Social Science & Medicine 138 (2015) 225–233

Contents lists available at ScienceDirect

Social Science & Medicine

journal homepage: www.elsevier.com/locate/socscimed

The effects of utility evaluations, biomedical knowledge and modernization on intention to exclusively use biomedical health facilities among rural households in Mozambique

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ARTICLE INFO

Article history:
Available online 15 June 2015

Keywords:
Utility-maximization
Biomedical knowledge
Modernization
Traditional medicine
Healthcare provider choice
Rural
Mozambique

ABSTRACT

In resource-limited settings, the choice between utilizing biomedical health services and/or traditional healers is critical to the success of the public health mission. In the literature, this choice has been predicted to be influenced by three major factors: knowledge about biomedical etiologies; cultural modernization; and rational choice. The current study investigated all three of these predicted determinants, applying data from a general household survey conducted in 2010 in Zambézia Province of Mozambique involving 1045 randomly sampled rural households. Overall, more respondents (N = 802) intended to continue to supplement their biomedical healthcare with traditional healer services in comparison with those intending to utilize biomedical care exclusively (N = 243). The findings strongly supported the predicted association between rational utility (measured as satisfaction with the quality of service and results from past care) with the future intention to continue to supplement or utilize biomedical care exclusively. Odds of moving away from supplementation increase by a factor of 2.5 if the respondent reported seeing their condition improve under government/private biomedical care. Odds of staying with supplementation increase by a factor 3.1 if the respondent was satisfied with traditional care and a factor of 16 if the condition had improved under traditional care. Modernization variables (education, income, religion, and Portuguese language skills) were relevant and provided a significant component of the best scientific model. Amount of biomedical knowledge was not a significant predictor of choice. There was a small effect on choice from knowing the limitations of biomedical care. The findings have implications for public healthcare promotion activities in areas where biomedical care is introduced as an alternative to traditional healing.

1. Introduction

At the core of the developed world's response to problems of disease and poverty in developing countries is the provision of biomedical healthcare. This is nowhere more the case than in highly impoverished areas such as rural Mozambique. Vital biomedical services are being introduced in areas where previously the only healthcare services accessible were traditional healers. As a consequence, today people in remote areas now have choices regarding where they will seek healthcare. Thus, the challenge is to understand factors that influence the choice of care in a pluralistic healthcare system.

In developing countries, public health practitioners recognize that utilization is not simply affected by the choice to seek biomedical healthcare or not, but more precisely, the choice individuals make among available providers – traditional and/or biomedical (Campbell-Hall et al., 2010; Ernst, 2000; Littlewood and Vanable, 2011; Sato, 2012; Su and Li, 2011; Tabi et al., 2006). Modern, often government sponsored/endorsed health services are competing with traditional healers/medicines and self-care (Russo et al., 2014). It is estimated that about 70% of the population in Sub-Saharan Africa will use traditional medicines at some point in their life (Mills et al., 2006).

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http://dx.doi.org/10.1016/j.socscimed.2015.06.013
0277-9536/

When provided the choice of seeking healthcare from biomedical providers, many individuals opt for such care. However, not all individuals with that choice will seek care at all or exclusively from biomedical providers (Herbert et al., 2012; Moshabela et al., 2011; Su and Li, 2011). In a community survey conducted in Zambézia Province, Mozambique, 83% of the participants reported seeking care from traditional healers and of these 56% also consulted government health facilities (Audet et al., 2012).

Some governments are ambivalent about the role of traditional healers and/or medicines (Audet et al., 2012; Banda et al., 2007; Sorsdahl et al., 2009; Tsai et al., 2013) and official recognition of plurality in healthcare provision and use differs widely among countries (Littlewood and Vanable, 2011), hence the relative scarcity of empirical examinations of provider selection in pluralistic health systems. Ignoring traditional medicines underestimates healthcare utilization, particularly in rural, bio-medically underserved communities, and leads to partial understanding of predictors of provider preference (Sato, 2012). This paper uses data from a general household survey in rural Mozambique to examine factors proposed as significantly influencing provider choice decisions in pluralistic healthcare systems.

