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Barriers to access to antiretroviral treatment for HIV-positive tuberculosis patients in Windhoek, Namibia

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ABSTRACT

Setting: Namibia faces a high burden of tuberculosis (TB) and HIV-infection. In 2011, 50% of the TB patients were co-infected with HIV. While all patients co-infected with TB and HIV are eligible for antiretroviral treatment (ART), only 54% were reported to have received ART according to national data.

Objective: To explore the perspective of healthcare professionals on barriers to access to ART for HIV-positive TB patients.

Design: Nine semi-structured qualitative interviews were conducted with healthcare professionals from TB and HIV services in Windhoek in 2012 to investigate access barriers to ART for HIV-positive TB patients in Namibia.

Results: Many barriers known from other African countries were also present in Namibia. The barriers rated as most important were: staff shortage (health system level); limited training (healthcare worker level); and fear of stigma and discrimination (patient/community level). Direct treatment costs and limited availability of antiretroviral medication were not observed as barriers. Interference with TB treatment and ART by some Pentecostal churches was revealed as an important barrier that has not yet received sufficient attention.

Conclusion: The study identified access barriers to ART for HIV-positive TB patients and their relevance in Namibia. The findings provide evidence for tailored interventions to increase ART-uptake among HIV-positive TB patients.

Introduction

The strongest risk factor for developing active tuberculosis (TB) is infection with human immunodeficiency virus (HIV). In 2012, an estimated 13% of the 8.6 million new TB patients worldwide were co-infected with HIV. About three quarters of them lived in Africa. TB is a leading contributor to mortality among people living with HIV (PLHIV) [1].

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Table 1 – Summary of major TB/HIV indicators in Namibia, 2007–2011; adapted from Ref. [6].

Indicator	2007	2008	2009	2010	2011
Number of notified cases of all forms of TB	15,244	13,737	13,332	12,625	11,937
TB case notification rate for all forms of TB per 100,000	722	665	634	589	556
TB cases with known HIV status (as percentage of all notified TB cases)	8,186 (54%)	9,188 (67%)	9,849 (74%)	9,534 (76%)	10,039 (84%)
TB patients with known HIV status who are HIV-positive (as percentage of all TB patients with known HIV status)	4,358 (59%)	5,425 (59%)	5,676 (58%)	5,227 (55%)	4,980 (50%)
HIV-positive TB patients on ART (as percentage of all TB patients with known positive HIV status)	749 (17%)	2,019 (37%)	1,995 (35%)	2,294 (43%)	2,700 (54%)

For PLHIV with active TB (TB/HIV patients), early initiation of antiretroviral therapy (ART) reduces morbidity and mortality. The 2010 World Health Organization (WHO) guidelines for antiretroviral therapy recommend ART for co-infected patients irrespective of CD4 cell count as soon as possible after starting TB treatment [2]. However, ART uptake is often poor or treatment is delayed in low-resource settings [1].

Namibia, an upper middle income country [3] in sub-Saharan Africa, has incorporated early initiation of ART for TB/HIV patients in the national ART guidelines in 2010 [4] and in the national TB guidelines in 2012 [5]. TB and HIV programs in Namibia are set up as independent and vertically structured programs. With 556 new TB cases per 100,000 persons notified in 2011, Namibia has one of the highest TB incidence rates in the world [6]. HIV prevalence among adults aged 15–49 years is also very high estimated to be 13.4% in 2011 [7]. Table 1 gives an overview of major TB/HIV indicators in Namibia. HIV status was documented for 84% of the TB cases in 2011; 50% of the TB patients with known HIV status were HIV-positive and 54% of them were on ART [6]. The relatively low national figures of co-infected TB/HIV patients on ART in Namibia may partly be due to underreporting as a result of incomplete register documentation. Information regarding ART is routinely entered in the TB registers at the start of TB treatment. Later ART uptake is not consistently documented and notified to the authorities [8]. Actual figures at completion of TB treatment may therefore be higher than the recorded data suggest, but the scale of the documentation gap has not been determined.

Research conducted in other African countries revealed various barriers to accessing ART for TB/HIV co-infected patients at the health-system, healthcare-worker and patient/community level [9–19], yet there are no publications from the Namibian context. This study is the first to research underlying causes for the low proportion of ART uptake among HIV-positive TB patients in Namibia.

