n=193, 65.2%) and living in rural areas (n=169, 57.1%). Other demographic characteristics of participants are as presented in Table 1.

Table 1: Social Demographic characteristics of respondents (n=296)

Socio-demographic Characteristics	Frequency (n)	Percentage (%)
Age group		
<20	11	3.7
20-29	158	53.4
30+	127	42.9
Marital status		
Single	103	34.8
Married	193	65.2
Residence		
Rural	169	57.1
Urban	127	42.9
Religion		
Christian	223	75.3
Muslim	41	13.9
Pagan	32	10.8
Education		
Informal education	72	24.3
Primary education	131	44.3
Secondary education	93	31.4
Occupation		
Employed	10	3.4

Socio-demographic Characteristics	Frequency (n)	Percentage (%)
Unemployed	286	96.6
Parity		
Null parity	27	9.1
1-4	82	27.7
>5	187	63.2

Uptake of Cervical Cancer Screening

The figure below presents the uptake of cervical cancer screening among women of reproductive age. Majority of respondents had not screened for cervical cancer (n=202, 68.2%).

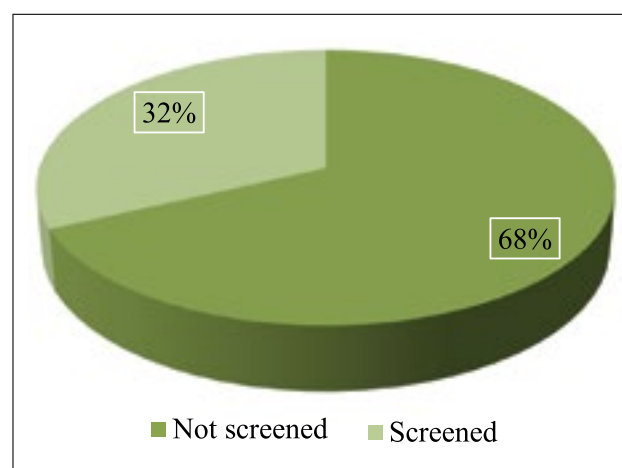


Figure: Women uptake of cervical cancer screening [you add information on age group, level of education, occupation, residence and marital status]

Association of explanatory variables with uptake of cervical cancer screening among women of reproductive age

Univariate analysis indicated that age group, marital status, parity, awareness and occupation to be associated with seeking screening for cervical cancer (data not shown). However, after controlling of confounders through binary regression model, those women who were not aware, married and employed were less likely to participate in cervical cancer screening. Not aware of cervical cancer and cervical cancer screening (48%) [AOR=0.52, (95% CI:0.31-0.88), p=0.01] had 0.52 lower odds of having screened for cervical cancer compared to those aware. Those women who were married (50%) [AOR=0.51, (95%CI: 0.28-0.91), p=0.02] had 0.51 lower odds of having screened for cervical cancer than single women. Employed women (84%) [AOR=0.16 (95%CI: 0.034-0.68), p=0.01] had 0.16 lower odds of having ever screened compared to unemployed women. Predictors of uptake of cervical cancer screening among women of reproductive age are as shown in Table 2.

Table 2: Predictors of uptake of cervical cancer screening (n=296)

Predictor	OR	95% CI		p-value	AOR	95% CI		p-value
		Lower	Upper			Lower	Upper	
Marital status								
Single (ref)	1				1			
Married	0.494	0.286	0.855	0.012	0.505	0.281	0.907	0.022
Occupation								
Unemployed (ref)	1				1			
Employed	0.187	0.05	0.74	0.01	0.16	0.04	0.68	0.01
Awareness								
Aware (ref)	1				1			
Not aware	2.286	1.39	3.76	0.00	0.52	0.31	0.88	0.01
Age								
<20(ref)					1			
20-29	0.30	0.04	2.38	0.01	0.48	0.56	4.14	0.50
>30	0.140	0.02	1.12		0.24	0.27	2.15	0.20
Parity								
Null Para (ref)	1				1			
1-4	0.75	0.25	2.26	0.02	1.11	0.35	3.57	0.86
>=5	0.38	0.14	0.05		0.77	0.25	2.33	0.64
Residence								
Rural (ref)	1				1			
Urban	1.32	0.80	2.18	0.28	1.08	0.63	1.85	0.79
Knowledgeable (ref)								
Less Knowledgeable	0.73	0.45	1.20	0.21	1.32	0.78	2.25	0.31
Perceived susceptibility								
Low (ref)	1				1			
High	0.91	0.55	1.53	0.73	0.96	0.55	1.65	0.87
Perceived related								
Low (ref)	1				1			
High	1.849	1.128	3.032	2.055	1.560	0.888	2.742	0.122

DISCUSSION

The current study adapted Health Belief Model (HBM) to determine predictors influencing uptake of cervical cancer screening among women of reproductive age in Mara region. It was revealed that only less than a half (32%) of the study participants could access cervical screening services in Mara region. Other key findings include not being aware of cervical cancer and cervical cancer screening, being in marriage and being employed were the predictors of low cervical cancer screening uptake. However, none of the HBM variables adapted in this study were significantly associated with uptake of cervical cancer screening.

The observed low uptake of cervical screening among women of reproductive age in our study was relatively higher than the findings of a study done in Kenya, which reported a prevalence of 19% (12). The observed difference between our study and that conducted in Kenya could be due to approach used to reach more women; requesting them to get screened, while for our case, they came voluntarily. Other possible reasons might be due to study areas' variations; as our study was conducted in both rural and urban while the study in Kenya was conducted only in urban areas only. The other difference was on the study population in which our study involved women of reproductive age between 18 and 49 years, while that of Kenya involved women who were on ARVS treatments. According to a study conducted in Uganda, the prevalence was extremely low (4.8%) which was almost 7 times lower than the one reported in our study which was contributed by challenges related to healthcare providers behavior and individual perceptions regarding cervical cancer screening [11]. However, the findings of the current study were contrary to that revealed from the study conducted in Nigeria among female students which reported prevalence of 67% [13]. The observed difference could be related to social demographic differences, as other studies documented that education level and marriage could affect the uptake of cervical cancer screening [14,15] cervical cancer is a leading cause of morbidity and mortality among women diagnosed with cancer. In this study, we describe the burden of risk factors for cervical cancer among women of reproductive age in five East African countries. Regarding socio-demographic characteristics of participants, our study revealed that marital status and occupation of women significantly influenced uptake of cervical cancer screening in the study area. For example, married women were less likely to have adequate uptake of cervical cancer screening compared to their counterparts. The findings of our study was not in line with findings reported in the study conducted in Jordan, which showed a positive association between being in marriage, where a married woman was five time more likely to have adequate uptake of cervical cancer screening [10]. However, the observed disparity might be due to analysis modal dissimilar. The current study employed multiple regression analysis (AOR), while the quoted study ended at univariate analysis (OR), to determine the association. We noted that being employed reduced the Odds of cervical cancer screening uptake. Our findings differ significantly with other studies. According to a study conducted

elsewhere in Ethiopia, those women with low monthly pay were less likely to undergo cervical cancer screening [16]. Another contradictory finding was observed in a study from the same country, which appreciated that employed women were more than three times likely to attend cervical cancer screening services with ease compared to those who were not [17]. The differences observed might be associated with socio-demographic characteristics of the participants involved and geographical dissimilarity.

