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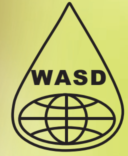

THE EDUCATIONAL SECTOR; THE POSSIBLE ALLY TO ATTRACT AND RETAIN HEALTH WORKFORCE IN RURAL AREAS

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ABSTRACT

Purpose: A joint project between Public Health Institute-Sudan, World Health Organization (WHO) and Global Fund was launched to investigate the increasing unwillingness of Human Resources for Health (HRH) to work in rural areas. This study is part of that project and aims to explore educational HRH attraction/retention initiatives in Sudan.

Design: In-depth case study for (Curricula reflecting rural health) in four universities, outside capital Khartoum (Al-Jazeera, Al-Fashir, Wadi Al-Neel and Red Sea), interviewing students and policy makers.

Findings: Participants highlighted the initiative's orientation role to health delivery in rural settings. Policy makers emphasised initiative's positive effect on HRH attraction to rural settings. Students felt it moderately affected their future work choice.

Originality/Value: In Sudan these initiatives are not designed for attraction purposes and there is little involvement of health authorities. Strengthening of communication between sectors is greatly needed.

Keywords: education; Human Resources for Health; HRH attraction; rural areas.

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INTRODUCTION

The global Human Resources for Health (HRH) crisis: shortages and mal-distributions: 'The heart of the health system in any country','the most important aspect of healthcare systems' and 'a critical component in health policies' are some descriptions used recently to emphasise the important role HRH fulfills in healthcare (Hongoro and McPake, 2004).The health worker has been described numerous times as the corner stone of healthcare delivery, and recently, there is a growing body of evidence emphasising HRH importance, and how it represents the direct link between health systems and the populations it serves. The World Health Organization (WHO) report (Working together for health) released in 2006, referred to the health workforce as 'the moving force of the health system' and 'the heart of every health service activity', identifying HRH as an integral component to accomplish health goals (WHO, 2006).

Yet, the report also shed light on themany challenges the health workforce is facing now a days, creating in some countries serious HRH gaps. Two of the most pressing challenges mentioned in the report were; HRH shortage and rural/urban mal-distribution. Although the latter issue was reported in almost all countries, these imbalances are more prominent in some regions more than others (WHO, 2006). The unwillingness of health workers to work in rural and remote areas made it difficult to place the needed HRH in similar settings. The issue is more complicated with the high level HRH cadres. Factors including; the lack of opportunities for professional growth and development, or additional earning from private practice and the minimal interactions with attractive modern life the urban settings can provide, always attracted healthcare professionals to urban areas (Zurn et al., 2004). However, it is in the rural and remote areas, especially in the developing countries, where most of populations suffer from the burdening public health issues. For example, while one half of the global population lives in rural

areas, they are served by only 38% of total nursing workforce and by less than 25% of total doctors' workforce (WHO, 2006).

HRH in Sudan

The history of the health workforce training and practice in Sudan is quite rich. The national HRH strategic plan (2012—2016) referred to intensive HRH production, training and managerial activities undertaken in Sudan over many years. The latter resulted in a health workforce of nearly 100,000 health workers, in 20 different medical professions. It also described this workforce as having a feminised nature, where females represent 51% of the total workforce and a rather young health workforce. This young age range was explained by the recent expansion of medical and health education institutes in the country. Regarding the distribution, the situation in Sudan is similar to the global picture, with nearly 70% of health workers in urban settings serving about 30% of total country's population, thus leaving the other two thirds with less access to professional health workers and healthcare. In fact, more than one third of the overall health workforce (38%) is located in Khartoum alone (the capital). The strategy described Sudan's HRH management systems "as having historically a good record of deployment and retention of doctors, including in rural and remote areas" and described distribution of generalists and specialists as "based on both motivation and robust administrative disciplines" and further interviews with senior doctor and old beneficiaries of that system confirmed that and described it as: 'punctual, predictable and highly credible'. Yet the strategy acknowledges that over time this system became eroded, and deployment and retention of doctors to states and rural areas became very challenging. This was linked to lack of update and revision ofold systems and the lack of motivation to work in rural areas (FMOH, 2012).