Methods

Qualitative research following the methodology by Meuser and Nagel [20] for key informant interviews was conducted from August to December 2012 with nine healthcare professionals from TB and HIV services in the Namibian capital, Windhoek. A qualitative approach was chosen because qualitative methods are suitable for exploring problems that cannot be determined exactly beforehand in contrary to a quantitative approach that measures previously defined constructs in a standardized form.

Study design

A semi-structured interview guide was developed based on a literature review [9–19,21] and pre-tested with Namibian healthcare professionals. The focus was a discussion of potential barriers to access to ART for HIV-positive TB patients in Namibia. Interviewees were also asked to perform a structured rating of the importance of barriers (categories: very important, important, not so important, no barrier). The interviews were conducted in English by the principal investigator, a physician with a background in public health.

Selection of interview partners

The selection of interview partners was performed in consultation with the National Tuberculosis and Leprosy Programme (NTLP). Triangulation of perspectives was attained through the purposive sample of six nurses from TB and HIV services, one community counselor, one field promoter from non-governmental community-based TB care and one District Tuberculosis and Leprosy Coordinator (DTLC). Public health facilities included large and small units with and without an HIV clinic.

Data collection

Access to interview partners was facilitated by the DTLC. All contacted key informants agreed to be interviewed. Informed consent was explicitly obtained for digital recording and verbatim transcription.

Analysis

Data analysis was undertaken following Meuser's and Nagel's method of content analysis for key informant interviews [20].

The transcripts were paraphrased; captions were allocated to paragraphs and revised several times. An inductive process of coding was used to identify analytical categories as they emerged from the data.

Limitations

A general weakness of the key informant interview approach is that the quality of the results depends highly on the interviewee's willingness to provide truthful information [20]. Care was therefore taken to reassure the participants that the aim of the study was to identify the potential for reducing challenges in service provision and improving patient care and not to test their knowledge and compliance with guidelines.

Attention was paid to potential researcher bias, particularly in light of the different cultural backgrounds of interviewer and interviewees. Findings were discussed with further Namibian healthcare professionals prior to analysis to avoid misinterpretation.

Since barriers are likely to vary substantially between rural and urban settings, the results cannot be taken as representative of the national situation in Namibia. Research regarding the patients' perspectives would complement the results.

Ethics statement

The study is in line with data privacy regulations and ethics requirements of Charité University Medical Center Berlin. The research project was registered and granted ethical approval by the Research Management Committee of the Ministry of Health and Social Services in Namibia on 7 August 2012.

Results

Figs. 1–3 display access barriers to ART for HIV-positive TB patients according to their ranking and grouped by barriers at the health system level, at the healthcare worker level and at the patient/community level. The topics are presented in this order in the results section, while the discussion of barriers in the following section is guided by their relevance and contextual relationship.

Barriers at the health system level

Staff shortage in TB and HIV services is regarded as the most important barrier by the interviewees. They describe a general problem with nurses resigning and difficulties in filling

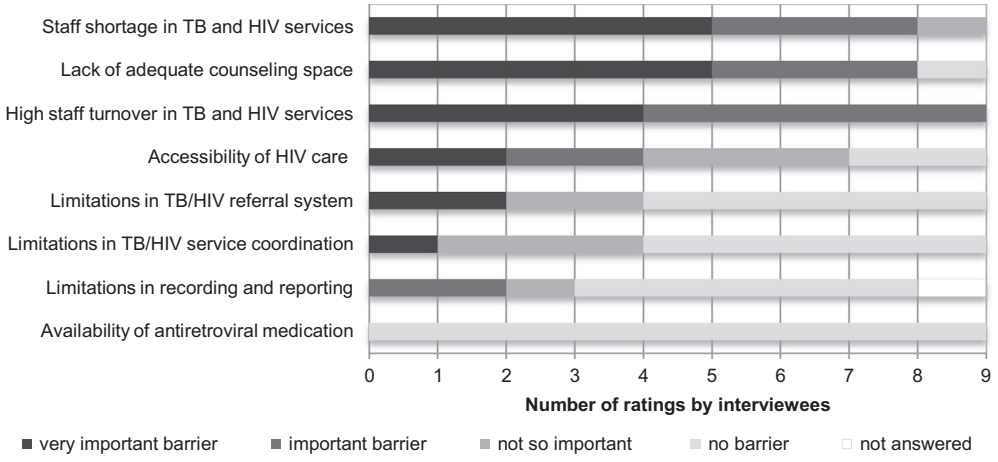

Fig. 1 – Rating of barriers at the health system level.