We also found that being not aware with cervical cancer screening services reduced the chances of getting screened. Similar to our findings, the study conducted by Ndejjo and colleagues [11] inadequate access to effective screening for cervical cancer often contributes to the high morbidity and mortality caused by the disease. The largest burden of this falls mostly on underserved populations in rural areas, where health care access is characterized by transport challenges, ill equipped health facilities, and lack of information access. This study assessed uptake of cervical cancer screening and associated factors among women in rural Uganda.

METHODS: This descriptive cross sectional study was carried out in Bugiri and Mayuge districts in eastern Uganda and utilised quantitative data collection methods. Data were collected using a semi-structured questionnaire on cervical cancer screening among females aged between 25 and 49 years who had spent six or more months in the area. Data were entered in Epidata 3.02 and analysed in STATA 12.0 statistical software. Univariate, bivariate and multivariate analyses were performed.

RESULTS: Of the 900 women, only 43 (4.8%) in rural Uganda, revealed that, those women who were aware of the place where

cervical screening conducted, had the increased odds of getting screened contrary to those who were not. Being knowledgeable about cervical cancer screening also increases the probability of getting screened, with reference to a study conducted in Ethiopia [17].

CONCLUSIONS

This study observed that cervical cancer screening uptake in Mara region was low. Factors attributed to low rate of uptake were level of knowledge which might be associated with negative perception of cervical cancer as incurable. It was also found that marital status, occupation of the women and awareness was significantly associated with the low uptake of cervical cancer screening in the region. Therefore, basing on these findings, integrated initiatives should be designed and implemented to increase community awareness with special program to women of reproductive age regarding cervical cancer screening with the aim of unblocking the predictors that negatively affect the uptake of screening practices.

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AUTHORS DETAILS

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MUHTASARI

Viashiria Vinavyoweza Kuathiri Utumiaji wa Huduma za Uchunguzi wa Saratani ya Mlango wa Shingo ya Kizazi kwa Wanawake Walio Katika Umri wa Kuzaa Mkoani Mara

Monica Julius^{1*} and Fabiola Vincent Moshi¹

UTANGULIZI: Licha ya lengo la kitaifa la kupima saratani ya mlango wa shingo ya kizazi kwa asilimia 80 kwa wanawake wote wenye umri wa kuanzia miaka 30 hadi 50 ifikapo mwaka 2020, Mkoa wa Mara ulipima asilimia 4 pekee ya wanawake wote wanaostahili kwa kipindi cha mwaka. Kuhusiana na sababu hizi, makala hii inatoa taarifa ya utafiti wa sababu za msingi za mteja zinazosababisha kuwa na matumizi ya kiwango cha chini cha uchunguzi wa saratani ya shingo ya kizazi.

MBINU: Utafiti huu ulijumuisha wanawake 296 wenye umri wa kuzaa, miaka 18-49, kutoka halmashauri tatu za wilaya mkoani

Mara. Takwimu juu ya matumizi ya huduma ya uchunguzi wa saratani ya mlango wa shingo ya kizazi zilipatika kupitia dodoso kwa njia ya usaili. Ili kupata takwimu, njia ya kuelezea na kubaini mabadiliko ya tabia za watu kuhusiana na maamuzi ya huduma za afya (Health Belief Model) na nadharia ya mtu kujiamulia mambo mwenyewe ilitumika katika utafiti huu. Uchambuzi wa takwimu ulitumika ili kubaini hali ya utumiaji wa huduma ya uchunguzi wa saratani ya mlango wa shingo ya kizazi. Vivyo hivyo, uchambuzi wa kina ulifanyika ili kubaini viashiria vinavyoweza kuathiri utumiaji wa huduma za saratani ya mlango wa shingo ya kizazi.

MATOKEO: Utafiti huu uligundua kuwa, (n=202) asilimia 68.2 ya washiriki wote hawakuchunguzwa saratani ya mlango

wa shingo ya kizazi. Uchambuzi wa kina ambao ulidhibiti hali ambayo inaweza kuathiri uwiano halisi wa uhusiano wa viashiria, unaonyesha kuwa ufahamu, hali ya ndoa na kuwa mfanyakazi zilihusishwa na uchunguzi wa saratani ya kizazi. Hii ina maana kuwa wa uchunguzi wa saratani ya mlango wa shingo ya kizazi ulikuwa mdogo miongoni mwa wanawake wasiojua juu ya ugonjwa wa saratani ya mlango wa shingo ya kizazi ikilinganishwa na wale wanaofahamu [wasiojua (uwiano wa uhusiano uliorekebishwa, Adjusted Odds Ratio (AOR))=0.52 (95%CI: 0.31-0.88), p=0.01], kuwa mwanamke aliyeolewa ikilinganishwa na wale wasio olewa [walioolewa AOR =0.51 (95%CI: 0.28-0.91, p=0.02)] na kuajiriwa ikilinganishwa na wanawake wasioajiriwa [walioajiriwa (AOR)=0.16 (95%CI: 0.04-0.68), p=0.01] zilihusishwa kwa kiasi kikubwa na matatumizi ya huduma ya uchunguzi wa saratani ya mlango wa shingo ya kizazi.

HITIMISHO: Upimaji wa saratani ya mlango wa shingo ya kizazi mkoani Mara umeonekana kuwa katika kiwango cha chini sana, ambapo wale wanawake ambao hawakuwa na ufahamu, walioolewa na kuajiriwa walikuwa na uwezekano mdogo wa kushiriki katika uchunguzi wa saratani ya mlango wa shingo ya kizazi. Hivyo ili kuogezwa idadi ya wanawake kupima saratani ya mlango wa shingo ya kizazi, inapendekezwa kuanzishwa kwa elimu ya afya jumuiishi ili kujenga uelewa kwa wananchi.