HRH attraction/retention: an international concern

The world was now aware to the fact that, a shortage of qualified health workers in remote and rural areas undermines access to healthcare for a considerable part of the population, and delays attainment of Millennium Development Goals as planned. Several international events shed light on this issue, and urged the international community to find suitable solutions to the problem. The World Health Assembly in 2004 urged Member States to install mechanisms enhancing retention of HRH in rural and remote areas. Kampala declaration in March 2008, released during the First Global Forum of HRH, encouraged governments to "assure adequate incentives for effective retention and equitable distribution of the health workforce" and in November of the same year a report released by 'the Commission on Social Determinants of Health' requested governments and international partners to address HRH geographical mal distribution and describe it as 'a determinant of poor health outcomes' (WHO, 2010).

With the growing HRH rural/urban mal-distribution all over the globe, the issue demanded international attention to search for applicable solutions. The aim to improve geographical distribution of health workers led governments and health officials to use combinations of initiatives to reduce the problem's impact, and although so far no country worldwide has managed to completely overcame rural/urban HRH imbalance, this does not

mean that those policies and initiatives designed to reduce mal-distribution had zero effect (Zurn et al., 2004).

Accordingly, and upon requests from global leaders, WHO invited a group of experts including: "researchers, policy-makers, funders, representatives of professional associations and program implementers, from each of the WHO regions" to produce a set of global recommendations on how to attract and retain health workers in rural and remote areas. This group reviewed the existing evidence on HRH attractiveness, recruitment and retention in remote and rural areas, and combined that with national experts' views in the 2010 WHO global policy recommendation report titled: "Increasing access to health workers in remote and rural areas through improved retention". It provides the most relevant and current guidance to health policy-makers on how to design and implement HRH attraction and retention initiatives. This report has organised the recommended initiatives into four main categories: *Education, Regulation, Financial incentives, Personal and professional support* (WHO, 2010).

HRH educational attraction/retention initiatives

Education is the main producingsector of health workers, and represents the very first and most intensive period for interacting and training of different HRH categories. WHO recommendations in 2010 reported that health workers views could be directed as early as their undergraduate years or even redirected during their post-graduate training. In fact, it advised the following: "To select the 'right' students, who are more likely to practice in remote and rural areas and to train them in rural locations, using methods and curricula that are more likely to influence their future practice location". Finally, it focuses on continual professional development for health workers in rural areas, and recommends to: "Support health workers' need to continue learning throughout their careers, particularly in isolated areas where access to knowledge and information is not easy". Based on the above, the following HRH educational attraction/retention initiatives were recommended by the WHO:

1. "Use targeted admission policies to enroll students with a rural background in education programs for various health disciplines."
2. "Locate health professional schools, campuses and family medicine residency programs outside of capitals and other major cities."
3. "Expose undergraduate students of various health disciplines to rural community experiences and clinical rotations."
4. "Revise undergraduate and post-graduate curricula to include rural health topics so as to enhance the competencies of health professionals working in rural areas."
5. "Design continuing education and professional development programs that meet the needs of rural health workers and that are accessible from where they live and work" (WHO, 2010).

In this paper we will discuss initiative no (4): "Revise undergraduate and postgraduate curricula to include rural health topics so as to enhance the competencies of health professionals working in rural areas", as an example for these HRH educational attraction/ retention initiatives, to assess its design, implementation and impact on the Sudanese health system.

