

Social support and health behaviour in women living with HIV in KwaZulu-Natal



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ABSTRACT

The article explores the relationship between social support and health behaviour of rural and urban women who are living with HIV in South Africa. Our study was a descriptive survey of a group of pregnant and non-pregnant women living with HIV. The sample size was 262 women, 165 from urban area and 97 from rural area. Data were collected using 3 instruments, namely a demographic questionnaire, the health behaviour schedule and the Medical Outcomes Study (MOS) Social Support Survey. Significant findings indicate that in the urban area 71% of women had disclosed their HIV status to someone, while in the rural area 49% had done so. A total of 77% of the women indicated that they were sexually active – 21% had 2 partners and 20% indicated that they had at least one episode of a sexually transmitted disease since finding out their HIV status. A total of 16% said that they currently received counselling, which was significantly more frequent in the rural sample (27%) than the urban (11%). The membership of support groups is at 12% among the participating women, and social support as well as membership of a support group was higher in the rural group than the urban group. Good social support showed an association with condom use, support group attendance and taking vitamins. However, receiving counselling as well as membership of a support group showed stronger association with positive health behaviour than social support on its own. The higher social support was not associated with increased disclosure.

Keywords: HIV, health behaviour, social support, rural/urban, women.

RÉSUMÉ

Cet article va à la découverte de la relation entre le soutien social et le comportement sanitaire des femmes rurales et urbaines qui vivent avec le VIH en Afrique du Sud. Notre étude était une enquête descriptive d'un groupe de femmes enceintes et non enceintes vivant avec le VIH. L'échantillon était de 262 femmes, 165 originaires d'un milieu urbain et 97 d'un milieu rural. Les données ont été recueillies par le biais de trois outils, notamment un questionnaire démographique, un barème du comportement sanitaire et l'Enquête du Soutien Social de l'Étude Médicale de Résultats. Les résultats significatifs de recherche démontrent que dans le milieu urbain 71% de femmes avaient révélé leur statut séropositif à quelqu'un alors que seulement 49% du milieu rural l'ont fait. 77% de femmes ont signalé qu'elles avaient des rapports sexuels – 21% avaient deux partenaires et 20% ont signalé qu'elles ont eu au moins une épisode de maladies sexuellement transmises depuis qu'elles ont découvert leur statut séropositif. 16% de ces femmes ont dit qu'elles sont actuellement en consultation psychologique. Les consultations se sont passées plus fréquemment auprès de l'échantillon rural (27%) par rapport à l'échantillon urbain (11%). 12% de femmes participantes fait partie des groupes de soutien. Le soutien social ainsi qu'appartenir à un groupe de soutien étaient plus importants dans le groupe rural que dans le groupe urbain. Un bon soutien social a démontré un lien avec l'utilisation de préservatifs, l'assister au groupe de soutien et la prise des vitamines. Cependant, être en consultation psychologique et appartenir à un groupe de soutien ont démontré une association forte à un comportement sanitaire positif beaucoup plus que le soutien social en tant que tel. Le soutien social plus élevé n'a pas été associé aux révélations augmentées.

Mots clés: VIH, comportement sanitaire, soutien social, rural/urbain, femmes.

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INTRODUCTION

The link between social support and health behaviour has been the topic of many investigations, particularly in the field of HIV medicine. In the context of the person living with HIV, social support and health behaviour play a large role not only in the HIV progression, but also in the quality of life, and the understanding of health behaviour is important in planning interventions.

BACKGROUND

The importance of health behaviour cannot be overstated in the context of HIV. Many of the messages about 'positive living' and efforts to improve the quality of life of people living with HIV and AIDS (PLWHA) focus on how the behaviour can be influenced to improve quality of life and lifespan. Poverty is a powerful variable in the rapid progression and dissemination of HIV in communities (Lewis, 2003). But even outside the context of poverty, many nutritional, stress-related and sexual-behaviour-related variables are associated and postulated with increased rate of disease progression and decreased lifespan in PLWHA. A number of studies have explored health behaviour among HIV-positive patients.

Social support has been shown to have a positive association for improved quality of life in PLWHA (Turner-Cobb, Gore-Felton, Marouf, Koopman, Israelski & Spiegel, 2002), also when controlling for socio-economic variables (Nunes, Raymond, Nicholas, Leuner & Webster, 1995) and health-related variables (Pakenham, Dadds & Terry, 1994).