MANENO MUHIMU: saratani ya shingo ya kizazi, utumiaji wa huduma ya uchunguzi, wanawake wa umri wa kuzaa, mkoa wa Mara

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Nutrition Status Among Pupils Aged (5 – 19) Years in Public Primary Schools in Mainland Tanzania

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ABSTRACT

Background: Malnutrition in school-age children impacts their health, cognition, and subsequently their educational achievement. This study is the first countrywide survey that provides the benchmark of current nutrition status of school-aged children and adolescents aged between 5 and 19 years. Therefore, this paper reports the prevalence of stunting, thinness, underweight and overweight among school age children and adolescents (5-19) years in public primary schools in mainland Tanzania

Methods: A cross-sectional survey involved 68,147 pupils from 661 schools in all 26 regions and 184 councils of Mainland Tanzania was conducted between August and October 2019. Anthropometric measurements were calculated using World Health Organization (WHO) cut-off points. Anthropometrics are a set of noninvasive, quantitative body measurements used to assess growth, development, and health parameters. In this study we assessed stunting, wasting/thinness, underweight and overweight. Stunting is referred as impaired growth and development with low height for age, while underweight is when weight is low in relation for age; thinness is a state of insufficient flesh on the body, having a body weight less than skeletal and physical standards, and overweight is abnormal or excessive fat accumulation that may impair health. Data analysis was done using STATA® version 14 computer software

Results: Stunting, underweight, thinness and overweight were found to be 25.0%, 11.7%, 11.2%, and 5.1% respectively among surveyed pupils. Stunting was higher among boys (28.4%) than girls (21.6%) and increased with age. Prevalence of underweight was higher in boys (12.8%) than in girls (10.7%). Prevalence of underweight was higher in rural areas (12.6%) than in urban areas (9.6%). Thinness was more common in boys, older children, rural areas, Central zone and Lake Zone. Regions with the highest prevalence of thinness were Singida (21.9%), Manyara (20.8%), and Rukwa (17.4%). Overweight was more common in girls, urban areas and in younger children. There was higher prevalence of overweight among girls, 5.5%, than among boys, 4.6%. Pupils aged 5–9 years had a higher prevalence of overweight (6.6%) compared to other study participants. Pupils living in urban areas were more likely to be overweight (8.5%) compared to their counterparts living in rural settings (3.8%).

Conclusion: There are substantial rates of stunting, thinness, underweight, and overweight in primary schoolchildren in Mainland Tanzania. The results suggest the need for strengthening nutrition interventions to improve nutrition status in public primary school students, in mainland Tanzania.

INTRODUCTION

Malnutrition in children can manifest in more than one form, including stunting, wasting, underweight or overweight. Malnutrition poses numerous challenges to the health status and socioeconomic welfare of the population, particularly in low- and middle-income countries, including Tanzania. Their effects include poor health, school absenteeism and increased drop-out rates, diminished cognitive and physical development, reduced productive capacity, and increased risk of degenerative diseases, such as diabetes [1,2]. Childhood chronic malnutrition affects 150.8 million under fives children globally, out of these children, 58.7 million (30.3%) live in Africa [1].

In 2018, East Africa was ranked the highest among the five sub-regions, namely Northern, Sub-Saharan, Eastern, Middle, Southern and Western Africa; contributing 35.6% of global malnutrition cases [2]. According to the Tanzania National Nutrition Survey (TNNS) 2018 report, the overall rates for

children below five years were 31.8% for stunting, 14.6% for wasting, 3.5% for underweight, and 2.8% for overweight [3, 4] stunting has remained persistently higher and varying between regions. We analyzed Tanzania Demographic and Health Survey (TDHS).

In recent years, Tanzania has made notable progress in reducing forms of malnutrition among children U5, particularly regarding chronic malnutrition or stunting, from 34.0% in 2015 to 31.8% in 2018 [3,5]. Despite progress made in reducing undernutrition, overnutrition particularly overweight and obesity is on the rise in Tanzania [3].

This trend highlights the co-existence of these multiple forms of malnutrition. The Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC), through Nutrition Services Section, the Tanzania Food and Nutrition Centre (TFNC), and other collaborators, conduct national surveys to assess nutritional status in Mainland Tanzania. The most recent

TNNS from 2018 covered children U5 and women of reproductive age (between 15 and 49 years) [3]. The scope of the TNNS falls short in assessing nutrition information among other age groups, particularly school-aged children and adolescents aged between 5 and 19 years. This necessitated Nutrition Services to conduct the study in order to refine focus of nutrition interventions and guide decisions to curb malnutrition in Tanzania. Understanding the current magnitude and distribution patterns of malnutrition in the country is critical to optimally design and implement interventions targeting to address these health challenges. This paper reports the prevalence of stunting, wasting/thinness, underweight and overweight among school age children and adolescents (5-19) years in public primary schools in mainland Tanzania. Stunting is referred as impaired growth and development with low height for age, while underweight is when weight is low in relation for age; thinness is a state of insufficient flesh on the body, having a body weight less than skeletal and physical standards, and overweight is abnormal or excessive fat accumulation that may impair health.

METHODOLOGY

Study area, setting and period: This survey was conducted in all 26 regions and 184 councils of Mainland Tanzania between August and October 2019.

Study design and population: a cross-sectional study was employed in public primary school pupils. The study involved all pupils aged 5 to 19 years from public primary schools.

Sample Size and sampling techniques: 68,174 primary school pupils from 661 schools in all regions and councils were involved in this survey. Stratified sampling was used to select councils. For each council several strata were established based on the stratification variables. One primary school was selected in a single ward from each stratum. Since several administrative wards were scattered around stratum, one ward and a subsequent village/street hosting a school was selected randomly. A three-stage cluster sampling was used to select a representative school and ultimately pupils for the survey. Pupils were selected systematically by using class rosters and considering a 1:1 ratio of girls and boys from standards 1 through 7. Based on proportional allocation to the primary school population size, each school was assigned a specific number of pupils to be sampled.

Data collection methods: Data were collected using a pre-tested structured questionnaire and school identification form. A 4-day orientation workshop for field teams was conducted prior to actual data collection activity. Fieldwork was conducted by National Facilitators, National Supervisors, a regional field team (data collectors), and drivers. Data were collected by 184 field teams, with each team consisting of five people per council.

Data processing and analysis: Data entry was performed by trained Data Entry Clerks who were monitored and guided by Data Entry Supervisors by using Epi-data software version 3.1. Data cleaning was conducted by trained team of statisticians and epidemiologists. Microsoft Excel and STATA version 14-software were used for data cleaning and analysis.

Ethical Considerations: Ethical clearance for conducting this survey was obtained from the National Health Research Ethics Committee, (reference number NIMR/HQR.8a/vol. ix/3171).

RESULTS

Demographic Characteristics

The results revealed that 50.2% of the study participants were girls as presented in Figure 1.