MATERIALS AND METHODS

This case study is part of the second phase of a mapping survey; it is one of eight junior researches included in a grand research project.The latter was jointly executed by the Public Health Institute-Sudan, WHO and the Global Fund, focusing on issues concerning HRH retention, gender and migration in Sudan. The original mapping study targeted the identification of HRH attraction and retention initiatives currently applied by the public sector in Sudan to attract and/or retain health workforce outside the capital Khartoum and other major cities to less developed or industrialised areas. The survey also categorised these initiatives according to global WHO recommendations 2010. After the mapping exercise was completed, a second phase including four case studies was conducted to assess in depth four initiatives of those identified. Each initiative selected had to, follow one major category of the WHO recommendation, be applied by Sudan public sector at state level during the past two years (2011—2012), be applied in more than one site/state (multisite application), target more than one category (e.g. doctors and nurses) and not be evaluated within the past ten years nor concurrently by any of the other ongoing researches.

In this case study, the focus was on ‘Curricula reflecting rural health issue’, one of five educational HRH attraction/retention initiatives recommended by WHO. The study was conducted between January and June 2013 in the following Sudanese states, representing a variety of the geographical regions in Sudan: northern region: (River-Nile state), eastern region (Red Sea state), western region (North Darfur state), middle region (Al-Jazeera state). The study targeted two groups of participants for whom two different qualitative tools were used. Purposive sampling was adopted with the aim to enhance the scope of this study. The first group was a beneficiary of the initiative and participated in focus group discussions. Those targeted were fresh medical graduates, graduated from faculty of medicine less than one year ago, currently in their internship period and who completed a module focusing on rural health issues and/or delivered in rural settings during their undergraduate studies. Students were affiliated to the following four universities, each in a different state, as follows: *Al-Jazeera University* – Al-Jazeera state, *Red Sea University* — Red Sea State, *Wadi-Alneel University* – River Nile State and *Al-Fashir University* — North Darfur state. The second group targeted included policy makers within the federal and state ministries of health; Six semi-structured interviews were conducted with those involved in the deployment of fresh graduates at their designated state. Both focus group discussions and interviews aimed to obtain participants’ perceptions and views on the initiative’s:

1. design, implementation and its suitability to the fulfillment of its purpose
2. its impact on students’ future choices of recruitment/deployment in the same state of their training or another rural setting and finally,
3. future recommendations for improvement.

All qualitative data obtained from focus group discussions or interviews was recorded and reported in writing, cross-checked and entered at site and then sent to the assigned research state supervisors for a second cross-check and filing for analysis. Data was analysed using *qualitative thematic analysis*.

Table 1 Educational initiatives (rural curricula) focus groups' distribution

University	*Group (1)*		*Group (2)*	
	Total No.	*M:F ratio*	*Total No.*	*M:F ratio*
Al-Jazeera	7	4:3	8	4:4
Wadi-Alneel	8	4:4	7	3:4
Red Sea	5	2:3	6	2:4
Al-Fashir	6	4:2	5	2:3

Source: Author.

It is a must to acknowledge that due to the scarcity of HRH cadre at most of the state and rural settings, it was difficult to keep all focus groups at equal numbers and with a balanced gender representation. However, all focused groups ranged between *five and seven* candidates. Since an objective unified definition for rurality factor — how rural is the site where the intervention was applied — was not available, its possible effects on participants' views was not considered, and finally due to geographical location, transportation and resource difficulties, we were not able to target many HRH categories and only focused on medical graduates. Some interviews were conducted by phone.

RESULTS

Eight (8) focus group discussions were conducted, two for graduates of each of the above mentioned universities, with five to eight participants in each group and a Male: Femaleratio between 2:4 and 4:4 in most cases (Table 1).
The following themes were identified:
(Curricula/module description): a description about curricula/modules/programs that reflected rural health issues; Although all participants acknowledged undertaking one module or program that targeted rural health issues during undergraduate training, mostly as part of community medicine curriculum, only three of four universities acutely undertook modules in rural settings.The *Red Sea university* graduates denied any learning activities in rural setting or even modules exclusively directed towards rural health. While two of three universities *(Al-Jazeera and Wadi Al-Neel universities)* referred to this module as 'The rural residency' program (one to two weeks stay in rural settings, that included: health education sessions, orientation sessions at rural health facilities and meetings with key community members), graduates of the third university — *Al-Fashir university* — described the module as 'theoretical sessions' in senior years. They mentioned that; due to conflicts and instability, these programs were never implemented and were delivered as theoretical sessions only. One graduate from *Al-Fashir stated*: "Although we have a complete course on rural health but it is difficult to apply and to go to the rural villages due to war conditions".

