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Village health workers' and traditional birth attendants' record keeping practices in two rural LGAs in Oyo state, Nigeria

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Summary

Village health workers (VHWs) and Traditional Birth attendants (TBAs) provide health care services to the communities in which they live, improving access to health care as well as serving as an important link between the periphery (the communities) and the health sector. The data this category of workers generates about their communities will strengthen primary health care management information system in Nigeria. The objective of this study was to assess the knowledge, attitude and practices of VHWs and TBAs regarding record keeping in Ibarapa Central and Akinyele local government areas (LGAs) of Oyo State, Nigeria. Using a pre-tested, semi structured questionnaire and an observation checklist, trained research assistants visited and interviewed all the active, registered VHWs and TBAs in the two LGAs. Results showed that there were a total of 62 and 102 active VHWs/TBAs in Ibarapa Central and Akinyele LGAs respectively with most of them being farmers aged between 30-59 years. Over two-thirds in both LGAs knew the uses of record keeping for monitoring and evaluation purposes and most of them felt that keeping records was easy. Sixty-one percent of the respondents in Ibarapa Central and 96% of those in Akinyele LGA reported keeping records of their health activities. Of those who kept records, two thirds in Ibarapa Central and almost all (96%) in Akinyele LGA reported forwarding the records they keep. The type of records they keep was mostly on patients' treatment and (in Akinyele) delivery records using an exercise book. Most did not have the VHW/TBA record of work or the community profiles (wall chats) developed and recommended by the Federal Ministry of Health (FMOH) because they were not supplied. The factors associated with record keeping included duration as a VHW/TBA, previous training on record keeping, receiving feedback. Recommendations made included ensuring availability of materials and periodic training and re-training of the VHWs/TBAs by the LGAs, and regular provision of feedback by the National Primary Health Care Development Agency (NPHCDA).

Keywords: *Voluntary health workers, TBAs, record keeping, Nigeria*

Résumé

Les ouvriers de la santé du village (OSV) et les serviteurs de la Naissance Traditionnelle (SNT) rendent des services du soin de la santé aux communautés où ils vivent et ils améliorent l'accès à soin de la santé aussi bien que servir comme un lien important entre la périphérie (les communautés) et le secteur de la santé. Les données que cette catégorie d'ouvriers produit au sujet de leurs communautés fortifient le système de l'information de la gestion du soin de la santé fondamentale au Nigeria. L'objectif de cette étude est à répartir la connaissance, l'attitude et l'entraînement des ouvriers de la santé du village et des serviteurs de la naissance traditionnelle sur la garde du dossier des régions locales du gouvernement d'Ibarapa et Akinyele d'État Oyo, Nigeria. En utilisant des questionnaires semi-structuré et une liste de contrôle de l'observation, les assistants de la recherche compétents ont visité et ont eu une entrevue avec les ouvriers de la santé du village et les serviteurs de la Naissance Traditionnels actifs, enregistrés dans les deux régions du gouvernement locales. Les résultats ont montré qu'il y avait un total de 62 et 102 OSV/SNT actifs aux régions d'Ibarapa et d'Akinyele dont la plupart sont des fermiers de 30-59 années. Un deux-tiers dans les deux régions savait garder le dossier pour la surveillance et l'évaluation, pour eux, ce fait est facile. Soixante et un pour cent (61%) des défenseurs du région d'Ibarapa et 96% du région d'Akinyele ont déposé leurs dossiers d'activités de la santé. De ce qui ont gardé des dossiers, un deux tiers du région d'Ibarapa et presque tout (96%) dans Akinyele a déposé les registres qu'ils gardent. Le type de registres qu'ils gardent était sur le traitement de malades et (dans Akinyele) et de la naissance, utilisant un cahier de l'exercice. La plupart d'eux n'avait pas le registre de travail ou la carte du travaille développé et recommandé par le Ministère Fédéral de la Santé parce qu'ils n'ont pas été fournis. Les facteurs associés avec la garde de dossier ont inclus la durée d'être un ouvrier de la santé du village/serviteur de la naissance traditionnelle, la formation antérieure sur la garde du dossier, la

soumission des résultats. Les recommandations sont : assurer la disponibilité de matières; donner une formation périodique et une réformation a des ouvriers de la santé du village/les serviteurs de la Naissance Traditionnelle par les régions locales du gouvernement, et provision régulière de réaction par l'Agence du Développement du Soins de la Santé Nationale Fondamentale.

