



ความท้าทายในการกำกับกินยาแบบมีที่เลี้ยงของผู้ป่วยวัณโรคในชุมชน The Challenges in the Practice of Directly Observed Therapy in a Local Community

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บทคัดย่อ

บทความนี้มีวัตถุประสงค์เพื่อนำเสนอรูปแบบการส่งเสริมการกำกับการกินยาแบบมีที่เลี้ยงของผู้ป่วยวัณโรคในชุมชน ผลการสังเคราะห์ข้อมูลพบว่า กลยุทธ์ที่ช่วยส่งเสริมการกำกับการกินยาแบบมีที่เลี้ยงในชุมชน ได้แก่ การเปิดโอกาสให้ผู้ป่วยวัณโรคมีส่วนร่วมในกระบวนการรักษา การเสริมสร้างพลังอำนาจให้แก่ที่เลี้ยงกำกับการกินยาโดยการส่งเสริมให้ความรู้และทักษะในการดูแลผู้ป่วยวัณโรค และการมีส่วนร่วมของชุมชนในการลดการตีตราผู้ป่วยวัณโรค จากผลการศึกษาแสดงให้เห็นว่า บุคลากรทางด้านสาธารณสุขควรนำกลยุทธ์ดังกล่าวข้างต้นไปประยุกต์ใช้ ในการส่งเสริมให้ผู้ป่วยวัณโรคในชุมชนรับประทานยาวัณโรคจนครบตามแผนการรักษา อย่างไรก็ตาม ควรมีการวิจัยติดตามผลลัพธ์ระยะยาว เพื่อให้ได้รูปแบบในการส่งเสริมการกำกับการกินยาแบบมีที่เลี้ยงในบริบทที่แตกต่างกันได้ชัดเจนยิ่งขึ้น

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Abstract

Tuberculosis patient adherence to the long course of TB treatment is complex. This review aims to identify strategies for improving the practice of directly observed therapy (DOT) in order to promote patient adherence to TB treatment. Three analytical themes were identified across the studies: allow patients' participation on the treatment process; empower local health professional to take more responsibilities; and involve and collaborate with the community to decrease stigma. The adherence is influenced by the interaction among the tuberculosis patients, the DOT observers and the local community. The results point towards an empowerment approach for both patients and DOT providers to improve the practice of DOT. However, the results highlight the need for systematic evaluation of the conditions for the research results use in settings where transfer activities occur.

Keywords: Tuberculosis, DOT, Local Community

Introduction

Tuberculosis (TB) is a major public health concern with high rates of morbidity and mortality worldwide, particularly in low and middle-income countries. In 2014, there were nine million new cases of TB, and 1.5 million died, making TB one of the world's greatest infectious killers (World Health Organization, 2015). The World Health Organization (WHO) has implemented the directly observed treatment, short-course (DOTS) strategy which include directly observed therapy (DOT), socioeconomic support, psychosocial and emotional support, education and counselling, and early detection for TB control (Behzadifar, Mirzaei, Behzadifar, Keshavarzi, Behzadifar, & Saran, 2015; Lertmaharit, Kamol-Ratankul, Sawert, Jittimaneer & Wangmanee, 2005; Macq, Torfoss & Getahun, 2007; Mateus-Solarte, & Carvajal-Barona 2008; Tschirhart, Nosten & Foster, 2016). DOT is defined as ingestion of anti-TB medications under the direct observation of healthcare staff, a community member, a lay health worker or a family member who is appropriately trained. Patients on DOT are classified as center-based DOT if the observers are health personnel, as family-based DOT if the observers are family members, and as community-based DOT if the observers are community members or lay health workers. The DOT providers will help patients to increase adherence to treatment, leading to an effective cure for TB (Pungrassami, Kipp, Stewart, Chongsuvivatwong, Strauss, & Rie, 2010; Rakwong, Sillabutra, & Keiwkarnka, 2010; Suwankeeree & Pichansathian, 2014).

