

## Assessment of Utilization of Standing Order in the Management of Patients by Community Health Extension Workers in Ekiti State, Nigeria

Rasheed Adeyemi Adepoju<sup>1\*</sup>, Abayomi Joseph Afe<sup>2</sup>

<sup>1</sup>PhD, Department of Public Health, Texila American University

<sup>2</sup>Faculty, School of Public Health, Texila American University Consortium

### Abstract

Engagement and training of community health extension workers was the strategy adopted by Nigeria to solve the problem of the dearth of skilled health workers at the primary health care level. This group of health workers were trained to use standing orders in the management of the patient at this level of care. The purpose of this study is to investigate the extent of utilization of standing order among community health extension workers. The research was cross-sectional in nature, and it used a self-applied structured questionnaire. The questionnaire was distributed between March and April 2022. There were 265 respondents with age ranges between 23 and 58 years, and the majority (86.7%) were females. 98.1% possessed a copy of the standing order, and 88.5% and 9.9% kept their standing orders in health facilities and home, respectively. 62.3% used it regularly, 19.6% occasionally, 8.3% sometimes and 9.8% rarely used it. Reasons given for not using standing orders included- waste of time, patients who think I am not competent, and not containing new drugs. Regular utilization of standing order is low, and there is a need to educate the community extension workers on the importance of standing order at the primary health care level.

**Keywords:** Standing order, Standardization, Utilization.

### Introduction

Nigeria adopted the primary health care (PHC) system shortly after World Health Organization (WHO)/ United Nations International Children Emergency Fund (UNICEF) proclaimed Primary Health care System as the strategy to achieve health for all by year 2000 in Alma Ata in 1978 [1-4].

However, the adoption of the PHC came with the challenge of inadequately skilled health workers, especially in rural area as most skilled health workers were located in towns and cities to the detriment of the rural areas. The general insufficient health workers at the PHC level coupled with their uneven distribution was fundamental to the underperformance of PHC [5-8]. This was more

so as health workers were reluctant to work at the primary healthcare level and tended to leave the primary health system and work in either the secondary or tertiary level of care [9]. Although some were deployed by various state governments through the hospital management board to the primary healthcare level, many lobbied themselves back to work at the secondary level of care. G.E. D. Omuta observed that attracting and retaining human resources for health at PHC level was a challenge in its implementation [7].

To solve the problem of inadequate skilled health workers at the PHC level, Nigeria then adapted the PHC system to suit her situation. Training and subsequent recruitment and introduction of community health extension workers into the health system in the country

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\*Corresponding Email: eniolaye99@yahoo.com

Was a key approach adopted by the government to solve the dearth of skilled health workers. Olayinka and Olugbenga observed that the dearth of nurses and doctors at this level of care led to the training and subsequent recruitment of community health extension workers as major skilled health providers to work at the primary health care level [10]. Different categories of health workers, including senior and junior community health extension workers, were identified and trained [1]. This group of health workers are trained in schools of health technology across the country with the use of standing order in the management of patients. In Nigeria, community health extension workers are the most numerous skilled health workers at the primary healthcare level [11].

Standing orders is a critical tool prepared by the National Primary Health care Development Agency to be used by the community health extension workers in the management of patients at the primary healthcare level in Nigeria. It is similar to clinical practice guidelines, which is a systematically developed statement to assist practitioners and patient in choosing an appropriate care for a specific health condition [12]. A standing order is a written protocol for the classification of disease conditions and subsequent identification of relevant treatments or procedures for such disease conditions and applied for its treatment in the absence of a doctor by an authorised non-clinician health worker [1, 13]. It is a standard that guides the health workers in the selection of appropriate treatment for patients at the primary health care level. The use of the standard is not peculiar to the CHEWs as guidelines are also used by other health workers, including doctors and even outside the health care system.

The concept of standardization is not really new as it was reported to have been used in the production of uniform products during the industrial revolution [14]. Standard serves as the basis for evaluation and is related to the

expected outcome [14]. The objective of standing order is to ensure excellence in healthcare service delivery and minimize errors and distortion in routine activities [15]. The purpose of this research is to investigate the extent of utilization of standing orders by community health extension workers.

## **Methodology**

### **Study Area**

This research was conducted in the Ekiti south senatorial district of Ekiti state, Nigeria. The senatorial district is made up of six local government areas, which are Ekiti Southwest, Ekiti East, Emure, Ikere, Ise/Orun, and Gbonyin, with an estimated total population of one million, forty-two thousand and seventy-seven using a projected population census of year 2006 and covering two thousand and fifty-four square kilometers. There are one hundred and ten primary healthcare facilities in the district; each of the local government area also has one general hospital. However, that of Ikere local government is a designated state specialist hospital. These general/specialist hospitals are the referral centres for primary health care facilities.

