Globally, women are 2.5 times more vulnerable to HIV than their counterparts. They account for about 59% of all adults living with HIV/AIDS. The presence of STDs can increase both the acquisition and transmission of HIV ten fold. The principal mode of STD and HIV transmission is heterosexual intercourse which accounts for more than 90% of all adolescents' and adults' HIV infections worldwide. In Kenya, Nyanza province had the highest prevalence (14%) of HIV and AIDS in 2005. Fishermen have high prevalence of STDs and HIV. Women working as small-scale fish traders, along the Lake Victoria beaches are most vulnerable to STIs and HIV as they are presumed to be involved in sexual networks with fishermen although documented data is lacking. There is therefore the need to determine the extent to which the sexual behavior of the women working as fish traders is a risk factor towards acquisition and/or transmission of STDs and HIV with the aim of supporting them to change their sexual behavior. This study aimed at describing the sexual behavior of the women working as fish traders. A cross-sectional study was conducted in 10 (30% of 32) randomly selected beaches. A sample of 503 women above 18 years was selected conveniently. Informed consent was obtained from the participants after explanation and clarification of the study objectives: Data was collected using structured behavioral interview-guide teleforms in face-to-face interviews and focus group discussions (FGDs). The quantitative and qualitative data was analyzed using Statistical Programme for Social Scientists software (SPSS version 11.5). Chi-square test was used to test the relationship between independent and dependent variables with the help of cross-tabulations. Of all the respondents interviewed, 71.4% were either married or cohabiting, 74% were sexually active. About 3.6% had sexual relationships with multiple sexual partners; among them 78% had one other sexual partner while 22% had two other sexual partners; 72% never used condoms with multiple sexual partners. There was statistical significant association between multiple sexual relationships and respondents' marital status (x\(^2\) =8.07; d.f.=3, p<0.05) and age(x\(^2\) =8.905; d.f.=3, p<0.05). The majority of the respondents (72%) reported that their husbands were their regular sexual partners while 12% had casual partners and inheritors; 29% were in nonmonogamous sexual relationships; 68.4% never used condoms with regular sexual partners. About 4.2% reported having been diagnosed with STDs within the month the study was conducted; of those with STDs, 0.2% had multiple sexual partners. There was no statistically significant association between multiple sexual relationships and infection with STDs (x\(^2\) =0.072; d.f. =1, p>0.05). It is therefore concluded that the sexual behavior of women working as small scale fish traders is a risk factor for acquisition and/or transmission of STDs all(I) HIV. This could be contributing to high HIV prevalence rates in the area covered by the study. The Kenya government through the Ministry of Health should intensify health promotion campaigns and provide STDs and HIV prevention and control interventions.