

What is the accurate knowledge of the German population regarding sexual HIV transmission?

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Abstract

Objectives: HIV incidence in Germany is increasing even though the German Federal Centre for Health Education reported that the entire German population (99 %) has sufficient knowledge of sexual HIV transmission. We tried to find out the reason for this discrepancy.

Methods: HIV transmission knowledge was investigated in a Munich population (n = 317) and the findings compared with a nationwide study.

Results: No differences in knowledge regarding needle sharing and HIV/AIDS curability were found but, in relation to sexual HIV transmission, only 55.5 % of Munich respondents had sufficient knowledge of vaginal, anal and oral transmission routes. **Conclusions:** The knowledge level reported in the nationwide study is overestimated as a result of the ambiguous character of the questions used.

Keywords: HIV/AIDS knowledge – Sexual HIV transmission – Questioning – German population.

Introduction

The German Federal Centre for Health Education (Bundeszentrale für gesundheitliche Aufklärung, BZgA) has conducted an annual nationwide telephone survey of 16 to 65 year-olds since 1987; individuals in this study were chosen by ATM phone based random sample system (“Public Awareness of AIDS in the Federal Republic of Germany 2005: knowledge, attitudes and behaviour relating to protection against AIDS”; n = 3600, 50.9 % female, BZgA, 2006)¹. According to the sur-

vey, public awareness of the risk of HIV infection through “unprotected sexual contact with an unknown partner” has remained almost constant over the last 13 years at 98–100 %.¹ The BZgA concludes that “nearly the entire population has a very good knowledge regarding sexual HIV transmission”.¹ The number of new HIV diagnoses in Germany, however, has been slowly increasing over recent years. In 2005, for example, HIV incidence was 13 % higher than 2004.² In 2007, 3000 people got infected by HIV.³ Health experts suggest that this rise could be explained by the earlier use of HIV tests by men who have sex with men (MSM), reduced fear of HIV/AIDS because of improvements in treatment, and decreased financing of AIDS education.⁴ The HIV transmission risk through oral intercourse in MSM is estimated to be at least 3.9 %⁵, but the infectivity of seminal⁶ and vaginal⁷ fluids is well known, and ignorance of this way of transmission is definitely dangerous and public health relevant. Our question is: is the German population really almost 100 % informed about sexual transmission of HIV? Maybe the answers to the BZgA question – is there or is there not a risk of infection “If you have unprotected sex – I mean, without a condom – with an unknown partner?” are biased by its ambiguous (“unprotected”, “unknown”), and generalised (“sex”) formulation. What kind of sexual intercourse – vaginal, anal, oral or all of them – are referred to in the BZgA question?

Methods

In 2005 we conducted our own survey with a group of patients (n = 448) aged 18–65 who were waiting to see a physician in a general (non-HIV/STD) out-patient clinic at the University Hospital in Munich, Germany. We asked anonymously 4 sep-

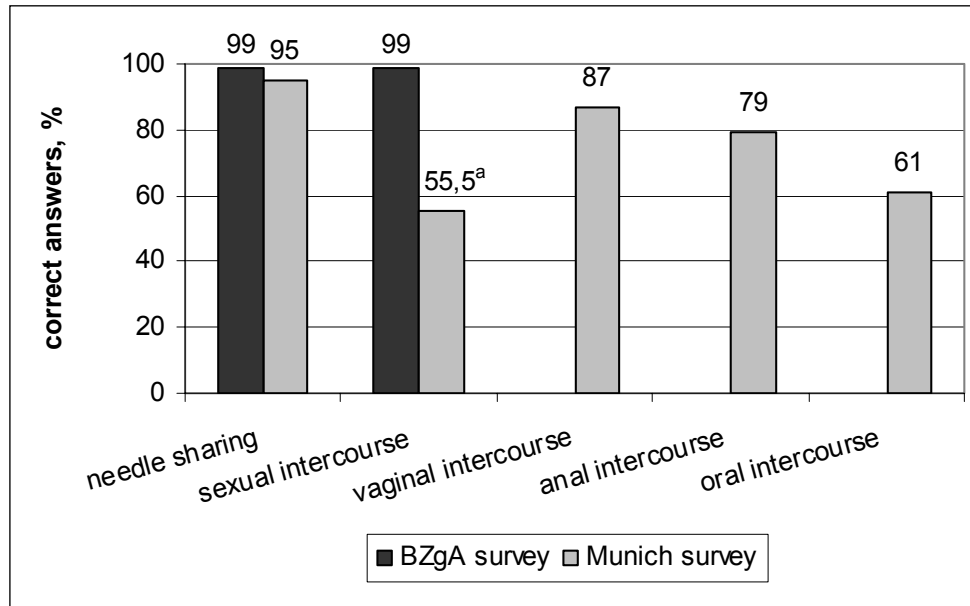


Figure 1. Knowledge of HIV transmission through needle sharing and sexual intercourse in German population (n = 3600, BZgA 2006) compared with Munich respondents (n = 317).