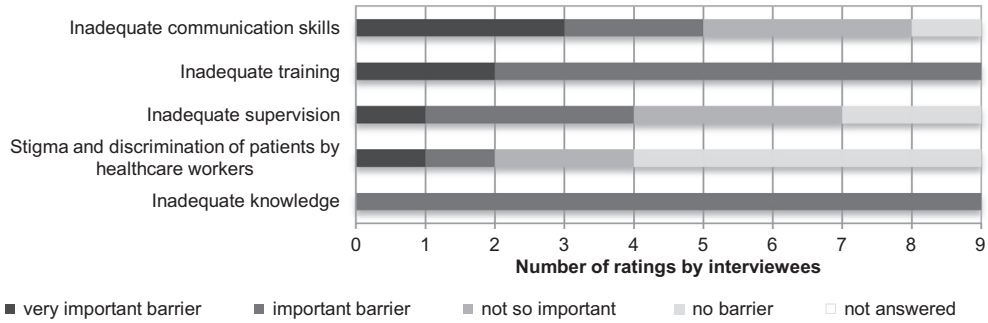

Fig. 2 – Rating of barriers at the healthcare worker level.

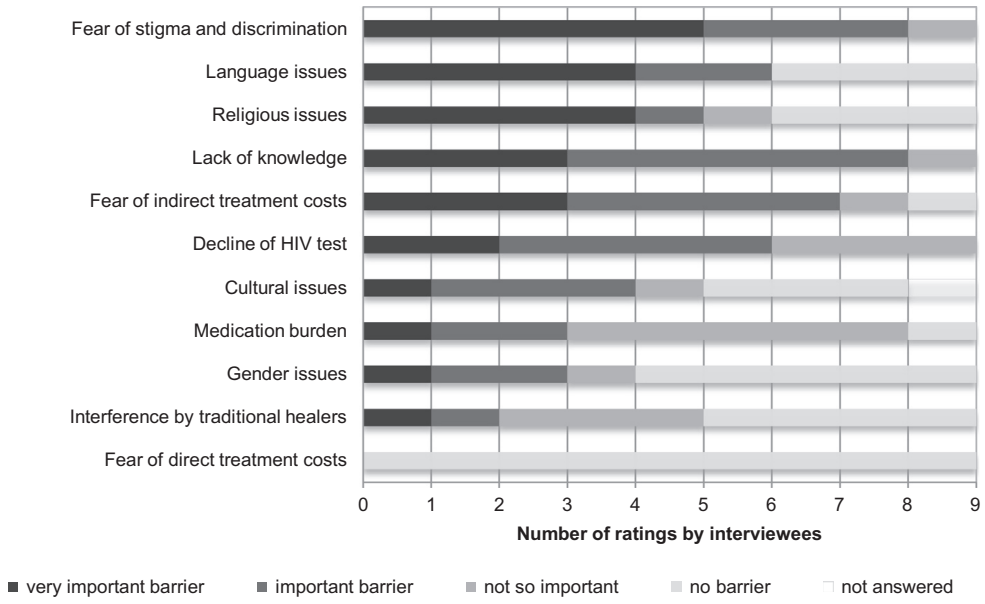

Fig. 3 – Rating of barriers at the patient and community level.

the vacancies. Many nurses are apparently reluctant to work in the TB department due to fear of infection. The interviewees observe that understaffing leads to a lack of time for individual patients and may compromise motivation and quality of work. High staff turnover due to rotation or resignation of staff is also regarded as an important barrier. Even a short-term absence of the familiar nurse may decrease adherence to TB treatment: *"When I came back from leave, they were gone, all [the patients] were gone. I ended up calling 'Where are you?' [The patients asked] 'Are you back?', so they just came back" (TB nurse)*.