Physical activity is particularly associated with positive social support and improved health-related quality of life in people with HIV-related disease (Clingerman, 2004). The importance of positive health behaviour is emphasised in studies showing improved sexual risk behaviour in people with higher social support in the USA (Gore-Felton, Koopman, Turner-Cobb, Duran, Israelski & Spiegel, 2002). Support groups have been shown to be an important source of social support and the participation varies in the USA between 15% to 34% (VanDevanter, Parikh, Cohall, Merzel, Faber, Litwak *et al.*, 1999).

A study from the USA has shown that rural people with HIV were found to have significantly lower perception of quality of life than their urban

counterparts (Heckman, Somlai, Kalichman, Franzoi & Kelly, 1998). They also had 'lower perceptions of social support from family members and friends, reduced access to medical and mental health care, elevated levels of loneliness, more community stigma, heightened personal fear that their HIV serostatus would be learned by others and more maladaptive coping strategies' (pg. 138, Heckman *et al.*, 1998).

PROBLEM STATEMENT

The question explored in this article therefore is the relationship between social support and health behaviour of rural and urban women who are living with HIV.

METHODOLOGY

Study design

This article is based on data collected for a descriptive survey of two groups of women living with HIV. The study was conducted to determine the effect of pregnancy on HIV progression. The one group was comprised of non-pregnant women living with HIV and the other pregnant women living with HIV.

Setting

The study was conducted in one urban and one rural site in KwaZulu-Natal (KZN), South Africa. In each area one district hospital and two of its referral clinics were used for the recruitment of the participants. The population served by all the facilities is mainly black. The participants were identified from antenatal clinics for the pregnant group, and from family planning clinics for the non-pregnant women.

In the rural area, the district hospital serves a population of approximately 150 000 and has 5 residential clinics and 3 mobile clinic teams attached to it. The service points recorded 33 715 antenatal visits and 63 733 family planning visits in 2004. At each a single point there is an average of 90 antenatal visits and 171 family planning visits per month.

In the urban area, the district hospital has 22 clinics attached to it, and serves an urban population of about 500 000 people.

Study population and sample

The population for the study was comprised of females who have tested HIV-positive, and who have no other major illness. Two groups of women living with HIV

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in KZN were recruited from one urban site and one rural site. The participants were drawn from antenatal clinics for the pregnant group, and from family planning clinics for the non-pregnant women. Exclusion criteria were the presence of any opportunistic infections or classification in the WHO stage 4, as these allow a limited scope for progression of the disease. The sample size of 262 HIV-positive women was used in the study, with 165 from an urban area, and 97 from a rural area. A convenient sampling method was used to select the participants, by approaching every woman who attended the clinic sites for either antenatal care or family planning services, and inviting them to join the study.

Data collection

Trained fieldworkers recruited the participants at both sites. The data collection process took place over a period of 1 year. Participants were asked to answer the Zulu version of the questionnaires with assistance from the fieldworkers in the clinics. Blood was taken to establish the HIV status of the participants, and the fieldworkers did counselling.

Protection of human subjects and ethical considerations

The study proposal went through the appropriate Faculty Ethics Committee for ethical clearance. Permission to conduct the study was then sought and awarded from the

- provincial department of health
- district authorities of the two sites used in the study
- hospital authorities of the hospitals involved in the study
- nurses working in the clinics involved in the study.

Written consent was sought and obtained from all the participants and an information sheet translated into isiZulu was given to them. Participants' anonymity and confidentiality were ensured. Each site had a fieldworker who collected the data and at the same time was the HIV counsellor; this person was the only one to know the particulars of the participants.

Participation was voluntary and the participants were informed that they could withdraw at any time. Possible inconveniences and advantages were also discussed with the participants on recruitment. At the completion of the questionnaire, each participant

received a small gift of toiletries compensating for their time.

Instruments

Data were collected using 3 instruments:

- A demographic questionnaire was used to collect data on age, employment and marital status, education level as well as religious affiliation.
- The health behaviour schedule collected information to establish the current health practices of the participants. Some of the variables checked were diet, smoking and alcohol consumption, intravenous drug use, sexual activity and orientation, use of supplementary medication as well as rest.
- The Medical Outcomes Study (MOS) Social Support Survey established the participants' levels and type of social support. The survey has 19 items that were further divided into 4 subscales, namely emotional/informational supports, tangible support; affectionate support and positive social support, and one additional global item. The items were scaled from 1 as none of the time, to 5 as all of the time. The reliability has been established ($\alpha > 0.91$) and has been stable over time (Sherbourne & Stewart, 1991).

Data analysis

Frequency counts were done for the description of the sample. To establish differences between the two area chi-square tests were conducted, with $\alpha = 0.05$. Correlations were done to establish relationship between selected variables. Multivariate regression analysis was conducted for the social support variables to the health behaviour variables.