Traditional healers have existed in Mozambique long before colonization and continue to far outnumber biomedical doctors. In 2012, there were no more than 1000 biomedically trained doctors in Mozambique for a total population of 24.5 million (Audet et al., 2012). For many decades (following independence in 1975) traditional healer services were legally banned in Mozambique (Audet et al., 2012), although this law was neither enforced by Mozambican authorities nor observed by about 80% of the population (Kale, 1995). In the last decade traditional healers have become increasingly recognized as key to the government-backed public health response to the HIV and TB epidemics, however there is still no clear policy position on what that role is and how traditional healers should interface with the biomedical health system (Audet et al., 2012). As elsewhere in Southern Africa, traditional healers offer services on a fee-for-service basis, with prices varying widely by type of healer and procedure (Kale, 1995; Audet et al., 2012) and offer payment terms that are relatively flexible and convenient (Lindelow, 2002). In contrast, use of government health facilities is mostly free of charge, although some health facilities might charge a nominal fee for some consultations on relatively inflexible terms (Lindelow, 2002). These government health facilities do not provide or endorse traditional medicine. A market-based private pharmacy/doctor system is only recently emerging as a source of healthcare in Mozambique but has very limited coverage, particularly in rural areas and small towns, and offers mainly biomedical products (Russo et al., 2014). Therefore, households in rural Mozambique can feasibly choose among traditional healers and government-backed biomedical providers.

1.1. Healthcare seeking choices

Perhaps the dominant view in public health has assumed that increasing education and income will be associated with greater use of biomedicines in developing countries (Sato, 2012). This theory describes a sequential pathway in which the substitution of traditional with biomedical healthcare is the norm of a modernizing community (Moshabela et al., 2011; Schwartz, 1969). At the core of the modernizing hypothesis are the propositions that adherence to traditional culture or religious beliefs are associated with the choice to use traditional or biomedical healthcare. Schwartz (1969) distinguished acculturative from counter-acculturative health seeking behavior in non-Western societies where biomedicine was being scaled-up. In Schwartz's classification, acculturative behavior occurred when biomedicine was chosen first and traditional medicine second during an illness episode, the opposite order of preference being counter-acculturative. Consistent with this viewpoint, public health literature about healthcare search behavior tends to focus on the decision to use the biomedical health system (dosReis et al., 2007; Herbert et al., 2012; Peltzer, 2009; Pescosolido et al., 1998; Sorsdahl et al., 2009). From this literature, it is clear that when provided the opportunity, many individuals do indeed seek healthcare from biomedical providers. For example, Peltzer (2009) found some evidence that over the last 13 years, traditional healer use has declined in South Africa. However, 6%–39% of persons surveyed at biomedical health facilities were also using traditional medicine (Peltzer, 2009). Thus, we can propose that levels of formal education and income will be associated with the preference for biomedical healthcare, while adherence to cultural practices and traditional religion will be associated with the preference for traditional healers.

However, recent literature on HIV care seeking has indicated a pattern of persistent multi-system use (Audet et al., 2012; Littlewood and Vanable, 2011; Moshabela et al., 2011). Concurrent multi-system use has long been observed in qualitative literature, e.g., in the anthropology literature about syncretism (Kleinman, 1986; Schwartz, 1969) and about responses to malaria illness (Hausmann-Muela et al., 2002; Kizito et al., 2012). Other recent studies reveal a complex picture that describes increasingly pluralistic healthcare systems in which persons choose amongst diverse healthcare/healing traditions (Herbert et al., 2012; Russo et al., 2014).

Research about concurrent use of traditional and biomedical healthcare has conceptualized health system choice as a rational, utility-maximizing behavior (Sato, 2012; Moshabela et al., 2011). These studies have investigated doctor/healer shopping (de Graft Aikins, 2005), order of preference (Bhatia and Cleland, 2001; Moses et al., 1994), and bypassing behavior (Akin and Hutchinson, 1999) in which distant providers are chosen over local providers (Sato, 2012). Moshabela et al. (2011) and Pescosolido et al. (1998) modeled health search behavior as an optimizing information search, with an initial trial and error phase of concurrent use followed by fidelity to one health system. Some studies have highlighted quality of care as a factor driving preference for traditional over biomedical healthcare (Kizito et al., 2012; Littlewood and Vanable, 2011; Sato, 2012). Examples of quality dimensions reported in qualitative studies include poor coordination of referrals between outreach biomedical services and hospital-based services, and limited patient-centered care from biomedical providers (Campbell-Hall et al., 2010; Kizito et al., 2012).

Weighing quality and cost factors, rational choice theory proposes that the individual will choose the utility maximizing provider/s. Assuming that the utility maximizing choice is not necessarily always associated with one type of provider, this proposition would predict a pattern of single-system and multi-system use, depending on the relative utilities associated with each provider.

Traditional healer preference over biomedical care is also characterized as driven by lack of knowledge about biomedical etiologies of diseases (Audet et al., 2012; Subedi and Subedi, 1993). Additionally, uncertainty about causes of illness and its treatment has been shown to encourage integrative/complex health seeking strategies (Alvesson et al., 2013; Mayxay et al., 2013; Schaetti et al., 2013). Thus, increasing knowledge of biomedicine should generally be associated with the choice of biomedical services. However, knowledge of the limitations of biomedicine should be associated with concurrent use of traditional and biomedical services.

While there is some evidence for the influence of each of these