### **Study Design**

The design of the study was cross-sectional. It used structured questionnaires distributed by trained research assistants to elicit a response from eligible community health extension workers in the senatorial district.

### **Sampling**

Eligible community health extension workers were sampled from the six local governments using proportionate, stratified, and simple sample methods.

The lists of all community health extension workers in all six local governments were given to the respective research assistants. **Inclusion criteria:** Community health extension worker, working in Ekiti South senatorial district and has been working for at least five years.

## Data Collection and Analysis

The self-administered structured questionnaire used for the study was pre-tested in two adjoining local governments of Ado and Ikole. Necessary corrections were made to the questionnaire based on feedback before the commencement of data collection. Questionnaires were distributed by research assistants to participants and collected between February and April 2022. The collected data were checked and cleaned as appropriate for accuracy and completeness. The data was analysed using SPSS version 22.

## Ethical Consideration

The study was approved by the research and ethic committee of the Ekiti State Ministry of health. All the respondents also gave their written consent.

## Results

The respondents' ages were between 23 and 58 years with a mean age of 42.5, a standard deviation of 6.03, and the majority 228 (86.7%) were females. Most 250 (96.5%) were married, Christians 241 (91.6%), and Yoruba by tribe 250 (94.7%). The majority, 165 (62.5%), had an Ordinary National Diploma (OND), while 29 (11%) and 10 (6.1%) had Higher National Diploma (HND) and Pre- National Diploma (pre-ND), respectively, in community health. In addition, 52 (19.7%) had a Bachelor of Science (BSC), while 2 (0.8%) had a Master of Science (MSC). 19 (7.2%) of the respondents were junior community health extension workers (JCHEW), 200 (75.5%) were senior community health extension workers (SCHEW), and 46 (17.4%) were community health officers (CHO).

**Table 1.** Socio-demographic Characteristics of Respondents

Variables	Frequency	Percentage
	N = 265	
<b>Ages</b>		
21-30	7	2.6
31-40	96	36.2
41-50	134	50.6
>50	24	9.1
Missing	4	1.5
<b>Sex</b>		
Male	35	13.2
Female	228	86
Missing	2	0.8
<b>Highest Educational Level</b>		
Pre-National diploma	16	6
Ordinary national diploma	165	62.3
Higher national diploma	29	10.9
First degree	52	19.6
Master's degree	2	0.8
Missing	1	0.4
<b>Professional Cadre</b>		
JCHEW	19	7.2
SCHEW	200	75.5
CHO	46	17.3

**Table 2.** Cross Tabulation of Cadre and who Should use Standing Order

Present Cadre	Who should use SO				Total
	All CHEWs including CHO	JCHEWS and SCHEWs only	All PHC workers	Nurses and doctors	
JCHEW	12	1	6	0	19
SCHEW	175	8	15	1	199
CHO	43	1	2	0	46
<b>Total</b>	230	10	23	1	264

Further results show 230 (87.1%) acknowledged that SO should be used by all CHEWs, including CHO. However, 23 (8.7%), 10 (3.8%) and 1 (0.4%) acknowledged it should be used by all PHC workers, SCHEWs, and JCHEWs only, and by nurses and doctors, respectively. Table 2 above shows the cross-tabulation of cadre and which professional cadre should use SO. 63.2%, 87.9%, and 93.5% of JCHEWs, SCHEWs, and CHO, respectively, responded that all CHEWs, including CHO should use SO. 213 (80.4%) responded that SO was comprehensive enough to be used at the PHC level, while 1 (0.4%) and 51 (19.2%) responded that it was comprehensive enough to be used at tertiary and all levels of care, respectively. 257 (97.7%) respondents responded that SO should be used for all categories of patients, while 2 (0.8%), 1 (0.4%) and 3 (1.1%) responded that it should be used for children only, women only and women and children only respectively. 249 (94.3%) agreed that SO provides systematic framework for history taking and physical examination, while 14 (5.3%) disagreed, and 1 was (0.4%) neutral. 239 (90.6%) respondents also agreed that SO provides legal protection, while 21 (8%) and 4 (1.5%) disagreed and were neutral, respectively. 211 (80.5%) respondents agreed

that SO contains all necessary drugs to be used at the PHC level, while 43 (16.4%) disagreed with 8(3.1%) neutral. In addition, 179 (68.6) agreed that SO prevents unnecessary prescription of many and expensive drugs, 74 (28.3%) disagreed, and 8 (3.1%) were neutral.