RESULTS

Demographic profile of participants

The mean age of the participants was 27 years with the youngest at 17 years and the oldest at 51 years. A total of 76% of participants in the study were single and 2% were widowed ($N = 245$). The majority of participants had completed high school and the unemployment rate in the sample was 89% ($N = 237$). There was no statistical difference between the urban and rural groups in terms of their demographic variables measured, except for religious affiliation. A total of 27% of rural women indicated no religious affiliation, compared with 4% of urban women in this category ($N = 231$). The majority in both groups was Christian

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(77% urban and 61% rural). The church attendance was at 41% ($N = 246$) of participants and there was no statistical difference between rural and urban groups.

Health behaviour

Significant findings from the health behaviour questionnaire include that the eating habits of 52% of participants changed since they found out their HIV status ($N = 249$). Furthermore, 17% of participants did not have breakfast, 11% had no lunch and 16% did not have supper ($N = 185$). There were no significant differences between urban and rural groups. Of the participants ($N = 253$) only 8% indicated that they took immune-boosting substances – and they included the African potato, folic acid, ‘cell food’, *imbiza yesizulu* (traditional medicine) and spirulina. However, overall only 7% of participants ($N = 248$) indicated that they used traditional herbal medications, with the usage higher at 15% in rural areas and 3% in the urban sample ($\chi^2 = 12.407$, $df = 1$; $p < 0.001$). In terms of sleep hygiene, 1% of participants indicated that they slept less than 6 hours a night. The majority (52%) slept between 6 and 8 hours and 46% slept between 9 and 12 hours a night ($N = 251$). There were no significant differences between the rural and urban samples.

The participants were asked how they found out that they were HIV-positive. Of the participants ($N = 258$), 56% found out during pregnancy that they were HIV-positive, while 19% during an illness, 17% through voluntary counselling and testing (VCT) centres and 7% tested after a partner tested positive. These findings were similar in the rural and urban samples.

Overall 62% of the participants had disclosed their HIV status to someone. In urban areas the disclosure is higher at 71% of participants, while in rural areas it is at 49% ($N = 259$, $\chi^2 = 12.026$; $df = 1$; $p < 0.001$).

In exploring current sexual behaviour, of the participants ($N = 211$), 77% indicated that they were sexually active, of which 79% had one current partner while 21% had 2 partners currently ($N = 199$). No participants indicated that they had more than two partners. In the survey, 2% of women indicated that they had a female sexual partner. There were no significant differences in rural and urban samples. Of the participants, 20% indicated that they had had a

sexually transmitted infection (STI) since finding out that they were HIV-positive ($N = 240$). Among the group that had had an STI since finding out their HIV status ($N = 48$), 27% had known their HIV status for less than 1 month.

In terms of precautions taken to prevent infecting the partner, only 14% responded that they took no prevention. Male condoms were used by 70% of participants, 1% reported using female condoms, 3% practised non-penetrative sex and 11% abstained from sexual intercourse ($N = 235$). In the group reporting the use of male condoms ($N = 194$), a further question revealed that 29% always used condoms, while 71% reported irregular use of condoms. In terms of sexual behaviour there were no significant differences between the women in the rural versus urban areas.

Of the sample ($N = 236$) 16% said that they currently received counselling, which was significantly more frequent in the rural sample (27%) than the urban (11%) ($\chi^2 = 10.567$, $df = 1$; $p = 0.001$). The overall membership of support groups is at 12% ($N = 244$). There was also a marked difference between rural and urban samples – in the urban group, 7% of participants attended support groups while in the rural group 21% of participants participated in support groups ($\chi^2 = 10.278$; $df = 1$; $p = 0.001$). There also were differences in the membership of support groups for pregnant participants (9%) and non-pregnant participants (30%) ($N = 244$, $p = 0.001$).

Social support

Overall results of the MOS Social Support Survey are shown in Table 1. There is a significant difference in the number of participants perceiving the highest social support (76 - 100%) between rural areas and urban areas, with rural women reporting more social support than urban women.

In the analysis, the overall social support was further subdivided into types of social support, which included emotional, and information support, tangible support, affectionate support, and positive social interaction. When comparing rural and urban participants ($N = 262$) the differences in the types of social support appear in affectionate support ($z = 3.899$; $p < 0.001$) and tangible support ($z = 3.075$; $p = 0.002$) with higher scores found in rural areas.