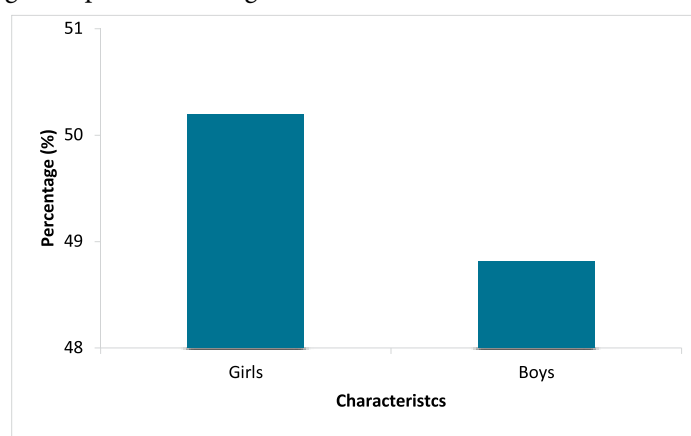


Figure 1: Demographic characteristics of respondents

Nutrition Status

Prevalence of Stunting by sex, age and residence

The results indicated that 25.0% of pupils aged between 5 and 19 years were stunted. Stunting was higher among boys (28.4%) than girls (21.6%). Percentage of stunting increased with age, reflected as 45.8% in pupils aged between 15 and 19 years, compared to the younger counterparts. A higher percentage of stunted children were recorded in rural settings (27.2%) compared with their urban counterparts (19.1%) (Figure 2).

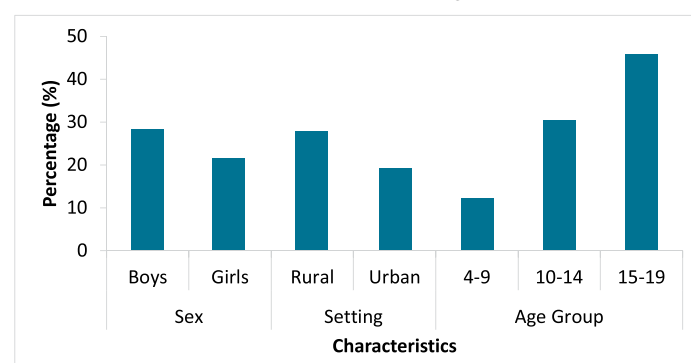


Figure 2: Percentages of stunted pupils aged between 5 and 19 years

Prevalence of Underweight by Sex and Residence

The results indicated that 9.6% children and adolescents aged 5-19 years were moderately underweight, and 2.1% were severely underweight. Prevalence of underweight was higher in boys (12.8%) than in girls (10.7%). Prevalence of underweight was higher in rural areas (12.6%) than in urban areas (9.6%). Underweight prevalence

was higher among those living in the high altitude (13.7%) than those living in the lowland (9.7%; Figure 3).

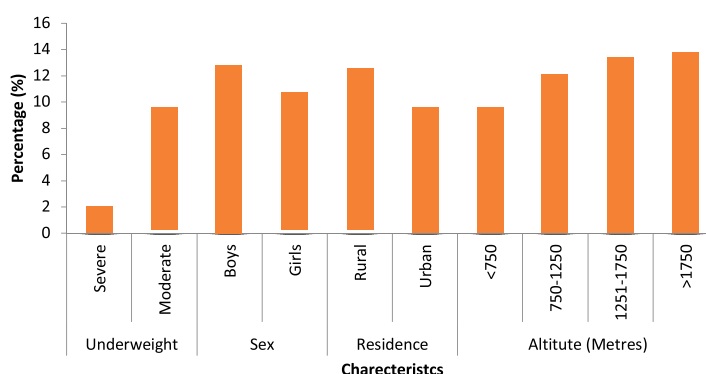


Figure 3: Percentage of underweight children and adolescents aged between 5 and 19 years

Thinness

Findings in the Table illustrates that the prevalence of thinness among pupils aged 5–19 years was 11.2%; 2.4% of the same pupils were severely thin. The prevalence of thinness was higher among older pupils aged 15–19 years (19.6%) as compared to their younger counterparts. The prevalence of thinness was higher among boys (12.5%) compared to girls (9.9%) and it was also higher (12.2%) among pupils in rural areas compared to those who reside in urban area (8.7%). The zones with the highest prevalence of thinness in pupils 5 to 19 years were Central (19.1%), Northern (14.3%), and Lake (12.1%). Regions with the highest prevalence of thinness in pupils aged 5 to 19 years were Singida (21.9%), Manyara (20.8%), and Rukwa (17.4%). Regions with the lowest

prevalence of thinness in pupils aged 5–19 years were Njombe (2.7%), Mbeya (4.3%), and Morogoro (5.7%). (Table).

Overweight and Obesity

The findings revealed that, the prevalence of overweight, body mass index for age z-score (BAZ >1 SD) and obesity (BAZ >2 SD) were 5.1% and 1.1%, respectively, in pupils aged 5–19 years. There was higher prevalence of overweight and obesity among female pupils 5.5% and 1.1%, respectively, than among boys 4.6% and 1.0%, respectively. Pupils aged 5–9 years had higher a prevalence of overweight (6.6%) compared to other study participants. Pupils living in urban areas were more overweight (8.5%) or obese (1.9%) compared to their counterparts living in rural settings (overweight 3.8% and obese 0.7%; Figure 4).

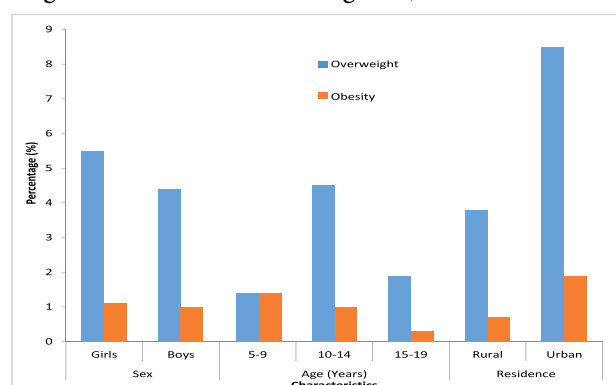


Figure 4: Prevalence of overweight and obese pupils aged between 5 and 19 years

Table 1: Prevalence of obesity and thinness among pupils (5–19 years)

Demographic Characteristics	BMI for Age (%)				Number of Children
	Overweight BAZ >1 SD	Obesity BAZ >2 SD	Thinness BAZ <-2	Severe Thinness BAZ <-3	
Age (in Years)					
5 to 9	6.6	1.4	7.2	1.8	23,851
10 to 14	4.5	1.0	12.7	2.6	39,714
15 to 19	1.9	0.3	19.6	4.2	4,202
Gender					
Girls	5.5	1.1	9.9	2.0	34,039
Boys	4.6	1.0	12.5	2.9	33,728
Types of Residence					
Rural	3.8	0.7	12.2	2.6	49,068
Urban	8.5	1.9	8.7	2.0	18,699
Geographical Zones					