258 (98.1%) of the respondents had a copy of SO each to themselves while 5 (1.9%) did not. 232 (88.5%), 25 (9.9%) respondents kept them SO in the health facilities and at home respectively while 4 (1.5%) did not know where they kept their SO and 1 (0.4%) was not applicable since they did not have SO. Table 3 below shows the frequency of use of SO by CHEWs when attending to patients; 165(62.3%), 52 (19.6%), 22 (8.3%), and 26 (9.8%) used it regularly, occasionally, sometimes, and rarely, respectively. 206 (77.7%) respondents also agreed that CHEWs are using SO but 39 (14.7%) disagreed, while 20 (7.5%) were neutral. Reasons why respondents did not like using SO is shown in Table 4 below and these were; 84 (36.1%) patients would think I was not competent, 4 (1.7%) SO difficulty to understand, 43 (18.5%) SO wastes time, 10 (4.3%), other health workers were not using SO, 7 (3%) SO not available, 85 (36.5%) SO does not contain new drugs and 0 (0%) difficult to use.

**Table 3.** Distribution of Respondents by how Frequently they Use SO

How frequently	Frequency	Percent	Valid percent	Cumm. Percent
<b>Regularly</b>	165	62.3	62.3	62.3
<b>Occasionally</b>	52	19.6	19.6	81.9
<b>Sometimes</b>	22	8.3	8.3	90.2
<b>Rarely</b>	26	9.8	9.8	100.0
<b>Total</b>	265	100.0	100	

**Table 4.** Reasons why Respondents did not Use SO

Reasons	Frequency	Percent	Valid Percent	Cum. Percent
Patient will think am incompetent	84	31.7	36.1	36.1
Difficult to understand	4	1.5	1.7	37.8
It wastes time	43	16.2	18.5	56.2
Other health worker not using SO	10	3.8	4.3	60.5
Not available	7	2.6	3.0	63.5
Does not contain new drugs	85	32.1	36.5	100.0
Total	233	87.9	100.0	
System	32	12.1		
<b>Total</b>	265	100.0		

There were no significant relationships between the frequency of use of standing order and level of education, present cadre, having copy of standing order, and reasons why respondents did not like to use standing order.

However, there were significant relationships between frequency of use and where respondents kept their standing orders, were comfortable using standing order, and felt embarrassed using a standing order.

**Table 5.** Regression of Variables on Frequency of Use of SO

Variables	B-coefficient	P-value
(Constant)	3.020	.000
Highest Educational level	.142	.084
Present cadre	-.151	.326
Do you have a copy of SO	.574	.217
Where do you keep your SO	-.572	.001
Am comfortable using SO	-.314	.000
Feel embarrassed using SO	.098	.000
I don't like using SO because	-.004	.871

## Discussion

Community health extension workers are the most numerous skilled health workers at the primary healthcare level in Nigeria [11]. Their skills and activities have a direct impact on the health indices of the nation. It was observed in this study that the vast majority of CHEWs were Senior CHEWs (SCHEWs), with only a few junior CHEWs (JCHEWs). This is similar to a study on the utilization of integrated management of childhood illnesses (IMCI) in Ibadan by Rahji, where majority of the respondents were SCHEWs and females [16]. SCHEWs are better trained and are more likely to be more experienced and skilled than the JSCHWs. The predominant of SCHEW is, therefore good for the system as this should

improve the quality of health care service delivery at the PHC level in the state. There were also many CHOs, a cadre that is even better trained than SCHEWs because they received additional training to qualify as such. In addition, many also had BSc and MSc in public health or community health in addition to OND or HND in community health. This is an indication of continuous educational improvement and should translate to improve service delivery.