Improving treatment adherence has been a core aspect of the practice of DOT (Frieden, & Sbarbaro, 2007). Studies conducted on DOT have shown the factors which may influence patients' adherence. Situations associated with TB treatment adherence involve social, cultural and demographic barriers, in addition to those related to medication and also to the process of health care delivery (Lertmaharit, Kamol-Ratankul, Sawert, Jittimaneer, & Wangmanee, 2005; Mishra, Hansen, Sabroe & Kafle, 2006) Previous studies have indicated some of the multiple factors that may influence patient adherence to TB treatment. For example, structural factors, poverty and the financial impact of TB treatment have been found to be major influences on adherence (Munro, Lewin, Swart, & Volmick, 2007; Shiotania & Henninka, 2014). The patient-



related factors include motivation for staying on treatment and the psychological and physiological impacts of the adherence to TB treatment. Patients may hide their disease from employees for fear of dismissal, which may result in non-adherence. In addition, gender discrimination may influence treatment adherence, especially in some Asian settings, where females' TB status is sometimes hidden because it may result in divorce or reduced prospects of marriage (Munro, Lewin, Smith, Engel, Fretheim & Volmink, 2007). The knowledge of, attitudes towards, and beliefs about TB and its treatment affect adherence (Munro et al., 2007). People encounter TB stigma in many settings, which may result in hiding the diagnosis (Courtwright, & Turner, 2010). Factors related to the health service influence TB treatment adherence including the relationship between the healthcare provider and the patient (Munro, Lewin, Smith, Engel, Fretheim, & Volmink, 2007).

To date, there has been little published about the practice of DOT at a local community level and little guidance on how to improve this practice in order to promote patient adherence to TB treatment. This descriptive paper will concern the challenges in the practice of DOT and patient adherence to TB treatment in a local community. The results may guide health practices and indicate effective policies for improving the practice of DOT in the community level in the future.

Content

This review identified three strategies for improving the practice of DOT that were likely to have a combined effect on patient adherence to TB treatment. These were: 1) to allow patients' participation on the treatment process, 2) to empower local health professional in taking more responsibilities, and 3) to involve in, and collaborate with the community to decrease stigma.

1. Allow patients' participation on the treatment process

The patients often had difficulties reaching the health center due to long distances and/or poor transport infrastructure, especially in rural areas (Hane, Thiam, Fall, Vidal, Diop, Ndir et al, 2007). As daily attendance at a clinic entailed high transportation costs, some patients could not afford transportation. Also, daily treatment was time-consuming and physically demanding, and rigid routines at health clinics reinforced many of the emerging problems (Sagbakken, Bjune & Frich, 2011). The TB patients still managed to continue the treatment, mainly because their relatives or community members provided them with food and dairy drinks, encouragement to continue the treatment, and sometimes money for transport (Arcêncio, Oliveira, Cardozo- Gonzales, Ruffino- Netto, Pinto & Villa, 2008; Okanurak, Kitayaporn, Wanarangsikul & Koompong, 2007; Adatu, Odeke, Mugenyi, Gargioni, McCray, Schneider et al, 2003).

One study also found a family member was the most convenient, acceptable and accessible DOT provider because such a person increased the ability to continue with one's daily activities during treatment and helped with saving time and money (Zvavamwe & Ehlers, 2009). Furthermore, the flexibility in individual arrangements and observation was important (Tao, Zhao, Jiang, Ma, Wan & Ma, 2013; Wandwalo, Makundi, Hasler & Morkve, 2006). Thus, allowing



patients more influence on the treatment process was extremely important during the intensive phase of the TB treatment.

It is essential that the TB patients understand how their treatment is to be organized and the importance of the treatment. Based on the results, it is possible to recommend an empowerment approach to increase the ability to control one's own life and reduce the TB stigma through TB education programs and social support (Haglund, Bo, Pettersson, Finer, & Tillgren, 1996; Hoa, Diwan, Co & Thorson, 2004). However, an empowerment approach will be achieved when the DOT providers support the TB patients by giving expertise support through increased knowledge, skill development, competence, autonomy, self-confidence and freedom (Macq, Solis, Martinez & Martiny, 2008; Tengland, 2008).