Introduction

In the bid to strengthen primary health care in Nigeria and make of health services more accessible and equitably distributed, community health workers were recruited and trained to provide essential services to the people, especially in areas where existing health personnel were in short supply such as the rural areas and some regions of the country [1, 2]. Voluntary village health workers (VHWs) and traditional birth attendants (TBAs) are a category of community health workers who provide health care to the people who otherwise have generally low access modern health care services. According to the World Health Organization [3], community health workers should be

- Members of the community where they work,
- Selected by the community;
- Responsible to the communities for their activities;
- Supported by the health system but not necessarily a part of its organization; and
- Have a shorter training than professional workers.

Village health workers and TBAs form an important link between the periphery and the health sector. Because they reside in the community and provide health care to the people, they can provide important information about morbidity and mortality in their communities. In the primary health care management information system, which is a part of the National Health Management Information System, there are six levels of data collection/management [1, 4-8]. These are;

1. the home level;
2. the village/community level;
3. the health facility level;
4. District/LGA level;
5. the State level and
6. the Federal Level.

Village health workers and TBAs are responsible for collecting data at the community/village level, which they forward to their supervisor at the supervising health facility for onward forwarding to the LGA, state, and federal levels.

Health information in Nigeria is inadequate leading to reliance on guesstimates for planning, implementation

and evaluation of health programmes. This lead to such problems as inadequate coverage of health care to the population, poor management and co-ordination of the services leading to wastage and inefficiency, and poor or inappropriate utilization of the services even where they exist [1,4,8,9]. There is no functional registration of births and deaths in the country and morbidity and mortality statistics rely on reports from sentinel surveillance from a few sites. Even the existing national health information system is bedeviled by a multitude of problems such as the existence of parallel systems of health information, and multiple channels of data flow, inadequate funding, poor co-ordination and lack of timely collation, analysis and dissemination of data collected [7]. Private health facilities are hardly ever involved in the generation of health data whilst returns from health facilities are generally low. According to the National Primary Health Care Development Agency (NPHCDA), the returns rate for VHW/TBAs record of work was very low at an average national rate of 19 percent [10]. This study was aimed at assessing the knowledge, attitude and practices of VHWs/ TBAs regarding record keeping in Ibarapa Central and Akinyele LGAs of Oyo State, Nigeria.

Methods

Setting

The study areas were Akinyele and Ibarapa Central local government areas (LGAs) of Oyo State located in southwestern Nigeria. Ibarapa Central LGA, with its headquarters at Igbo-ora was carved out of the former Ibarapa LGA in 1996. It is located on the northern part of the state, about eighty kilometres from Ibadan, the State capital. It is bounded by Ibarapa north and Iseyin LGAs on the north, Akinyele LGA on the east, Ido LGA on the south and Ogun State on the south. It has an estimated population of 76, 053 based on 1991 census projections. Thirteen percent of the population are within the age group 0-4 years and 45.9% were aged 15-49. The adult literacy rate in the local government is 65%[11].

The people are predominantly Yoruba and their main occupation includes farming and petty-trading. Islam, Christianity and the Traditional Yoruba form of worship are the religions practiced in the LGA.

The LGA is served by a General hospital situated in Igbo-ora and run jointly by the Oyo State Government, the College of Medicine of the University of Ibadan and the University College Hospital, Ibadan. In addition, there is a six-bed hospital in Idere managed by the PHC department of the LGA as well as five primary health care centers and maternity centers. There are four private clinics in the LGA, all located in Igbo-ora Township.

Beginning early 2000, the PHC Department of the LGA is headed by a Medical Officer of Health.

The VHWs in the LGA had been used since 1978 in the control of guinea worm, an endemic disease in the LGA and following the success of the pilot program, they were later oriented towards and the scope of their responsibilities widened to provide PHC services [12,13].