Demographic Characteristics	BMI for Age (%)				Number of Children
	Overweight BAZ >1 SD	Obesity BAZ >2 SD	Thinness BAZ <-2	Severe Thinness BAZ <-3	
Central	3.2	0.9	19.1	4.3	7,534
Eastern	10.6	2.5	7.1	1.5	13,386
Lake	3.4	0.7	12.1	2.4	15,920
Northern	3.6	0.6	14.3	3.2	9,088
Southern Highlands	5.1	0.8	8.7	2.2	4,624
Southwest Highlands	5.2	1.1	9.6	2.9	6,485
Southern	4.5	1.0	6.2	0.8	2,829
Western	2.8	0.3	10.0	1.8	7,901
Regions					
Arusha	3.5	0.7	16.7	4.0	3,404
Dar es Salaam	13	3.2	7.3	1.7	8,686
Dodoma	5.1	1.8	16.0	3.9	2,957
Geita	3.1	0.7	14.3	3.8	2,098
Iringa	6.0	1.1	9.9	2.1	1,608
Kagera	3.7	0.6	9.1	1.8	3,406
Katavi	2.3	0.5	8.7	1.1	812
Kigoma	3.0	0.4	9.4	1.9	4,658
Kilimanjaro	3.9	0.6	15.0	3.9	3,190
Lindi	7.2	1.8	6.7	0.9	1,102
Manyara	1.6	0.2	20.8	4.0	2,976
Mara	2.3	0.9	14.3	2.6	2,541
Mbeya	6.8	1.0	4.3	0.6	2,163
Morogoro	6.8	1.3	5.7	1.0	3,321
Mtwara	2.8	0.5	5.9	0.8	1,727
Mwanza	5.2	0.9	10.7	2.2	3,879
Njombe	5.5	0.3	2.7	0.2	1,163
Pwani	4.7	0.7	9.6	1.7	1,379

Demographic Characteristics	BMI for Age (%)				Number of Children
	Overweight BAZ >1 SD	Obesity BAZ >2 SD	Thinness BAZ <-2	Severe Thinness BAZ <-3	
Rukwa	5.0	2.2	17.4	7.3	1,692
Ruvuma	3.9	0.9	11.3	3.7	1,853
Shinyanga	3.2	0.6	12.2	1.9	1,985
Simiyu	1.1	0.1	14.5	2.3	2,011
Singida	2.6	0.5	21.9	5.6	1,601
Songwe	4.6	0.6	9.1	2.4	1,818
Tabora	2.5	0.2	10.7	1.6	3,243
Tanga	3.2	0.6	9.9	1.4	2,494
Total	5.1	1.1	11.2	2.4	67,767

DISCUSSION

The findings from this survey indicate that stunting prevalence was higher in boys than girls and increased with an increase in age. A comparable observation was made from studies done in Tanzania and other African countries where boys were more likely to become stunted than girls and the likelihood of a child to be stunted increased as the age increase [6–9] data on adolescent nutritional status is limited in low-resource settings. Mid-upper arm circumference (MUAC). This might be explained by the fact that stunting is a chronic form of malnutrition and manifests more in late childhood because it becomes difficult to reverse the condition as the age of the child increases beyond the window of opportunity.

This survey identified a moderate prevalence (11.7%) of underweight among school children, which is slightly higher than underweight school-aged children aged between 6 and 14 years observed in Sudan (6.2%) [10] but lower than the prevalence observed in Ethiopia (19.0%) and South Africa (66.0%) [11] South Africa, were underweight or overweight. Method: A survey with quantitative and qualitative components was conducted amongst 120 participants between 10 years and 12 years of age. The participants were randomly selected from six public schools in an urban district of the province. A calibrated Goldline bathroom scale was used to measure body weight and a KDS Freo non-elastic measuring tape was used to measure height. A questionnaire consisting of open and close-ended questions collected demographic and lifestyle information. Body mass index (BMI).

Higher prevalence of underweight was seen among boys (12.8%) when compared to girls (10.7%). The differences

could be contributed by differences in lifestyle, feeding habits, education of the parents, and socioeconomic status. Children from the rural areas are more affected with underweight than their fellows in the urban areas. Although this is a different population, rural urban variation has been reporting similar trends even among younger children below five years of age in other studies [3,5,12].

In this survey, about 11.2% of school-age children 5–19 years were thin. These findings are nearly similar to the report from Pakistan where the prevalence of thinness was 10% [13]. However, the magnitude was lower compared to the study findings in Ghana (19.4%) [14], from Fogera, Ethiopia (21.4%) [15], Southeast Ethiopia (13.6%), Northern Ethiopia (26.1%), Nigeria (18.9 %) and West Bengal, India (28 %) (16–19) 10–19 years old. The discrepancy might be due to the time gap in data collection and implementation of nutritional programs.

The likelihood of thinness was higher among boys (12.5%) compared to girls (9.9%). This results were inline with the study findings in different parts of Ethiopia and Nigeria [16,17,20] 10–19 years old. The reason for higher prevalence of under-nutrition among males than females might be related to biological, behavioral, and sociocultural mechanisms. Thinness has been adopted recently as a more appropriate indicator than underweight in older children. It is indicative of relatively recent nutritional deprivation, such as insufficient dietary intakes of energy, protein, or several micronutrients, impaired absorption, or excess nutrient losses [21]. Thinness in school-aged children can result in delayed maturation, deficiencies in muscular strength and work capacity, and reduced bone density later in life [21].

This study established the prevalence of obesity in a

representative sample of primary school children in Tanzania. The results showed that the prevalence of overweight and obesity combined among pupils aged 5–19 years was low (6.2%). The prevalence of child obesity found in this study was comparable to that found in previous studies conducted in Tanzania. For example, in a study conducted in Dodoma and Kinondoni, showed that the prevalence of obesity among children aged 6–9 years was 5.6% and 6.3% respectively [22]. A similar low prevalence of child obesity (5.3%) was reported by Chillo et al. [23] in a study conducted in Dar es Salaam and Morogoro regions. Slightly higher prevalence of obesity among school children compared to that was reported in South Africa [24]. Higher prevalence of child obesity has been reported from North Africa (25) it also higher when the educational level of the parents is high. Obese children are more numerous not to have a breakfast, and to consume biscuit than normal weight children and eat more often high fat, high carbohydrates foods. Most of the children (84%, and other developing countries [26,27]. In this study, prevalence of child obesity was higher among girls than boys. This implied that females were more likely to be overweight or obese than male counterparts. Other studies conducted among children in Africa have reported similar gender difference in the prevalence of child obesity [24,25] This survey showed that lower age groups (5–9 years) were more likely to be overweight or obese than age groups 10–14 and 15–19 years. Concurrently, worldwide studies showed that the prevalence of overweight and obesity combined among children aged 6 to 11 years increased from 6.5% in 1980 to 19.6% in 2008, while in children aged 12 to 19 years, the prevalence increased from 5.0% to 18.1% in 2008 [28]. These findings suggest that the prevalence of overweight and obesity is on the rise. The possible explanations can be attributed to the increased lifestyle sophistication to which new generations are exposed.