2. Empower local health professional to take more responsibilities

The importance of communication skills by the DOT providers was highlighted by both TB patients and healthcare workers. The communication between DOT providers and patients was equally poor at the time of diagnosis and registration, as well as during the treatment (Hane, Thiam, Fall, Vidal, Diop, Ndir et al, 2007; Lewis & Newel, 2009). The local DOT providers did not get up-to-date knowledge on TB to support the TB patients and provide them with adequate and timely treatment (Escott & Walley, 2005; Yasin & Karabey, 2016). Also, the family members whose role involved observing their relatives taking TB drugs needed to receive education about TB and its treatment (Lewis & Newel, 2009).

One study suggested including a condensed version of the actual TB guidelines to facilitate the role of DOT provider (Yasin & Karabey, 2016). However, a study from the rural DOT providers perspective found that health workers practical needs in terms of DOT could be fully met by increasing the DOT allowance, and by other enablers, such as removing obstacles in DOT provision as well as providing more training and education opportunities (Hane, Thiam, Fall, Vidal, Diop, Ndir et al, 2007; Zvavamwe & Ehlers, 2009).

The DOT providers may not support the TB patients because they may lack knowledge of conditions affecting health or because of environmental disincentives (Hane, Thiam, Fall, Vidal, Diop, Ndir et al, 2007; Lewis & Newel, 2009; Wright, Westerkamp, Korver & Dobler, 2015). There are significant problems in terms of misunderstanding and miscommunication between DOT providers and TB patients. Also, patients reported that treatment supporters maintained a monitoring role regarding patients' treatment, limiting patients' opportunities to exercise control over their illness and their drug regimen (Atkins, Biles, Lewin, Ringsberg & Thorson, 2010). Some studies highlighted how negative attitudes can play through into the relationship between DOT providers and TB patients, leading to a lack of respect for, and lack of empathy with the TB patients (Mishra, Hansen, Sabroe & Kafle, 2006). The DOT providers need to be concerned with the whole person and realize that health is closely related to empowerment and must extend field experience in community settings and in healthcare teams.

Improving the skills and behavior of DOT providers, giving them more TB knowledge and increasing their supervision activities led to an improvement in patients' adherence to TB treatment. An empowerment approach will encourage the DOT providers to achieve personal



development by supporting self-reliance, self-confidence and self-esteem (Haglund, Pettersson, Finer & Tillgren, 1996). Empowering the DOT providers and continuing to train them with more TB health education activities, will make them ready to empower the TB patients (Tengland, 2008). The results of this review are consistent with what was reported by Atkins, namely it is necessary to provide a community or empowerment perspective to treatment, and to provide additional human resources through employing more skilled lay health workers to take on tasks previously done by nurses (Atkins, Lewin, Ringsberg, & Thorson, 2012).

3. Involve and collaborate with the community to decrease stigma

A supporting environment in the local community was revealed as important from the experiences among TB patients. The community-based DOT option had better cure rates than those for clinic or self-administered TB treatment (Adatu, Odeke, Mugenyi, Gargioni, McCray, Schneider et al, 2003; Cavalcante, Soares, Pacheco, Chaisson & Durovni, 2007; Wandwalo, Makundi, Hasler & Morkve, 2006). The community-based DOT was convenient, reduced costs, saved time, and improved the daily living conditions when the patients were too weak to come to the TB clinic. It enabled the patients to stay with their families, and increased the awareness of TB among the patients, family members and the community so they could better understand the disease, and reduced the stigma (Lewis & Newel, 2009). From a TB nursing perspective, the community-based DOT reduced the workload of healthcare workers (Wandwalo, Makundi, Hasler & Morkve, 2006).

By using community-based DOT providers, an option was that the former TB patients, who had their own experience of the disease and were motivated, could supervise others and convince them to complete the medication and reduce the TB stigma in the community. In urban areas, promoting social mobilization and community support and using indigenous community health workers improved TB treatment outcomes (Cavalcante, Soares, Pacheco, Chaisson & Durovni, 2007). One study found that many young TB patients would prefer to take their drugs at home rather than use facility-based DOT (Tao, Zhao, Jiang, Ma, Wan & Ma, 2013). A study in Thailand found that the community-based DOT might not be an appropriate option for the urban setting because the TB patients did not want more people than necessary to know they had TB. It is suggested that combined methods, such as center-based DOT for the first few weeks and then being transferred to family-based DOT, with the patient's agreement, can achieve the target of TB treatment (Okanurak, Kitayaporn, Wanarangsikul & Koompong, 2007).