Akinyele LGA has its headquarters at Moniya town and is located to the north of Ibadan. It is bounded by Ido and Ibarapa central LGAs on the west, Iseyin, Oyo West and Afijio LGAs on the north and Ibadan North, Northwest and Southwest LGAs on the south. It has an estimated population of 180,015 of which 12.4% and 45.4% were aged 0-4 and 15-49 years respectively [11]. About sixty-six percent of adults in the LGA were literate and like Ibarapa Central LGA, the people were mostly Yoruba with similar religious beliefs. There is a Medical Officer of Health and the LGA is served by a general hospital, private hospitals and numerous PHC centers. It is one of the LGAs assisted by the British Department of Foreign and International Development (DFID), which in the health department is done through the Bamako Initiative Drug revolving Scheme since 1996 till 1999 when Oyo State government started the free medical services policy in the State.

The study population

The study population were registered trained VHWs/TBAs in the two study areas. The inclusion criteria were as follows:

1. The VHW/TBA had undergone formal training on his/her health activities.
2. Had been equipped with VHW/TBA kit.
3. Had been reporting his/her activities to his/her supervisor for the last 2 months.

Materials and methods

The instruments of data collection were a pre-tested, semi-structured questionnaire and an observation checklist. These instruments were pre-tested amongst VHWs in Lagun, Lagelu LGA of Oyo State. The questionnaire explored the socio-demographic characteristics of the respondents, their knowledge, attitudes and practices regarding record keeping. The observation checklist sought to assess their record keeping practices on filling the VHW pictorial tally sheet and the community profiles. It assesses their timeliness as well as their completeness at the time of the survey.

Ethical approval for the study was obtained from the Ethical Review Committee of the College of Medicine, University of Ibadan and the University College Hospital,

Ibadan. Consent to conduct the study was sought and obtained from the LGA to conduct the study in their LGAs. With the assistance of the staff of the PHC department of the two LGAs and the supervisors of the VHWs/TBAs, the VHWs addresses were identified and the VHWs/TBAs were informed about the study and their consent sought. Three research assistants were trained to interview the study participants and administer the questionnaire and fill the observation checklist. These visited and interviewed each VHW/TBA at his/her house and filled the observation checklist.

Data processing and analysis: Data was entered, cleaned and analyzed using EPI Info Version 6 software package [14].

Frequencies were generated and appropriate tests of significance were used to check for associations between predictor and outcome variables. Predictor variables include age, sex, education, primary occupation as a farmer, duration of health work as VHW, receiving feedback, previous training on record keeping, meeting with VDCs and attitude towards record keeping. Outcome variables include VHW-reported keeping of records, forwarding records and observed record keeping practices. For assessing attitude, the outcome variables were the perception that the forms were difficult to fill, and that it was time consuming. The variable education was re-stratified to formally educated or not. Tests applied include the Chi squared test and the students t-test. Where there is a lack of normality in the distribution of a variable, the non-parametric test Kruskal-Wallis test was applied to test in comparisons or test of associations. In all analyses, non-responses were excluded from the data during analyses.

Results

One hundred and sixty four VHWs/TBAs satisfied the inclusion criteria and were surveyed of which 62 were in Ibarapa Central whilst 102 were in Akinyele LGA. All except one were VHWs only in Ibarapa Central, the exception being both VHW and TBA; in Akinyele, 36 (35.3%) were VHWs only, 12 (11.8%) were TBAs only whilst 54 (52.9%) were both VHW/TBAs as shown in Table 1. The difference in the distribution of the categories in the two LGAs was statistically significant ($p=0.000$). Table 1 shows the demographic characteristics of the respondents in the two LGAs. In both LGAs the age distribution was similar with the 40-49 year age group making the highest proportion. In Ibarapa Central, 19 (30.6%) were aged 40-49 years, 16 (25.8%) were 50-59 years old and 15 (24.2%) were aged 30-39 years. In

Table 1: Demographic characteristics of respondents in Ibarapa Central and Akinyele LGA*