Overall, the results should be treated with caution taking into account that the survey was cross-sectional and thus cannot establish a causal relationship. Longitudinal study could have enabled study subjects to be observed overtime. Assessment

MUHTASARI

Hali ya Lishe Miongoni mwa Wanafunzi Wenye Umri wa Miaka (5 – 19) Katika Shule za Msingi za Umma Tanzania Bara.

Ally Mohamed¹, Samweli Lazaro², Frank Chacky³, Grace R. Moshi⁴, Peter J. Kaswahili⁵ and Japhet J. Msoga⁶

Utangulizi: Utapiamlo (hali duni ya lishe) kwa watoto walio katika umri wa kwenda shule huathiri afya zao, utambuzi wao, na hatimaye mafanikio yao ya kielimu. Utafiti huu ni utafiti wa kwanza kufanyika nchi nzima ambao unatoa kigezo cha hali ya sasa ya lishe ya watoto walio na umri wa kwenda shule na vijana walio na umri wa kati ya miaka 5 na 19. Kwa hiyo, makala hii linaripoti ukubwa wa udumavu, wembamba, uzito mdogo na

of micro nutrient deficiencies could have been provided a full picture of nutrition status among school the survey population.

CONCLUSIONS

The current survey provides key highlights on the status of stunting, thinness, underweight and overweight among pupils aged between 5 and 19 years in public primary schools in Mainland Tanzania. In this regard, the country should use available evidence to develop culturally relevant nutrition prevention interventions targeted to combat the burden of stunting, underweight and overweight problems among school children and adolescents aged (5–19 years old) in Tanzania.

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uzito kupita kiasi miongoni mwa watoto wenye umri wa kwenda shule na vijana (miaka 5-19) katika shule za msingi za umma Tanzania Bara.

Mbinu: Utafiti ulihusisha wanafunzi 68,147 kutoka shule 661 katika mikoa yote 26 na halmashauri 184 za Tanzania Bara ulifanyika kati ya Agosti na Oktoba 2019. Vipimo vya kutathimini hali ya lishe (kianthropometriki) vilikokotolewa kwa kutumia

vigezo vya Shirika la Afya Duniani (WHO). Vipimo vya kutathimini hali ya lishe ni seti ya vipimo vya mwili vinavyotumiwa kutathimini ukuaji, maendeleo ya ukuaji na vigezo vya afya. Katika utafiti huu tulitathimini udumavu, ukondefu, uzito pungufu na uzito uliozidi. Udumavu unahusisha kudhorota kwa ukuaji na maendeleo ya ukuaji wa mtoto ambapo urefu unakuwa pungufu kulinganisha na umri; wakati uzito pungufu hutokea wakati ambapo uzito ni mdogo kulinganisha na umri; ukondefu ni hali ya kuwa na uzito pungufu kulinganisha na urefu au kutokuwa na nyama ya kutosha mwilini, na uzito uliozidi ni hali ya kuwa na uzito mkubwa kulinganisha na umri, mara nyingi ni hutokana na mrundikano wa mafuta kupita kiasi hali ambayo huweza kuathiri afya. Uchambuzi wa data ulifanyika kwa kutumia programu ya kompyuta ya STATA® toleo la 14.

Matokeo: Utafiti ulibaini viashiria vya hali duni ya lishe kama ifuatavyo; udumavu ulikuwa asilimia 25, uzito pungufu asilimia 11.7, ukondefu asilimia 11.2 na uzito uliozidi ulikuwa asilimia 5.1 kati ya wanafunzi waliochunguzwa. Udumavu ulikuwa mkubwa miongoni mwa wavulana (asilimia 28.4) ukulinganisha na wasichana (asilimia 21.6) na uliongezeka sambamba na umri. Uzito pungufu ulikuwa juu miongoni mwa wavulana (asilimia 12.8) kuliko wasichana (asilimia 10.7). Ukubwa wa tatizo la wanafunzi wenye uzito pungufu lilikuwa juu zaidi (asilimia 12.6) maeneo ya vijijini kuliko mijini (asilimia 9.6). Ukondefu ulikuwa mkubwa zaidi miongoni mwa wavulana, wanafunzi wenye umri mkubwa, wanaoishi maeneo ya vijijini, wanaoishi kanda ya kati na kanda ya ziwa. Mikoa iliyobainika kuwa na tatizo kubwa la ukondefu ni Singida (asilimia 21.9), Manyara (asilimia 20.8) na Rukwa (asilimia 17.4). Uzito uliozidi ulijidhihirisha zaidi miongoni mwa wasichana, wanafunzi wanaoishi maeneo ya mijini na walio na umri mdogo. Utafiti ulionyesha kuwa kulikuwa na kiwango kikubwa cha uzito uliozidi miongoni mwa wanafunzi wa kike (asilimia 5.5) kuliko wavulana (asilimia 4.6). Wanafunzi wenye umri wa miaka 5-9 walikuwa na kiwango cha juu (asilimia 6.6) cha uzito uliozidi ikilinganishwa na washiriki wengine katika utafiti huu. Wanafunzi wanaoishi mijini wengi walikuwa na uzito uliozidi (asilimia 8.5) ikilinganishwa na wenzao wanaoishi vijijini (asilimia 3.8).

Hitimisho: Kuna viwango vikubwa vya udumavu, uzito pungufu, ukondefu, na uzito uliozidi kwa watoto wa shule za msingi Tanzania Bara. Matokeo yanaonyesha haja ya kuimarisha afya za lishe ili kuboresha hali ya lishe kwa wanafunzi wa shule za msingi za umma, Tanzania Bara.

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Twenty years of integrated disease surveillance and response in Sub-Saharan Africa: challenges and opportunities for effective management of infectious disease epidemics

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ABSTRACT

Introduction: This systematic review aimed to analyse the performance of the Integrated Disease Surveillance and Response (IDSR) strategy in Sub-Saharan Africa (SSA) and how its implementation has embraced advancement in information technology, big data analytics techniques and wealth of data sources.

Methods: HINARI, PubMed, and advanced Google Scholar databases were searched for eligible articles. The review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analysis Protocols.

Results: A total of 1,809 articles were identified and screened at two stages. Forty-five studies met the inclusion criteria, of which 35 were country-specific, seven covered the SSA region, and three covered 3–4 countries. Twenty-six studies assessed the IDSR core functions, 43 the support functions, while 24 addressed both functions. Most of the studies involved Tanzania (9), Ghana (6) and Uganda (5). The routine Health Management Information System (HMIS), which collects data from health care facilities, has remained the primary source of IDSR data. However, the system is characterised by inadequate data completeness, timeliness, quality, analysis and utilisation, and lack of integration of data from other sources. Under-use of advanced and big data analytical technologies in performing disease surveillance and relating multiple indicators minimises the optimisation of clinical and practice evidence-based decision-making.