Lack of adequate counseling space is also perceived as a major barrier. Patients are often counseled in rooms where nurses and even other patients go in and out: *"They [the counseling colleagues] use the conference room, but there is no privacy" (HIV nurse)*.

Many interviewees see a barrier in physical accessibility of HIV services and list difficulties like distance from place of residence, limited opening hours and long waiting times.

Four interviewees regard limitations in the referral system between TB and HIV services as a barrier. Referrals are made without standardized referral forms, and there are no referral registers for documentation. Interviewees have developed different strategies to keep track of referrals, but they are not systematically applied.

The majority of interviewees did not regard limitations in recording and reporting of TB/HIV data as a barrier. However, neither counseling for and referral to HIV testing or counseling for ART and referral to HIV care are systematically documented.

Most of the interviewees did not see a barrier in limited coordination of TB and HIV services. Yet, there are no joint training workshops or supervisory meetings and no mutual staff meetings of nurses from TB and HIV services. Furthermore, reconciliation of TB and HIV data is not performed.

The interviewees report no out-of-stock situations of antiretrovirals (ARVs) in their facilities.

Barriers at the healthcare worker level

Inadequate training of healthcare workers is regarded as an important or very important barrier by all the interviewees: *"...not all our nurses who work in TB are trained in HIV. They are just using their own common sense" (DTLC)*. New TB nurses are invited to attend a workshop on TB management, including a module on TB/HIV co-infection, but not always in a timely manner. Some interviewees also perceive supervision as insufficient. In addition, all the interviewees rate inadequate knowledge on the part of the healthcare workers as an important barrier. Delayed training, missing refresher training and lack of time for training and supervision are reported as the main causes.

Several interviewees felt the need for training in communication skills: *"Because if you scare the patient, forget that the patient will open up. It doesn't matter what race or what tribe the patient is, you can overcome this with communication" (HIV nurse)*.

Some interviewees have observed stigmatizing and discriminating behavior of other healthcare workers against TB patients: *"Sometimes the TB nurse did not go for training and when the patient comes, she don't want even to touch the patient" (field promoter)*. Stigma and discrimination of healthcare workers against HIV-positive patients was not reported.

Barriers at the patient/community level

Interviewees rate fear of stigma and discrimination as the main barrier to HIV treatment on the part of the patients, stating that many patients prefer not to be seen at the HIV clinic or taking the antiretroviral medication. *"You know, no one wants to be seen walking around with a big container. Because people out there know big white containers they are ARVs" (HIV nurse)*.

Four interviewees regard language issues as a very important barrier. Translations to local languages are mostly delivered by other healthcare workers and relatives, but

sometimes also by other patients. Some interviewees express concerns about privacy and quality of translations.

Six interviewees regard religious issues as a barrier. They report an increasing number of patients who have been encouraged by Pentecostal churches to stop taking their ART or other drug treatment and rely on healing through faith and prayer instead. *"If the church finds out that they are on ARV, the church will say 'Bring your medication to church and we will throw them away and we will start praying for you'. And then they stop their treatment" (TB nurse)*.

Interference by traditional healers is, in contrast, not regarded as a major barrier.

All the interviewees agree that lack of knowledge on the part of the patients is an access barrier because understanding of the benefits of ART supports the decision to get an HIV test and to start ART.

Fear of indirect treatment costs (loss of income, expenses for transport or extra food) are perceived as a barrier by most of the interviewees: *"They cannot take the medication on their empty tummies" (TB nurse)*. On the other hand, fear of direct treatment costs is not regarded as a barrier since HIV services including ART are offered at no cost.

The interviewees report that most TB patients get tested for HIV without hesitation. The remaining patients agree after repeated counseling, but some keep declining. Interviewees assume fear of stigma and discrimination, ignorance and denial as main causes behind a decline or delay of HIV testing.

Some interviewees see a link between culture and access to ART, and name traditions, beliefs and social norms of different ethnic groups as barriers. *"Some races feel like that, this is not a disease for them, it's a disease for other people. And even if they are sick, dying sick, they won't be tested" (HIV nurse)*.

Most of the interviewees have experienced that patients have reservations regarding the medication burden of ARVs on top of the TB treatment, especially with respect to potential side effects and toxicities.