Characteristic	Ibarapa Central (n=62)	Akinyele (N=102)	P value
<i>Category of voluntary health worker</i>			
VHW only	61 (98.4%)	36 (35.3%)	P=0.000*
TBA only	0 (0.0%)	12 (11.8%)	
VHW/TBA	1 (1.6%)	54 (52.9%)	
<i>Age (years)</i>			
25-29	3 (4.8%)	3 (2.9%)	P=0.96
30-39	15 (24.2%)	21 (20.6%)	
40-49	19 (30.6%)	33 (32.5%)	
50-59	16 (25.8%)	24 (23.5%)	
60 years and above	8 (12.9%)	14 (13.7%)	
<i>Sex</i>			
Male	28 (45.2%)	71 (69.6%)	P=0.003*
Female	34 (54.8%)	31 (30.4%)	
<i>Level of Education</i>			
None	16 (25.8%)	48 (47.1%)	P=0.000*
At least some primary education	14 (22.6%)	23 (22.5%)	
At least some secondary education	19 (30.6%)	17 (16.7%)	
Others**	13 (21.0%)	3 (2.9%)	
<i>Primary occupation</i>			
Farming	35 (56.4%)	46 (45.1%)	P=0.33
Trading	14 (22.6%)	37 (36.3%)	
Teaching	7 (11.3%)	10 (9.8%)	
Others***	6 (9.7%)	9 (8.8%)	
<i>Duration of work as a VHW</i>			
Less than 5 years	13 (21.0%)	7 (6.9%)	P=0.01*
5 – 9 years	29 (46.8%)	42 (41.2%)	
10 years and above	19 (30.6%)	50 (49.0%)	
<i>Respondents trained on record keeping</i>			
	30 (48.4%)	101 (99.0%)	P=0.000*
<i>Respondents who attend VDC meetings</i>			
	56 (90.3%)	101 (99.0%)	P=0.03*
<i>Time since last meeting with VDCs</i>			
Less than 2 weeks ago	20 (32.3%)	76 (74.5%)	P=0.000*
Two to four weeks ago	17 (27.4%)	21 (20.6%)	
More than four weeks ago	18 (29.0%)	3 (2.9%)	
<i>Frequency of visits by respondents supervisors</i>			
Weekly	38 (61.3%)	1 (0.9%)	-
Fortnightly	9 (14.5%)	5 (4.9%)	
Monthly or less	13 (21.0%)	89 (87.3%)	

NB * percentages may not add up to 100% due to non-responses

**Others include adult education, Arabic education and certificate courses

***Others include carpentry, tailoring and driving

Table 2: Knowledge and attitude of respondents regarding record keeping

Variable	Ibarapa Central (n=62)	Akinyele (n=102)	P value
Uses of record keeping mentioned			
M & E only	36 (58.1%)	38 (37.3%)	$\chi^2=46.93$, df=1, P=0.000*
M & E and Follow up/home visits	3 (4.8%)	47 (46.1%)	
Follow up/Home visits	1 (1.6%)	10 (9.8%)	
None	22 (35.5%)	7 (6.9%)	
Attitude towards keeping records			
Keeping records was:			
Easy			
Yes	51 (82.3%)	95 (93.1%)	$\chi^2=1.70$, df=1 P=0.13
No	7 (11.3%)	5 (4.9%)	
Difficult			
Yes	6 (9.7%)		6 (5.9%) $\chi^2=0.92$, df=1 P=0.17
No	44 (71.0%)	94 (92.2%)	
Demands too much time			
Yes	11 (17.7%)	9 (8.8%)	$\chi^2=5.12$, df=1 P=0.02*
No	38 (61.3%)	91 (89.2%)	

NB *significant

Akinyele, 33 (32.5%) were in the 40-49 year age group, 24 (23.5%) were between 50 to 59 years whilst 221 (20.6%) were 30 to 39 years. Only 3 (2.9%) respondents in each LGA were in the twenties.

All respondent in Ibarapa Central and all except one in Akinyele were married. Their sex distribution shows more males 71 (69.1%) in Akinyele than in Ibarapa 28 (45.25) LGAs respectively. Their level of educational attainment was none for 16 (25.8%) and 48 (47.1%) in Ibarapa Central and Akinyele LGAs respectively. Fourteen (22.6%) and 19 (30.6%) had at least some primary and secondary education respectively in Ibarapa central whilst in Akinyele the proportion was respectively 23 (22.5%) and 17 (16.7%). There was a statistically significant difference (P=0.000) in the level of educational attainment of respondents in the two LGAs.