The standing order is designed to be used only by community health extension workers at the PHC level. Most of the CHEWs acknowledged that all the CHEWs, including CHO rather than nurses and doctors or other health workers, should use SO. This acknowledgement by the majority if

transformed into practice, should enhance the utilization of SO by CHEWs at the PHC level. Further analysis shows that the percentage of CHO that acknowledged that all CHEWs, including CHO should use SO was more than that of SCHEWs with that of JCHEWs been the least. It does seem to mean that the higher the cadre, the higher the knowledge on who should use SO. Continuous education opportunities for in-service training for community health extension workers should therefore be opened up to enhance their knowledge. The majority (80.4%) also responded that SO is comprehensive enough for use at PHC level coupled with 97.7% response that it should be used for all categories of patients and that 94.3% agreed that it provides a systematic framework for history-taking and physical examination together with 90.6% that agreed it provides legal protection was an indication of acceptability and usefulness of SO and affirmation of its credibility. Acceptability and credibility of intervention are essential for its optimum uptake and utilization [17, 18]; SO's seemingly acceptability and credibility should therefore translate to its efficient utilization among the CHEWs.

However, although 80.5% of respondents agreed that SO contains all necessary drugs required for treatment at PHC level, only 68.6% agreed that it can prevent unnecessary prescription of many expensive drugs. This perceived inability of SO to prevent indiscriminate prescription by as high as 28.3% of CHEWs can result in polypharmacy. Consequences of Polypharmacy which is the prescription of many drugs in one prescription for the patient include increased drug expenditure in the hospital, shortage of drugs and other health consequences for the patients [19]. Other consequences are drug resistance and its negative effects on the mortality and morbidity ratio of a country and unnecessary increase in the cost of health care services [20, 21].

Although 98.1% of the respondents had a copy of SO, with 88.5% keeping them SO in the health facilities, only 62.3% used SO regularly while attending to patients. Adherence to standard operating procedure (SOP) in the management of chronic obstructive pulmonary disease in a study by Bosse was 53.8% [22]. Although utilization of SO in this study was higher than adherence in the study by Bosse et al, it was none the less low. Adherence to standard operating procedure seems to be generally low in health care service delivery. Adherence to IMCI protocol, an intervention introduced to reduce under-5 morbidity and mortality, especially in low-resource countries that uses an algorithm similar to standing order, was found to be an issue and was 57.8% [16, 23]. Compliance with guidelines on the control of infection in the management of labour was found to be 52% in Uganda (24). The use of SOP in palliative care at the comprehensive cancer centre in Germany was about 48.5 [25].

Adherence to SOPs and guidelines has been associated with improvement in quality of care, better prognosis, and cost reduction [23, 26, 27] while poor compliance was associated with increased medical errors, morbidity, and deaths [28]. Some of the expected benefits of SO are the provision and maintenance of high standard of care, uniformity of treatment and reduced cost of health care services with resultant improvement in the country's health indices. However, to achieve these, most if not all the CHEWs should use SO regularly. Three main reasons why CHEWs did not like using SO were that it did not contain new drugs, patient's attitude, and time wastage. This is similar to the study by Ibrahim D.O in Ibadan where the schedule of drugs, patients' attitude and time wastage were found to have an effect on use of SO [1]. Time was also found to be a factor in the utilization of the IMCI chart booklet [23]. Other reasons were difficulty using SO, other health workers not using it and non-availability of SO. Factors that have significant effect on the utilization of SO were where respondents

kept their SO, feeling embarrassed and feeling comfortable using SO. However, educational level, professional cadre, having a copy of SO and reasons for not like to use SO had no significant effect on utilization of SO. Feeling embarrassed and comfortable using SO has a relationship with patients' attitude which was equally found to have significant effect on utilization in the study by Ibrahim DO [1]. It is therefore imperative to educate the public on the importance of SO in the management of patients at the PHC level and review the SO regularly to accommodate new drugs. In addition, digitalization of standing order into electronic copy will increase availability, make review of necessary components easy, frequent and regular and ultimately make new editions of standing orders readily accessible to community extension workers.

## Conclusion

Utilization of standing order by community extension workers while attending to patients at primary health level is critical for quality health service delivery. Regular utilization of SO among CHEWs in Ekiti South Senatorial district was a bit low, which can negatively affect the quality of health care services. Main

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workers why CHEWs did not like using SO were patients' attitude, time wastage and that SO did not contain new drugs. Retraining of CHEWs to improve efficiency in the use of SO will reduce time spent on patients while regular review of the SO to accommodate new drugs and its digitalization will enhance its utilization. Patients' attitude was prominent as some were not comfortable and felt embarrassed using SO in the presence of patients. There is therefore needed to educate the community on the importance and usefulness of SO at the PHC level. The education on SO should enlighten the public to empower them to demand for the use of SO by CHEWs whenever they present themselves for treatment at the PHC level. This is expected to remove the unnecessary negative complex associated with the use of SO by CHEW and improve its utilization.

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## Conflicting Interest

The Authors declared no conflicting interest.

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