Four interviewees classify gender issues as a barrier with challenges for both male and female patients. While male patients seem to struggle with their pride, female patients appear to be more concerned about disclosure: *"The females, they are still afraid: 'What will my husband say?'" (HIV nurse)*.

Discussion

According to the interviewees, Provider Initiated HIV Counseling and Testing (PICT) is routinely offered to TB patients and HIV-positive patients are routinely offered ART, in keeping with national and international guidelines [5,22]. Training of TB nurses is ongoing and access to ART is improving for TB/HIV patients in Namibia. However, a number of barriers on different levels were identified in this study.

Barriers at the health system level

Interviewees perceived staff shortage as a major challenge in service provision and as the most important access barrier to ART for TB/HIV patients at the health system level. High staff turnover due to attrition or rotation was also rated as an important barrier that brings about loss of experienced personnel and disrupts the close relationship between TB patients and their nurses. High workload due to inadequate human resources capacity may compromise the quality of patient care and administrative processes (e.g., recording and reporting), may decrease the time for training and supervision and may reduce productivity and motivation [23]. Given the severe shortage of healthcare workers in Namibia [24], the reluctance of nurses to work in TB services due to fear of infection is of particular concern. This obstacle to adequate staffing in TB units should be actively addressed by imparting knowledge on the actual risk of TB infection to all clinical staff. Also, national TB infection control guidelines must be updated in order to reflect the latest WHO policy [25,26], and implementation of the guidelines must be improved [27].

In line with literature, lack of adequate space for undisturbed counseling in privacy was rated as a barrier in this study [9]. Also, various obstacles to accessibility of HIV care, like long waiting times or cost of transport that are known from literature, were also observed in this study [21]. It can be assumed that transport factors pose a bigger challenge in rural areas [13]. Accessibility of HIV care could be improved by scaling up and integrating TB and HIV services. One-stop-services for co-infected patients, e.g., rapid HIV testing by TB nurses, should be offered as recommended by WHO [28].

Referrals between TB and HIV services are performed without standardized referral tools and procedures. Given the absence of feedback loops, like referral forms with backward slip and referral registers, failed referrals may go unnoticed [9]. WHO acknowledges a well-functioning referral system as a precondition for the effective delivery of HIV care to TB patients when TB and HIV services are not fully integrated [28]. The introduction of standard referral processes with closed loops would contribute to the success of referrals.

Important collaborative activities, like joint training and supervision or regular meetings of TB and HIV staff, are not performed at the facility level implying deficits in service coordination [9]. WHO regards these activities as success factors for the strengthening of referral linkages between vertically organized TB and HIV programs [28].

The study revealed substantial deficiencies in immediate and systematic documentation of HIV-related patient information. Inconsistent recordkeeping was already observed in Namibian TB services [27]. It is acknowledged as a barrier to ART [9] and implies underreporting of national data. This may partly account for the considerable discrepancy between the nurses' impression that most of the TB patients are tested for HIV and started on ART if the test comes out positive, while the figures in the TB registers are much lower [6]. In contrast to literature from other countries [9,14], ARV availability was not a barrier in the facilities that participated in the study. Indeed, ARV availability in Namibia was reported as almost 100% in public facilities during the time period 2007–2010 [29].

Barriers at the healthcare worker level

Inadequate communication skills, training, supervision and knowledge of healthcare workers were all regarded as barriers of high relevance by the interviewees, in line with literature

[10]. In order to avoid knowledge deficiencies among new nurses in TB services, timely training on the national TB management guidelines should be ensured before the assignment. The introduction of regular refresher training, a need expressed by several nurses, could contribute to the renewal and consolidation of knowledge over the course of the placement. Supportive supervision should be an integral part of the routine training package and include detailed guidance on referrals and their documentation. In addition, special training on counseling and communication skills would be beneficial to meet the particular needs of co-infected patients [10]. At this, the reduction of staff shortages plays an important role in ensuring sufficient time for training and supervision.

Stigma and discrimination at health facilities was determined as an impediment to ART initiation [21]. In this study, interviewees mainly described discriminating behavior of healthcare workers against co-infected patients being a result of fear of TB infection due to the airborne mode of transmission. Therefore, all staff in health facilities should be educated regarding the risk of an infection with TB, trained in TB infection control and made aware of stigmatizing and discriminating behavior.