^a, Munich survey: summarised correct answers to three questions about vaginal, anal, and oral sexual intercourses

arate questions to determine respondents' knowledge of HIV transmission through sex and intravenous drug use: "Can you get HIV/AIDS through vaginal/anal/oral sexual intercourse?" and "Can you get HIV/AIDS through needle sharing?". Belief related to HIV/AIDS curability was explored by the question: "What do you think – is HIV/AIDS curable?" All five questions could be answered yes, no or don't know.

Results

347 questionnaires (77.5%) were accepted for analysis and 317 of them (average age 41.3 years, 54.5% female) had valid answers to the questions about sexual transmission of HIV. We assumed that our study population was by and large comparable with that of the BZgA. This assumption was based on the use of 'control questions', in which respondents from both groups had a very similar knowledge. Knowledge about HIV transmission during needle sharing was 99% in the BZgA study (n = 3564, the question – is there or is there not a risk of infection "If someone takes heroin or similar drugs intravenously – using a needle that has already been used by the other drug addicts?") and 95% in the Munich study (n = 302) (Fig. 1). 95% (BZgA, n = 3420, the question – "If someone has got the disease AIDS, can that person be cured, or does AIDS always have a fatal outcome?") and almost 90% (Munich, n = 295) knew that HIV/AIDS is incurable.

There was, however, a pronounced difference between BZgA and Munich studies in knowledge of sexual HIV transmis-

sion: only 87% (n = 277, 95% CI = 0.84 to 0.91) of Munich respondents knew that HIV can be transmitted through vaginal intercourse, 79% (n = 252, 95% CI = 0.75 to 0.84) through anal intercourse, and 61% (n = 196, 95% CI = 0.56 to 0.67) through oral sexual intercourse. Only 55.5% (n = 176, 95% CI = 0.50 to 0.61) of our respondents knew that HIV could be transmitted through all three of these (Fig. 1).

Discussion

Our study found that knowledge regarding sexual transmission of HIV was between 87% and 61%, depending on the variables, and in all cases it was lower than that reported in the BZgA's annual study (99%). It is surprising that only 87% of the Munich sample possessed accurate knowledge that HIV could be transmitted through vaginal sex. Of course, our mono-centre survey in Munich is not representative of the German population and cannot easily be compared with the BZgA's study. Moreover, the BZgA interviewed people aged 16–65 years, and the Munich survey people aged 18–65 years because of ethical issues of questioning: We could not ask people younger than 18 years because this would need their parents' permission, and it was not possible in Munich study conducted among hospital attendee's. These differences in design natures of both studies can impact the different results received. But the main cause of different results, to our mind, is due to different formulations of questions in BZgA and Munich surveys.

Our ‘control questions’, relating to HIV/AIDS incurability and HIV transmission through needle sharing, gave results similar to those of the national survey; we therefore hypothesised that both populations should have similar knowledge regarding sexual HIV transmission. We therefore concluded that the differences in answers to the questions about sexual transmissibility of HIV are based not on accurate knowledge discrepancies but on the ambiguous formulation of BZgA’s question. A lot of information can be lost when all three sexual practices are put together in a single term like “unprotected sexual contact”; it can also lead to the questionable conclusion that almost a hundred percent of the German population has a sufficient knowledge of sexual HIV transmission. The Munich survey shows that results may be very different depending on the formulation and ambiguous character of the questions used. But we should note that the only way to ascer-

tain that question wording matters for these response patterns is to use an experimental (split ballot) design. The overestimated awareness reported by the BZgA, which led to the false conclusion that the German population has a very good knowledge of sexual HIV transmission, was the result of such biases. The current epidemiological trend of increasing of HIV infection in Germany supports this interpretation. We propose that the BZgA questionnaire, which was initially established twenty years ago, be reviewed and modified in order to improve its reliability in the assessment of knowledge of sexual HIV transmission in Germany today.

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