The primary occupation of the respondents was farming {Ibarapa Central, 35 (56.4%); Akinyele, 46 (45.1%)}, followed by trading and teaching. In both LGAs, most had been involved in voluntary health work for more than 5 years but proportionately more had been doing so for ten years or more in Akinyele (50 (49.0%) than in Ibarapa Central 19 (30.6%) LGAs. There was a near universal previous training in Akinyele LGA (99.0%) compared to Ibarapa Central LGA (48.4%). Fifty-six (90.3%) of the respondents in Ibarapa Central and 101 (99.0%) in Akinyele

attend meetings with the village development committee and 38 (61.3%) in Ibarapa Central receive supervisory visits from their supervisors weekly whilst 89 (87.3%) in Akinyele get such visits once a month or less.

Regarding their knowledge of the uses record keeping, 39 (62.9%) in Ibarapa Central and 85 (84.1%) in Akinyele mentioned monitoring and evaluation (M & E) purposes whilst a few others mentioned follow up and home visits as shown in table 2. Twenty-two (35.5%) in Ibarapa and 7 (6.9%) in Akinyele LGA could not mention any use of record keeping. Their attitude towards record keeping in both LGAs was positive and most {Ibarapa Central 51 (82.3%); Akinyele 95 (93.1%)} felt keeping records was easy. A few, 11 (17.1%) in Ibarapa and 9 (8.8%) in Akinyele said that keeping records demanded too much time.

Table 3 shows the reported and observed record keeping practices of the respondents in the 2 LGAs. Thirty-eight (61.3%) of the respondents in Ibarapa central reported keeping records of their health activities whilst 98 (96.1%) do so in Akinyele LGA. The proportion of respondents that report keeping records was significantly higher in Akinyele than in Ibarapa Central LGAs (P=0.000). The types of records kept included an exercise book on patient treatment and in Akinyele, also delivery records. Other records kept were drugs dispensed and money charged, and home visits.

Table 3: Reported and observed practices on record keeping

Variable	Ibarapa Central (n=62)*	Akinyele (n=102)*	X ² , df, P value
<i>Reported Practices on Record Keeping</i>			
Do you keep records of your health activities?			
Yes			
No	38 (61.3%) 23 (37.1%)	98 (96.1%) 4 (3.9%)	X ² =31.52, df=1 P=0.000*
<i>Types of records kept</i>			
Exercise book on patients treated	32 (84.2%)	50 (49.0%)	
Delivery record only	0 (0.0%)	4 (3.9%)	
Patient treatment record and delivery record	0 (0.0%)	35 (34.3%)	
Patients treatment record and others (drug dispensed, money, home visits)	6 (15.8%)	5 (4.9%)	
<i>Respondents who forward their records (for Ibarapa Central, n=38; for Akinyele, n=98)</i>			
	25 (65.8%)	94 (95.9%)	X ² =22.73, df=1, P=0.00
<i>Observed Record Keeping Practices of Respondents. Type of record VHW had:</i>			
Patient record (exercise book)	32 (51.6%)	98 (96.1%)	
VHW/TBA record of work	2 (3.2%)	11 (10.8%)	
Community maternity profile	2 (3.2%)	2 (1.9%)	
Community demographic profile	3 (4.8%)	2 (1.9%)	
Community family planning profile	0 (0.0%)	0 (0.0%)	
<i>Reason for not having any or all the forms</i>			
Not supplied	52 (83.9%)	100 (98.0%)	
<i>Number of VHWs whose forms (books) were filled at the time of survey</i>			
	26 (41.9%)	95 (93.1%)	X ² = 35.56, df=1, P=0.000
<i>Time when information was last entered into the form/book **</i>			
Less than a week ago	0 (0.0%)	46 (45.1%)	
One to two weeks ago	0 (0.0%)	10 (9.8%)	
Two to four weeks ago	1 (2.9%)	28 (27.5%)	
More than four weeks ago	17 (50.0%)	11 (10.8%)	

NB * may not add up to 100% due to non-responses

**N= 34 for Ibarapa Central; N= 95 for Akinyele

Of the 38 who reported keeping records of their health activities in Ibarapa Central, 25 (65.8%) reported forwarding them to their supervisors whilst in Akinyele LGA, 94 (95.9%) of the 98 respondents who reported keeping records said they forward them. This difference was also significant (P=0.000).