The variants of DOT differ in important ways in terms of who is being observed, where the observation takes place and how often observation occurs. The studies report that these aspects of DOT are crucial in determining how effective a particular type of DOT will be in terms of increased cure rates. In addition, the studies highlighted the key role of social and economic factors in relation to adhering to TB treatment. The type of DOT service is a major factor influencing a TB patient's decision-making about following treatment regime or not. In rural areas, the daily observation of a TB patients by a DOT provider is an option that cannot be used by a large number of patients, who may live too far from the nearest health centre. In these cases, it would be beneficial to shift the treatment of all TB patients to health facilities within



the primary healthcare structure (Suwankeeree & Picheansathian, 2014). There are consistent reports that access to TB care could be improved through decentralization of treatment (Thiam, LeFevre, Hane, Ndiaye, Ba, Fielding et al, 2007).

The practice of DOT, combined with involving in, and collaborating with the community, may decrease stigma and, therefore, be used for promoting patient adherence to TB treatment. Community or family members may have contributed to the positive results in improving adherence to treatment, but there was no significant difference in cure rate among the TB patients who received DOT from a community member or a family member (Zhang, Ehiri, Yang, Tang & Li, 2016). This review showed that community-based DOT and family-based DOT can both reach the WHO target for treatment success (Wright, Westerkamp, Korver & Dobler, 2015). However, family members can potentially be effective treatment observers, but only if there is close supervision of all aspects of the treatment delivery system through weekly home visits by healthcare staff (Wandwalo, Makundi, Hasler & Morkve, 2006).

It is increasingly recognized that supportive environments for health, which include physical, social and psychological support, provide conditions conducive to healthy lifestyles (Haglund, Pettersson, Finer & Tillgren, 1996). Social support for health involves interaction through which people give and receive mental, emotional, informational, material and operational support that lead to better health. The right quality and timing of social support are vital for successful care, especially when a person's own capacity to cope has been reduced (Arcêncio, Oliveira, Cardozo-Gonzales, Ruffino-Netto, Pinto & Villa, 2008; Sagbakken, Bjune & Frich, 2011). The results regarding community support are consistent with a systematic review conducted by Courtwright and Turner (2010) which showed that TB clubs may reduce social isolation and offer an environment in which TB status is highly visible and accepted. Also, Macq, Solis, Martinez and Martiny (2008) conducted a study on the effect of TB clubs on TB stigma in rural Nicaragua and found that patients enrolled in TB clubs had a significant reduction in internalized TB stigma. The same study conducted by Atkins, Lewin, Ringsberg and Thorson (2012) showed that providing community empowerment to treatment in primary health clinics could reduce stigma and achieve good adherence outcomes.

Conclusion

This paper contributes a deeper understanding of the perspective of healthcare providers, DOT observers and TB patients when the DOT is practiced in a local community. Lack of TB knowledge and skills among DOT observers, and fear of stigma among TB patients are considered significant barriers to patient adherence to TB treatment. The reviews point towards an empowerment approach for both DOT providers, who, in turn, will empower TB patients to achieve adherence to TB treatment. Health education can help people develop a critical understanding of the social conditions in which they live and of what they can do to change those conditions. If people become more knowledgeable about the effects of social conditions on TB, they may discover and solve the problems in their communities.

Thus, the strategies for supporting the TB patients during their treatment were to:



empower local health professionals to take more responsibilities by improving the communication and behavior of the local DOT providers, respect the individual patient autonomy and integrity, and increase knowledge about TB and its treatment among DOT providers, patients, families and the community.

Suggestion

The findings have particular relevance when policymakers consider how strategies can enable the patient's adherence to TB treatment. There is also a strong need for more knowledge when transferring interventions in specific local contexts. Further studies are needed to apply empowerment approach in different local communities. The empowerment approach should be implemented and tailored to local contexts, then there is a need for systematic evaluation of the conditions for the research results use in settings where transfer activities occur.

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