Conclusions: This review indicates that most countries in SSA rely mainly on traditional indicator-based disease surveillance utilising data from healthcare facilities with limited use of data from other sources. It is high time that SSA countries consider and adopt multi-sectoral, multi-disease and multi-indicator platforms that integrate other sources of health information to provide support to effective detection and prompt response to public health threats.

Keywords: Disease surveillance, Data source, Performance, Big data, One Health, Sub-Saharan Africa

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It is available from the following link: <https://rdcu.be/cA3a>

MUHTASARI

Miaka Ishirini ya Ufuatiliaji na Udhhibiti wa Magonjwa katika Nchi za Afrika Kusini mwa Jangwa la Sahara: Changamoto na Fursa za Usimamizi Mzuri wa Magonjwa ya Mlipuko.

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Utangulizi: Taarifa hii inahusu mapitio maalumu ta machapisho mbali mbali ya kisayansi yaliyofanika kwa ajili ya kutathmini utendaji wa Mkakati Shirikishi wa Ufuatiliaji na Udhhibiti wa Magonjwa (IDSR) katika nchi za Afrika Kusini mwa Jangwa la Sahara na jinsi utekelezaji wake umeendana na ukuaji wa teknolojia ya habari na mawawasiliano, mbinu za kuchakata na kutathmini takwimu na utajiri mkubwa wa vyanzo vya takwimu husika.

Namna Mapitio Yalivyofanyika: Ili kuweza kufikia lengo lao kuu kama lilivyotajwa hapo juu, wachambuzi na watathmini walijikita katika kupitia mifumo ya kielektroniki yenye kuhifadhi kumbukumbu ya machapisho ya aina mbali mbali yanayotoa taarifa za kisayansi kama vile majarida na vitabu watumiaavyo wanazuoni hasa wanataaluma na watafiti katika kazi zao, watunga sera na watu wengine kila mmoja kwa mahitaji yake.

Mifumo ya taarifa za kielektroniki iliyopitiwa ni hii hapa kama ijulikanavyo kwa majina yao ya kitaalamu kwa ufupi: HINARI, PubMed, na Google Scholar. Kupata makala za machapisho yanayofaa na ambayo ni bora zaidi, wahusika walikuwa na vigezo vyenye vipengele mahususi vya kuangalia katika kuhakikisha kuwa kila mmoja ametumia njia ile ile aliyotumia mwenzake na hatimaye wanapata makala zilizokusudiwa. Walitumia maneno fulani yaliyoandikwa kwenye mfumo wa kutafutia taarifa kwenye mtandao wa intaneti yanayogusia jambo la magonjwa husika, mikakati pendekezwa, nchi au eneo jingine husika na mwaka fulani na kisha kubonyeza panapohusika ili taarifa zote zinazohusu mada husika zionekane na ikawa hivyo. Hatua iliyofuata ni wachambuzi na husika kuzipitia taarifa zote hizo na hatimaye kuchagua zile zinazofaa zaidi.

Matokeo: Jumla ya makala 1,809 yalipatikana na kuchujwa kupitia hatua kuu mbili. Ya kwanza ni kuangalia makala zile ambazo zilikidhi vigezo vya kugusia magonjwa na mada ziambatanazo nayo kama ilivyokusudiwa. Na kwa hatua hii, makala arobaini na tano yalidikidhi vigezo, ambapo kati ya hizo, thelathini na tano zilizungumzia nchi moja mahususi, saba zilizungumzia eneo la nchi za Afrika Kusini mwa Jangwa la Sahara, na tatu zilizungumzia nchi tatu au nne. Tafiti ishirini na sita zilitathmini utendakazi wa msingi wa IDSR, 43 zikagusia kazi zinazosaidia utekelezaji, huku 24 zilishughulikia vipengele vyote viwili vilivyotajwa. Tafiti nyingi zaidi zilihusisha nchi ya Tanzania (9), zikifuatiwa na zile zilizogusia nchi zingine ambapo Ghana ilizungumziwa na makala 6 na Uganda makala 5 tu. Mfumo wa Ukusanyaji Taarifa za Afya (kwa kifupi, HMIS) ambao hukusanya taarifa za kitakwimu kutoka zahanati, vituo vya afya na hospitali umesalia kuwa chanzo kikuu cha takwimu za IDSR. Hata hivyo, mfumo huu unafanya kazi ya ziada na isiyo na tija ambayo ni kukusanya takwimu zisizokamilika, zingine zikiwa nje ya muda muafaka wa kutumika (na hivyo hazina matumizi fanisi), taarifa ambazo hazina ubora, zile zisizochambuliwa kwa ajili ya matumizi, zile ambazo baada ya kukusanywa vyema hazitumiki vya kutosha, na pia kuna hali ya ukosefu wa ujumuishaji wa takwimu kutoka vyanzo vingine nje ya mfumo wenyewe. Matumizi hafifu na duni ya teknolojia kwa kiwango cha hali ya juu katika uchanganuzi na wingi wa takwimu zilizopo kwa ajili ya kufanya ufuatiliaji wa magonjwa na kuonisha magonjwa hayo na viashiria mbali mbali vya kuyasababisha yamebainika kuwa yanachangia sana katika hupunguza matumizi halisi ya uboreshaji wa kufanya maamuzi yanayotokana na ushahidi kwa ajili ya tiba za magonjwa pamoja na upambanaji, udhibiti na kinga endelevu ya magonjwa hayo.

Hitimisho: Uchambuzi huu unaonyesha kuwa nchi nyingi za Afrika zilizoopo Kusini mwa Jangwa la Sahara hutegemea zaidi ufuatiliaji wa magonjwa kulingana na viashiria vya tangu enzi kwa kutumia takwimu kutoka vituo vya kutolea huduma ya afya na kwa uchache hutumia takwimu kutoka vyanzo vingine. Ni wakati muafaka sasa kwa nchi hizo kuzitazingatia na kutumia majukwaa mbalimbali za kisekta, kujumuisha magonjwa mengi na viashiria vingi ambavyo vitaunganisha na vyanzo vingine vya taarifa za afya ili kutoa msukumo wa kutambua kwa ufanisi na kudhibiti kwa haraka matishio ya kiafya kwa umma.

Maneno Muhimu: Ufuatiliaji wa magonjwa, Chanzo cha takwimu, Utendaji, takwimu nyingi, Afya Moja, Afrika Kusini mwa Jangwa la Sahara

Makala nzima inapatikana hapa: <https://rdcu.be/cA3a>

Improving Quality of Medical Certification of Causes of Death in Health Facilities in Tanzania 2014–2019

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ABSTRACT

Background: Monitoring medically certified causes of death is essential to shape national health policies, track progress to Sustainable Development Goals, and gauge responses to epidemic and pandemic disease. The combination of electronic health information systems with new methods for data quality monitoring can facilitate quality assessments and help target quality improvement. Since 2015, Tanzania has been upgrading its Civil Registration and Vital Statistics system including efforts to improve the availability and quality of mortality data.