When asked to show their records, 32 (51.6%) in Ibarapa had an exercise book, 2 (3.2%) each had a VHW record of work and 3 (4.8%) had a community demographic

profile. In Akinyele, 98 (96.1%) had an exercise book, 11 (10.8%) had a VHW/TBA record of work and 2 each (1.9%) had a community maternity and community demographic profile. None had a family planning profile in both LGAs. The reason for not having any or all the forms recommended by the federal Ministry of health was that they were not supplied. Twenty-six (41.9%) in Ibarapa Central and 95 (93.1%) in Akinyele LGA were observed to have had their forms filled at the time of survey, of which 50.0% in Ibarapa Central had entered information last more than four weeks

Table 4: Factors associated with respondents' reported and observed record keeping practices

Variable	Test value, degrees of freedom (df)	P value
<i>Reported keeping records</i>		
Mean age (VHWs reporting vs. not reporting)	t = 0.57, df=154	0.57
Sex (male vs. female)	X ² =6.48, df=1	0.01*
Mean Duration (VHWs reporting vs. not reporting)	F=5.72, df=1; 157	0.02*
Education (none vs. some education)	X ² =3.13, df=1	0.08
Primary occupation (farmers vs. others)	X ² = df=1	0.88
Receiving feedback (yes vs. no)	X ² = 0.70, df=1	0.52
Trained on record keeping (yes vs. no)	X ² =59.64, df=1	0.000*
Meeting with VDCs (yes vs. no)	X ² =0.28, df=1	0.60
Records are easy to fill (yes vs. no)	X ² =0.28, df=1	0.60
Records are difficult to fill (yes vs. no)	X ² =10.12, df=1	0.000*
Filling records demand too much time (yes vs. no)	X ² =9.49, df=1	0.002*
<i>Reported Forwarding of records</i>		
Mean age (VHWs forwarding vs. not forwarding)	t = 1.23, df=126	0.22
Sex (male vs. female)	X ² =3.91, df=1	0.005*
Mean Duration (VHWs forwarding vs. not forwarding)	Kruskal Wallis H=2.85, df=1	0.05
Education (none vs. some education)	X ² =0.35, df=1	0.36
Primary occupation (Farmers vs. others)	X ² =0.69, df=1	0.41
Receiving feedback (yes vs. no)	X ² =41.50, df=1	0.00*
Trained on record keeping (yes vs. no)	X ² =57.70, df=1	0.00*
Meeting with VDCs (yes vs. no)	X ² =0.90, df=1	0.34
Records are easy to fill (yes vs. no)	X ² =0.00, df=1	0.40
Records are difficult to fill (yes vs. no)	X ² =0.07, df=1	0.53
Filling records demand too much time (yes vs. no)	X ² =9.67, df=1	0.00*
<i>Observed practices (filled forms)</i>		
Mean age (VHWs with vs. without filled forms)	t = 0.05, df=141	0.96
Sex (male vs. female)	X ² =3.64, df=1	0.06
Mean Duration (VHWs with vs. without filled forms)	Kruskal Wallis H=21.41, df=1	0.00*
Education (none vs. some education)	X ² =4.63, df=1	0.03*
Primary Occupation (Farmers vs. others)	X ² =1.47, df=1	0.23
Receiving feedback (yes vs. no)	X ² =2.27, df=1	0.07
Trained on record keeping (yes vs. no)	X ² =55.97, df=1	0.00*
Meeting with VDCs (yes vs. no)	X ² =0.29, df=1	0.58
Records are easy to fill (yes vs. no)	X ² =12.36, df=1	0.001*
Records are difficult to fill (yes vs. no)	X ² =4.90, df=1	0.02*
Filling records demand too much time (yes vs. no)	X ² =0.5.29, df=1	0.02*

NB * significant

ago whilst in Akinyele, 46 (45.1%) had done so less than a week ago, 10 (9.8%) between one to two weeks whilst 11 (10.8%) had done so more than four weeks ago.

Table 4 shows the relationship between the various variables and the reported and observed keeping and forwarding of records. The variables identified to have a statistically significant association (P<0.05) with reported record keeping practices were female sex, duration as a

VHW/TBA previous training on record keeping and a positive attitude towards keeping records. The association with duration, previous training on record keeping and positive attitude towards record keeping was maintained with observed record keeping practices (P<0.05) but the association with female sex was weak (P=0.06).