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TABLE 1. SOCIAL SUPPORT REPORTED BY URBAN AND RURAL HIV-POSITIVE WOMEN

Area	Frequency and %	MOS categorial				Total
		≤ 25%	26 - 50%	51 - 75%	≥76%	
Urban	Frequency %	6 3.7%	24 14.7%	119 73.0%	14 8.6%	163 100.0%
Rural	Frequency %	1 1.1%	14 15.4%	56 61.5%	20 22.0%	91 100.0%
Total	Frequency %	7 2.8%	38 15.0%	175 68.9%	34 13.4%	254 100.0%

$\chi^2 = 10.365$; $df = 3$; $p = 0.16$.

TABLE 2. DIFFERENCE IN TYPE OF SOCIAL SUPPORT BETWEEN RURAL AND URBAN WOMEN

Support available	Types of social support	p-value for difference in mean ranking between rural and urban
Someone who shows you love and affection	Affectionate support	$N = 261$; $Z = 4.325$; $p < 0.001$
Someone to help you if you were confined to bed	Tangible support	$N = 262$; $Z = 3.774$; $p < 0.001$
Someone to love and make you feel wanted	Affectionate support	$N = 262$; $Z = 3.323$; $p = 0.001$
Someone to take you to the doctor if you needed it	Tangible support	$N = 262$; $Z = 3.215$; $p = 0.001$
Someone who hugs you	Affectionate support	$N = 261$; $Z = 2.974$; $p = 0.003$
Someone you can count on to listen to you when you need to talk	Emotional/informational support	$N = 262$; $Z = 2.912$; $p = 0.004$

When analysing the subsets of the MOS Social Support Survey, significant differences were found in specific items of social support, as shown in Table 2.

Analysis of social support with health behaviour

An analysis of social support variables and health behaviour was done and a number of positive associations were found. Good social support is associated with condom use ($N = 194$; $r_s = -.371$; $p < 0.001$), support group attendance ($N = 242$; $r_s = -.222$; $p < 0.001$), and taking vitamins ($N = 243$; $r_s = -.252$; $p < 0.001$). A multiple regression between condom use, social support, support group attendance and taking vitamins showed that there was a significant

pattern/relationship that existed between these four variables ($F = 13.09$, $df = 3$, $p < 0.001$). The significant relationship/pattern was also noted between social support and each of these variables. For social support and condom use ($F = 18.84$, $df = 1$, $p < 0.001$, beta coefficient = .301); social support and support group attendance ($F = 12.80$, $df = 1$, $p < 0.001$, beta coefficient = .249) and taking vitamins ($F = 13.08$, $df = 1$, $p < 0.001$, beta coefficient = .229).

However, receiving counselling together with membership of a support group showed stronger association with positive health behaviour than social support on its own. Positive association was noted for receiving counselling and condom use ($N = 182$; $r_s = .432$; $p < 0.001$), membership of a support group ($N = 228$; $r_s = .701$, $p < 0.001$); and church attendance ($N = 230$, $r_s = .343$, $p < 0.001$). The simple regression analysis for counselling and each of these three variables shows a significant relationship/pattern. Counselling and condom use ($F = 43.86$, $df = 1$, $p < 0.001$, beta coefficient = .432); membership of a support group ($F = 212.37$, $df = 1$, $p < 0.001$, beta coefficient = .701) and church attendance ($F = 30.48$, $df = 1$, $p < 0.001$, beta coefficient = .343). When a multiple regression analysis was done for these four variables, it showed a significant relationship/pattern between the four variables ($F = 60.32$, $df = 3$, $p < 0.001$).

Membership of a support group also shows a positive association with condom use ($N = 194$; $r_s = .394$; $p < 0.001$); taking vitamins ($N = 235$; $r_s = .161$; $p = 0.013$); taking immune-boosting medication ($N = 241$; $r_s = .318$; $p < 0.001$) and church attendance ($N = 242$; $r_s = .397$, $p < 0.001$). A multiple regression analysis showed a significant relationship/pattern between these five variables ($F = 15.29$, $df = 4$, p

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<0.001). A simple regression analysis of membership of a support group to each of these variable showed a significant relationship/pattern with each of the variables. Support group and condom use ($F = 42.86$, $df = 1$, $p < 0.001$, beta coefficient = .393); taking vitamins ($F = 6.15$, $df = 1$, $p = 0.01$, beta coefficient = .161); taking immune-boosting medication ($F = 20.68$, $df = 1$; $p < 0.001$, beta coefficient = .283) and church attendance ($F = 43.46$, $df = 1$, $p < 0.001$, beta coefficient = .400).