Barriers at the patient/community level

The fear of stigma and discrimination was rated as the most important barrier on the part of the patients. It puts patients under psychosocial distress and may lead to a delay or rejection of HIV testing [15] and ART commencement [16]. Knowledge about the linkage of TB and HIV and about the benefits of ART is regarded as crucial for accepting the offer to get tested [11]. Efforts should therefore be made to intensify the dissemination of TB/HIV information and to fight stigma and discrimination in society. Since cultural background plays an important role in the individual response to HIV-related stigma [15,17], counseling and health education of patients should be adapted to cultural characteristics.

Speaking the same language as clinical staff is an important factor for the success of counseling [18]. In this study, communication problems due to the multiplicity of languages in Namibia turned out to be an important barrier. Since translations are not performed by professional interpreters, care must be taken to ensure that the patient feels comfortable with respect to privacy and that the information is well understood.

Interference by traditional healers was regarded as a minor barrier. By contrast religious interference with TB treatment, and especially ART, by Pentecostal churches turned out to be a serious problem in this study. Faith healing is part of the Pentecostal belief system, including healing of diseases that are classified as incurable in scientific medicine like HIV infection [30]. Interviewees report an increasing number of patients defaulting treatment because some Pentecostal churches in Namibia encourage their congregations to stop taking medication against HIV and other diseases. 'Born again' religion was recently described as a barrier to adherence to ART in other African countries [19,31], but has not yet been the subject of medical research in Namibia. It is a significant finding of this study that the practices of Pentecostal churches may compromise TB therapy and ART in Namibia. This development is not yet addressed in the national response to TB and HIV.

Fear of direct treatment costs for ART seems not to be a barrier. In contrast, indirect costs are perceived as a challenge for many patients. The literature shows that concerns regarding ART are often related to poverty, either with respect to loss of income [32] or to expenditures, e.g., for transport [12]. The expected medication burden also causes concerns, mainly due to possible toxicities and interactions [14] but also regarding the amount and quality of food needed while on treatment [12]. Patients should therefore receive thorough information up–front to clarify possible misconceptions [12,16].

The identification of gender-specific challenges for women and for men is in line with research from other countries [33,34]. Healthcare workers should be trained to carefully take gender-related aspects into account in counseling and clinical care of TB/HIV patients.

Conclusions

This study identified access barriers to ART for TB/HIV patients and their relevance in Namibia. The most important barriers are related to general shortages of staff and limitations in their training. Fear of stigma and discrimination remains a major barrier on the part of the patients. A surprising finding is the interference with TB and HIV treatment by Pentecostal churches.

The study results highlight the importance of addressing the challenges in the areas of staffing and training. The training package should include communication skills that address the particular needs of dually infected patients and promote gender-sensitive and culturally adapted counseling approaches. TB/HIV collaborative activities must be strengthened. Referral loops should be introduced, and the documentation of HIV-related patient information in TB services needs to be improved. The TB and HIV services should be integrated as much as possible, especially at the service provision level, to ensure comprehensive care for co-infected patients. Furthermore, the practices of Pentecostal churches interfering with drug therapy need to be researched and addressed.

The study provides evidence for targeted interventions to increase uptake of antiretroviral therapy for HIV-positive TB patients in Namibia. The findings have been disseminated to the Namibian Ministry of Health and Social Services.

Conflict of interest

We have read and understood IJMYco's policy on declaration of interests and declare the following interests: Dr. Farai Mavhunga and Ms. Albertina Thomas are employed by the Ministry of Health and Social Services (MOHSS), Nambia. Our study was conducted in the public health system in Namibia which is organized and financed by the Namibian MOHSS. Dr. Farai Mavhunga is head of the National Tuberculosis and Leprosy Programme (NTLP) in the MOHSS and Ms. Albertina Thomas is the Chief Health Programme Administrator for the NTLP. However, both authors declare that they have no conflicts of

interest and that the presented research was not affected by their employment with the MOHSS.

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SS participated in the study design and performed data collection, data entry, data analysis, drafting and preparation of the manuscript. FM, AT, BA and TU participated in the study design and the critical revision of the manuscript. All authors read and approved the final manuscript. The study received no funding.

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