Forwarding records kept was associated with being female (P=0.005), receiving feedback on records kept

($P=0.000$), previous training on record keeping ($P=0.000$) and the feeling that keeping records demanded too much time ($P=0.000$).

Discussion

A survey of One hundred and sixty-four voluntary health workers was conducted, of which sixty-two were in Ibarapa Central and one hundred and two were in Akinyele LGAs respectively. In Ibarapa LGA, all except one were VHWs only; the exception was both a VHW and a TBA. In Akinyele, over half of them were working as both VHWs and TBAs whilst a third were VHWs only. It was not clear why Ibarapa doesn't have registered TBAs considering the high maternal mortality in Nigeria and the fact that over two thirds of deliveries are conducted by untrained personnel in the country, especially in the rural areas that have little or no access to modern health services [15]. There is therefore a need for the LGA to train and register TBAs to carry out the important task of conducting simple deliveries in the community.

The age distribution of the respondents in both LGAs was similar with about three quarters aged between thirty to sixty years. This compares favorably with the findings reported by Ewoigbokhan and Brieger [16] in a study of VHWs in Ile-Ife who observed the age range of the VHWs to be twenty three to seventy years with a mean of 44.6 years.

The sex distribution between the two LGAs was different with nearly equal proportions of males and females in Ibarapa Central LGA whilst there were more than twice as many female VHWs in Akinyele as male. This distribution in Akinyele is different from findings of other studies of VHWs in the country, which reported males to be more than females [16, 17]. It may indicate a positive change in attitude regarding female selection and recruitment for VHW job by the communities.

A quarter of the VHWs in Ibarapa Central and almost half of the respondents in Akinyele had no formal education. The proportion that had at least some primary school education was the same in both LGAs but the proportion with secondary school education in Akinyele was twice that of Ibarapa Central. In any case, the level of education is not a criterion for selection of VHWs recommended by the Federal Ministry of Health and research has shown that it had little or no effect on the effective functioning of VHWs [16].

Farming was the predominant primary occupation of the respondents in both LGAs followed by petty trading. These professions are also the predominant occupation of rural dwellers in southwestern Nigeria. In addition to farming and trading, there were seven primary school

teachers in Ibarapa Central and ten evangelists in Akinyele LGA. Considering that teachers are educated and employed by the government, there is risk of attrition as they may leave the village due to transfers or better jobs elsewhere.

Regarding the duration of the respondents as VHWs, most had been doing it for at least five years but more in the Akinyele group spent over ten years than in Ibarapa Central.

Previous training on record keeping was near universal in Akinyele VHWs compared with about half of those in Ibarapa Central LGA. This may probably be due to the longer duration as VHWs in Akinyele and hence they are more likely to have attended more training workshops organized by the LGA and or NGOs.

Meeting with the village development committees was almost universal in both LGAs, an encouraging sign as this implies community involvement and support, which is vital for the VHWs, continued functioning. At the time of the survey, three quarters of the VHWs in Akinyele reported meeting with their VDCs in the two weeks preceding the survey and almost all had them within the preceding four weeks. In Ibarapa Central, about two thirds had met with their VDCs within the four weeks. Supervisory visits to the VHWs was mostly weekly in Ibarapa Central compared with monthly in Akinyele LGA.

Concerning their knowledge of the uses of record keeping, over ninety percent in both LGAs mentioned monitoring and evaluation purposes (such as knowing which illnesses were common and drug monitoring). Other uses also mentioned included follow up and home visits.

The respondents attitude towards keeping records was positive as most of them in both LGAs felt that filling record forms was easy and did not require too much of their time. About a fifth in Ibarapa Central felt however that it demands too much of their time compared with those in Akinyele where only nine percent of respondents felt so.

Regarding their record keeping practices, about two thirds of the respondents in Ibarapa Central reported keeping records of their health activities. In Akinyele, all except four VHWs keep records. This is higher than that reported from a study of VHWs in Lagos [18] where it was observed that only half of the VHWs record treatment of their family members. The reasons given by respondents who do not keep records were not surprisingly that they were not taught about it and did not know it was necessary. The types of records kept by the VHWs in both LGAs were on patients treated and (in Akinyele) records of delivery. The frequency of filling records was reported to be mostly after each activity in

both LGAs whilst about a third in Akinyele reported doing so on a daily basis.