DISCUSSION

General health behaviour

The change in diet after finding out about the HIV status is an important finding in this study. In many interventions, including the antiretroviral roll-out in South Africa, nutrition is an important aspect and it is heartening to find that women in urban and rural settings find it possible to change their eating habits. Our study does not detail how the nutrition has changed. However, in other settings Collins, Kanouse, Gifford, Senterfitt, Schuster, McCaffrey *et al.*, (2001) found that 59% of people they had sampled had improved their diets after finding out their HIV status. In the context of South African populations, the specific changes women make to their diet need to be explored further to assess whether such adaptations improve the nutritional status of PLWHA optimally.

Related to the change in diet, it is noted that at least 17% of women had only 2 meals a day, which has significant implications to health messages related to the use of antiretroviral medications. Many of the medications should be taken with food, to improve their tolerability. These women would have to make significant adaptations to their eating patterns.

Sexual behaviour and HIV

The data on sexual behaviour paints an interesting picture. The similar rates for multiple partners and STIs point to the risk of STI and therefore HIV with multiple partners. Furthermore, condom use is still far from ideal, with 70% of respondents reporting condom use and the majority of them (71%) reporting irregular condom use. The protective effect of condom use even when used 'sometimes' is important – this is an area needing attention in terms of continuing preventive strategies.

This study did not explore the areas of negotiating condom use by women and barriers to their use. The

low utilisation rate of female condoms is related at least in part to the lack of access to female condoms – only one facility in the rural area where the study was conducted had female condoms available. Abstinence from sexual activity also plays an important role, indicating the impact of health messages in the community.

The opportunities of the prevention of mother-to-child transmission project in increasing the number of people who know their HIV status is highlighted, in that the majority of women (70%) discovered their HIV status when accessing the mainstream health services such as the antenatal service during pregnancy rather than through VCT. Despite being widely available in the both the rural and urban areas sampled, the VCT service is not widely used, unless it is linked to a reason for having a test (such as pregnancy or illness). The above finding has implications for further health service planning, and in determining the cost-effectiveness of VCT. While HIV testing should be freely available, its availability during pregnancy and when faced with some kind of illness should be improved.

Social support

As shown in the results, social support was shown to have positive association with health behaviours, particularly condom use, support group attendance, taking vitamins and receiving counselling. The one exception to this trend was disclosure of HIV status to a significant other. The higher rate of disclosure to the sexual partners in both rural and urban populations is similar to other studies (Pertak, Doyle, Smith, Skinner & Hedge, 2001). However, one of the assumptions around social support is that increased social support would decrease stigma and therefore make disclosure easier. An interesting finding from our study is that the rate of disclosure is not associated with increased social support – the rate of reported disclosure is much higher in the urban v. rural areas (71% v. 49%) while the social support is higher in the rural areas. It is clear that there are other factors besides social support at play that influence the disclosure of the HIV status and this deserves further investigation.

While membership of support groups and level of receiving counselling is not very high (12% and 16% respectively), it showed a stronger association with positive health behaviour than social support on its

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own. These are clearly important strategies in influencing positive health behaviour which are under-utilised, particularly in the context of the current practice of counselling. On the whole, the VCT service is not focusing on ongoing counselling, but rather on some counselling when patients are first tested. Once their health starts to deteriorate, patients may receive further counselling through home-based care structures or entry into antiretroviral programmes (Uys, 2003).

A surprising finding of this study is the relatively higher social support in rural areas than in urban areas for women who are HIV-positive. In other studies, particularly in the USA, the opposite seems to be true (Heckman, *et al.* 1998). The significantly higher rate of receiving counselling (28% v. 11%) and membership of a support group in the rural group in particular (21% v. 7%), seemed to be a contributing factor. A previous South African study which investigated the use of support groups in the context of psychiatric care, found that it was particularly difficult to establish such groups in black communities (Makhale & Uys, 1997).

The findings of increased social support in the rural area sampled cannot be generalised to all rural areas. It is clear that in the specific rural area sampled, the support structures for women who are HIV-positive are better developed than in the urban area sampled, specifically the membership of support groups and access to counselling. The rural area that was involved in the study has a long history of mobilisation of community structures around health issues and there is a significant network of community-based organisations and non-governmental organisations operational in the area. While this is speculated to be contributing to the higher perceived social support, this would need to be explored further as a case of 'positive deviance'.

CONCLUSION

A number of significant findings from the data above have implications for strategies in supporting PLWHA. Particularly the availability of ongoing counselling as well as support groups needs to be strengthened and explored. While the specific nature and the activities of the support groups were not explored, the data presented make a strong case for the positive benefits of counselling and support groups among women. Our study points to the need for further research to be undertaken in the fields of effectiveness of support groups and counselling and the cost-effectiveness of VCT as a public health approach. Particular research would be welcomed to understand the finding of strong social support in the rural community sampled.

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