Methods: We used a computer application (ANACONDA v4.01) to assess the quality of medical certification of cause of death (MCCD) and ICD-10 coding for the underlying cause of death for 155,461 deaths from health facilities from 2014 to 2018. From 2018 to 2019, we continued quality analysis for 2690 deaths in one large administrative region 9 months before, and 9 months following MCCD quality improvement interventions. Interventions addressed governance, training, process, and practice. We assessed changes in the levels, distributions, and nature of unusable and insufficiently specified codes, and how these influenced estimates of the leading causes of death.

Results: 9.7% of expected annual deaths in Tanzania obtained a medically certified cause of death. Of these, 52% of MCCD ICD-10 codes were usable for health policy and planning, with no significant improvement over 5 years. Of certified deaths, 25% had unusable codes, 17% had insufficiently specified codes, and 6% were undetermined causes. Comparing the before and after intervention periods in one Region, codes usable for public health policy purposes improved from 48 to 65% within 1 year and the resulting distortions in the top twenty cause-specific mortality fractions due to unusable causes reduced from 27.4 to 13.5%.

Conclusion: Data from less than 5% of annual deaths in Tanzania are usable for informing policy. For deaths with medical certification, errors were prevalent in almost half. This constrains capacity to monitor the 15 SDG indicators that require cause-specific mortality. Sustainable quality assurance mechanisms and interventions can result in rapid improvements in the quality of medically certified causes of death. ANACONDA provides an effective means for evaluation of such changes and helps target interventions to remaining weaknesses.

Keywords: Data quality assessment, Mortality data, Causes of death, ICD-10, Start-up mortality list, DHIS2, Continuing professional development, Medical certification, eHealth, Civil Registration and vital statistics, Tanzania

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MUHTASARI

Uboreshaji wa Sababu za Vifo Vinavyotokea Katika Vituo vya Kutolea Huduma za Afya Nchini Tanzania (2014-2019)

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Utangulizi: Ufuatiliaji wa sababu za vifo ni muhimu katika kutunga Sera za Afya Kitaifa pamoja na kuafuatilia malengo endelevu ya maendeleo na kupima namna ya kukabiliana na magonjwa ya mlipuko na majanga. Muunganiko wa mifumo ya kielektroniki ya taarifa za afya na mbinu mpya za ufuatiliaji wa ubora wa takwimu unaweza kuwezesha kufanya tathmini ya ubora wa takwimu hizo na kusaidia katika kufanya maboresho. Tangu mwaka 2015, Tanzania imekuwa ikiimarisha mfumo Ukusanyaji wa Matukio Muhimu ya Binadamu, ikiwa ni pamoja na kufanya jitihada za kuboresha upatikanaji na ubora wa takwimu za vifo.

Mbinu: Tilitumia programu ya kompyuta (ANACONDA v4.01) kutathmini ubora wa sababu za vifo (Medical Certification of Cause of Death (MCCD)) na mfumo wa Uainishaji wa Kimataifa wa Magonjwa (International Classification of Diseases, ICD-10) kwa sababu za kifo zilizoanzisha sababu zingine kutokea na kupelekea kifo kwa vifo 155,461 kutoka katika vituo vya kutolea huduma za afya kutoka mwaka 2014 hadi 2018. Kuanzia mwaka 2018 hadi 2019, tuliendelea na uchambuzi wa ubora wa vifo 2,690 katika mkoa mmoja (eneo moja kubwa la usimamizi) miezi 9 kabla, na miezi 9 baada ya kutumia afua za kufanya maboresho ya sababu za vifo (MCCD). Afua za uboreshaji zilijikita katika kushughulikia maswala ya kiutawala, mafunzo, mchakato na utendaji. Tilitathimini mabadiliko katika viwango, usambazaji, na msingi wa kutotumika kwa kanuni (codes) pamoja na zile kanuni ambazo hazikubainishwa vya kutosha, na kuangalia ni kwa jinsi gani haya yameathiri ukadiriaji wa sababu za vifo zilizoongoza.

Matokeo: Asilimia 9.7 ya vifo vilivyotarajiwa kwa mwaka nchini Tanzania vilikuwa na sababu ya kifo ya kitabibu. Kati ya vifo hivi, asilimia 52 ya vifo vilivyokuwa na "code vilikuwa haviwezi kutumika" katika sera na mipango ya afya, ambapo hakukuwa na ubora kwa zaidi ya miaka 5. Kati ya vifo vilivyothibitishwa, asilimia 25 vilikuwa na "code" zisizoweza kutumika, asilimia 17 zilikuwa na "codes" ambazo hazijabainishwa vya kutosha, na asilimia 6 zilikuwa sababu za vifo ambazo hazijabainishwa. Kwa kufanya ulinganifu wa kabla na baada ya kutumia afua za maboresho katika mkoa mmoja, "codes" zinazoweza kutumika katika madhumuni ya sera ya afya kwa umma ziliboreshwa kutoka asilimia 48 hadi 65 katika kipindi cha mwaka 1. Hatua hii ilisababisha mabadiriko katika mpangilio wa magonjwa ishirini yanayoongoza kutokana na sababu za vifo ambazo haziwezi kutumika kupungua kutoka asilimia 27.4 hadi 13.5

Hitimisho: Chini ya asilimia 5 ya takwimu za mwaka za vifo za Tanzania ni zile ambazo zinaweza kutumika kwenye maswala ya kiseru. Kwa vifo vilivyokuwa na sababu ya kifo ya kitabibu, makosa yalikuwa katika karibu nusu ya vifo hivyo. Hii inaleta changamoto ya uwezo wa kufuatilia viashiria 15 vya Malengo ya Maendeleo Endelevu (SDG) ambavyo vinahitaji sababu za vifo ambazo ni mahususi. Mbinu endelevu za uhakiki wa ubora na afua zinaweza kusababisha uboreshaji wa haraka wa sababu za vifo vilivyothibitishwa kitabibu. Programu ya ANACONDA inatoa njia madhubuti ya kutathmini mabadiliko haya na husaidia kulenga afua sahihi ili kuondoa mapungufu yaliyosalia.

Maneno muhimu: Tathmini ya ubora wa takwimu, Takwimu za Vifo, Sababu za vifo, ICD-10, Orodha ya vifo vya kuanzia, DHIS2, Kuendelea kujiendeleza kitaaluma, Uthibitishaji wa Kitabibu, eHealth, Usajili wa Matukio Muhimu ya Binadamu, Tanzania.

Makala hii inapatika kwa kubonyeza hapo chini:

<https://doi.org/10.1186/s12913-021-06189-7> (Nyondo et al. BMC Health Services Research)