On a more positive note, one group, from *Al-Jazeera university* added another module to the above, making them two programs targeting rural health, that was; "The rural field visits", undertaken during their family attachment program and the latter being a longitudinal course throughout their medical training.

(Views on program's impacts) Views on program's value and how this affects their own future choices of recruitment and deployment: most participants acknowledged the importance of this program as an orientation to rural health, yet most of them felt that the way it is currently conducted does not prepare them adequately. One group pointed out that financial constraints alter the way the program is delivered and reduces its efficiency from one year to another. Although many participants believed that medicine is a humanitarian and compassionate occupation with an obligation to serve those most at need in the rural area, and that this feeling was much appreciated during these programs, these programs could only affect their future choice to work in a rural area up to a *moderate extent,* as other factors like post-graduate training under supervision and socio-economical demands and earnings could work against that.

(Recommendations): to improve this initiative: graduates suggested the following recommendations, mainly concerning the design and delivery of programs:

1. Design a comprehensive, clearly structured, needs-based modules with specific outcomes and scheduled programs.
2. Avail more resources,especially experienced trainers, to focus on such programs and thus enhance its benefits.

Six (6) key informant semi-structured interviews were conducted with the following decision makers: Undersecretary — Federal Ministry of Health, Deputy Director of the General Directorate of HRH Development — Federal Ministry of Health, the general directors (or their deputies) in the above four states. The interviews covered the following themes:

Design: Views on whether this current intervention design is responsive to a documented health need, and to what extent the relevant stakeholders are involved in its design process: Key informants acknowledged that although some evidence proved these initiatives can *attract health workers* to work in rural areas, in Sudan these initiatives are not designed for these purposes, and most educationalists are not aware of HRH attraction/retention issues. There is not much involvement of health authorities in designing these initiatives, thus reflecting the poor coordination between the Ministry of Health and Ministry of Higher Education. One key informant stated: 'the heath authority's voice is absent in the training issues'.

Implementation:Views on whether the current implementation of these initiatives serve its expected objectives, and the future affordability: key informants expressed their concerns that most of these programs are not implemented as planned, and this could be due to a number of reasons:

1. The lack of structured, comprehensive curricula that guides the implementation of these programs.
2. Scarcity of recourses for example, lack of qualified cadres to undertake the program and the high transportation and accommodation costs with many universities located originally in urban settings.

The initiative's future: Views on the expected impact of this initiative in the future, and what could be done to improve its outcomes: key informants felt that — if supported — these initiatives has a good future in the context of Sudan; especially with the increasing need for expansion of training facilities to cope with the increasing numbers of medical students; in fact, it could represent an alternative option tothe current clinical training settings. The following was suggested to improve this initiative:

1. strengthen communication and dialogue between Ministry of Health and Ministry of Higher Education, such that health authorities provide technical support that emphasises health needs when designing, planning and delivering such programs.
2. advocate for enforcing ‘multi-partnered development/review and delivery’ of such programs as a national accreditation standard for these programs and finally,
3. share the programs’ training and delivery cost across partners, in order to ensure its future sustainability and cost-effectiveness.

DISCUSSION

The evidence presented in the WHO global recommendations showed that; “rurally oriented medical education programs did influence subsequent choices of graduates to practice in rural areas” (Dolea et al., 2010). In fact, one study provided evidence that education stressing on primary healthcare or a generalist training can produce practitioners not only able to work in rural settings but also willing to work there willing and able to work in rural areas (Kaye et al., 2010).