Two thirds of respondents in Ibarapa and almost all in Akinyele reported forwarding their records to their supervisors. Those that reported not forwarding their records in Ibarapa Central said it was because they were not taught to do it and did not know it was necessary. The four respondents in Akinyele who don't forward records did not specify why.

Supervision of the VHWs was inadequate with one fifth of the VHWs in Ibarapa Central and four fifths in Akinyele receiving supervisory visits only once a month. It is a well-known fact that supervision is very important in motivating and providing support for the VHWs [2].

The record keeping practices of the VHWs based on observations of their record books during the survey shows that only about two thirds of the respondents had a record book whilst almost all in Akinyele had them. The respondents who did not have them reported that they were not supplied with them. The record books of over ninety percent of those whose forms were filled and data was entered into them less than a week prior to the survey in none of those in Ibarapa Central and in about sixty percent in Akinyele LGA. This may indicate either better patronage of the VHWs in the latter, or poor timeliness of recording activities by the former. Research is needed on the utilization of VHWs in the two LGAs.

The factors associated with the respondents pattern of record keeping included sex, duration of VHW work, previous training on record keeping and attitude towards filling record books.

Sex was associated with reported keeping of records and females were three times more likely to report keeping records of their health activities than their male colleagues. Ewoigbokhan and Brieger (1994) detected no significant difference between the various educational levels of the VHWs [2]. In our study, those who had some formal education were two times more likely to report filling their records than VHWs who had no formal education but this was not significant.

Respondents who reported keeping records had a mean duration of VHW work of twelve years whereas those who don't had a mean duration of about seven years and the difference was highly significant statistically.

The VHWs who had previous training on keeping records were much more likely to report recording their activities and this was found to be the most significant determinant of reported keeping records.

Respondents who felt that filling records was difficult and demanded too much time were less likely to report

keeping records than their colleagues who felt otherwise. The following factors did not have significant association with reported record keeping: age, receiving feedback and meeting with VDCs. Regarding the forwarding of records, the following were significantly associated with it: sex, duration as VHW, previous training on keeping records, belief that filling records demand too much time. Receiving feedback appears to be significant but this should be interpreted with caution, as odds ratios could not be generated due to inadequate data because very few had ever had feedback of the records forwarded by them. It will not be surprising though if it was significant as it is well known as a motivating factor for effective information system.

The variables that had a statistically significant relationship with observed record keeping practices were duration as a VHW, being formally educated, previous training on record keeping, believe that the records are difficult to fill and that it demands too much time. Although being a female was associated, it was not significant. Similarly, receiving feedback was associated but was also not significant. Other variables not significantly associated with observed practices were age and meeting with VDCs.

Conclusion

The present study has assessed and compared the knowledge, attitude and practices of voluntary health workers regarding record keeping in Ibarapa Central and Akinyele local government areas of Oyo State, Nigeria and identified factors associated with their practices.

The study revealed that the VHWs/TBAs in both areas had a good knowledge of the uses of record keeping for monitoring and evaluation purposes. It also revealed a positive attitude towards keeping records in both LGAs although more VHWs in Ibarapa central believed that record keeping demanded too much of their time.

Voluntary Health workers in Akinyele had better record keeping practices (both reported and observed) than those in Ibarapa Central and the type of records kept was primarily patient treatment and (also delivery records in Akinyele).

Female sex, duration of VHW work, previous training on record keeping, receiving feedback and positive attitude towards record keeping were significantly associated with record keeping practices.

Based on our findings we recommend the following:

1. Ibarapa Central LGA should recruit and train more women as VHWs/TBAs.
2. Periodic training and re-training for the Voluntary

health workers on all aspects of their health duties including record keeping should be organised by the local government PHC Department in both LGAs.

3. The Local government PHC department should ensure that drugs, Record forms and other working materials needed by the workers to carry out their duties are consistently available.
4. The Local government PHC department should ensure the provision of regular feedback to the voluntary health workers on the records they forward.
5. The Local government PHC department should provide regular supervision (at least fortnightly) to the VHWs by CHEWs or other health staff from the supervising health facilities.

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