This case study supported the existence of educational program’s suitable for HRH attraction purposes, and when specifically considering ‘curricula reflecting health issues’ in Sudan, it was believed that these programs, although originally designed to prepare students for health delivery in rural settings — and it does so to a reasonable extent — it could also have a moderate effect on the future recruitment and deployment choices of medical graduates. However, it is important to understand that these effects could vary greatly, since these programs were described rather differently across institutions and states.The programs’ implementation also varied a lot based on the context and the individual university’s goals and resources. In fact, contextual factors such as situation of conflicts, security and constraints of financial and other resources could alter the effects expected. This emphasised the need for planning and regulating these initiatives. This was supported in the literature suggesting the effects of different educational initiatives and elements involved within would vary considerably and usually be difficult to estimate, as these initiatives are sensitive to many individual factors and the surrounding confounders (Strasser and Lanphear, 2008).

However, it is important to emphasise two issues: firstly, HRH attraction means were not originally designed for this purpose; the evidence supported this and acknowledged that curricula oriented to cover rural health issues can indeed prepare students with the knowledge and skills necessary to work in rural settings (Curran and Rourke, 2004). Secondly, when it comes to the effects of educational HRH attraction/retention initiatives, evidence suggests a three-dimensional solution to enhance its attraction effects: this solution was summarisedas “rural background; positive clinical and educational activities in rural settings during undergraduate education, and targeted training for rural practice at the postgraduate level” (Strasser and Lanphear, 2008). This supported a solution in the form of combination of initiatives, and perhaps both educational and non-educational — rather than the use of one stand-alone initiative. Although a combination could achieve better results, its application could be more challenging.

Policy makers described attraction and/or retention as multifactorial or a multi-dimensional issues that need to consider different aspects and the recently growing challenges; including increased work load as a result of the massive migrations and turnovers, the economic inflation, deteriorated living conditions, poor working environments and even security conditions in states of conflicts situation. This could only be achieved through

using balanced combinations of different attraction/retention initiatives, educational and non-educational. In this regard, a good opportunity to maximise the outcomes of these initiatives presented itself, and that is the application of retention as multidimensional issue and in need of multi-partner involvement. Several policy makers felt the lack of involvement of the health sector in the design and implementation of these initiatives undermined its HRH attraction/retention impacts, and felt strengthening communication between the educational sector and the health sector is a must. Establishing effective partnerships in designing, organisation and implementation of these initiatives, will not only enhance its learning objectives, that is, preparing health workers for delivering health services in rural Sudan, but will also be key to maximising its future attraction role of fresh graduates to different states and rural areas.

CONCLUSION AND RECOMMENDATIONS

An in-depth look into this educational initiative revealed that it could moderately encourage graduates to work in states and rural areas, bearing in mind it was not originally designed for attraction purposes, and with little involvement from health authorities.

There is a need to form integrated and complementary attraction/retention schemes, including both educational and non-educational initiatives — designed and implemented to target health workers at different stages of their careers, and jointly between the health sector and the educational sector. This cooperation must include development of design standards, implementation, financing, periodical monitoring and evaluationbased on exhaustive evaluative researches at state levels.

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BIOGRAPHICAL NOTES

Anoud R. Omer (MBBS, MPH, MD, MSc) Community Medicine Specialist with specialised training in health policy and planning and interest in health education and research. After completing her master degree in public and tropical health, she worked for three years as the Monitoring and Evaluation Officer in Human Resources for Health (HRH) Planning directorate, Federal Ministry of Health/Sudan. In 2013, she moved to Public Health Institute/Sudan to establish the HRH unit. In 2014, she was awarded her second master degree in Health Policy, Planning and Financing. Her interest in academia led her to start a teaching career at Al-Nealian University and to become a fellow of FAIMER-Southern African Institute (SAFRI).

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