
Attitudes Toward Health Care Providers and Appointment Attendance in HIV/AIDS Patients

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Patients with HIV/AIDS are likely to have numerous interactions with health care providers (HCPs) during the course of their disease. Research has shown that satisfaction with one's HCP is related to better medication adherence in patients with HIV/AIDS. Although a patient's attitude toward his or her HCP is important, little has been done to assess how it relates to appointment attendance. The current study assessed how attitudes toward HCPs as well as social support and depression relate to outpatient appointment attendance. Further, this study used a newly developed, psychometrically valid scale to assess specific patient attitudes toward HCPs including those related to disease stigma. Participants were predominantly low-income African American men (N = 109) recruited from a public southern HIV clinic. Analyses indicated that attitudes toward HIV HCPs, social support, and medication status but not depression or satisfaction with social support were associated with appointment attendance.

Key words: *HIV, appointment attendance, adherence, patient-provider relationship, attitude*

Health care providers (HCPs) in an HIV medical setting play an important role in the management of HIV disease. HCPs are not only responsible for providing education, assessment of disease status, direct medical care, and medications, but can also be a major source of support. The health care visit may offer an

opportunity for patients who feel stigmatized by their illness to discuss issues more openly. However, if a patient perceives discrimination in the health care setting, this may negatively impact the relationship with his or her HCP. Schuster et al. (2005) reported that 26% of a nationally representative sample of HIV patients perceived discrimination in the health care setting. The patients attributed the discrimination to the physicians over half of the time and to nurses and other clinical staff two fifths of the time. Because it can be difficult for both HCPs and patients to openly discuss personal topics such as sexual behaviors, substance abuse, disability, and death (Epstein et al., 1998), providers must be aware and sensitive to how they respond during interactions with patients.

Decreased satisfaction in patient-provider relationships has been related to poorer adherence in this

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population. Research suggests that greater satisfaction with a provider is related to higher levels of HIV medication adherence (Heckman, Catz, Heckman, Miller, & Kalichman, 2004; Hyer, Sohnle, Miller, & Hamer, 2003; Roberts, 2002; Russell, Krantz, & Neville, 2004). In fact, Ingersoll and Heckman (2005) reported that the patient-provider relationship remained an important predictor of HIV medication adherence, even when considering the impact of mental distress and substance abuse. However, it remains unclear how attitudes toward HCPs affect appointment attendance for HIV patients. Because patients have frequent contact with medical staff for provision of standard HIV care, it is likely that the patient-provider relationship influences appointment attendance.

Additional psychosocial factors have been consistently related to HIV adherence behaviors, including depression and level of social support. Higher levels of depression have been significantly associated with poor HIV medication adherence (Catz, Kelly, Bogart, Benotsch, & Mcauliffe, 2000; Gordillo, Del Amo, Soriano, & Gonzalez-Lahoz, 1999; Holzemer et al., 1999; Malcolm, Ng, Rosen, & Stone, 2003; Paterson et al., 2000; Singh et al., 1996). Previous research has also shown that increased social support is related to better appointment attendance and improved HIV medication adherence (Catz et al., 2000; Catz, McClure, Jones, & Brantley, 1999; Gonzalez et al., 2004; Malcolm et al., 2003). Therefore, when assessing the association of patients' attitudes toward their HCP and appointment attendance, it is important to examine other variables that may affect these behaviors, such as depression and social support.

The current study examined how attitudes toward HCP, social support, and depression related to health care appointment attendance in a southern United States HIV clinic. To the authors' knowledge, no study has assessed the impact that these attitudes have on appointment attendance. The current study extends the literature by using a newly designed scale that assesses specific attitudes, including those related to disease stigma, that a patient may endorse during interactions with the medical staff (Bodenlos et al., 2004). Because of the wide range of contact that the patient has with a variety of staff (i.e., physician, nurse, health educator, social worker,

mental health staff, dietician), the scale was designed to assess a patient's attitudes about all the HCPs and not just the physician. In addition, medication status (whether a patient was taking highly active antiretroviral treatment [HAART]) was assessed as a variable that may impact appointment attendance.

Methods

Setting and Providers

The early intervention clinic (EIC) that serves HIV-positive patients is part of teaching hospital in a southeastern city. A total of 87% of the patients are African American, 12% are Caucasian, and 1% are other. Of the patients at this clinic, 60% are men, and the primary transmission mode is high-risk heterosexual and intravenous drug use.

Approximately, 35% of the patients who receive care from this hospital receive Medicaid benefits, 63% are indigent and receive free care, and 2% have private insurance. The EIC serves patients both with new HIV diagnoses and those with existing diagnoses. Patients in need of transportation to and from the clinic are provided bus tokens or other public transportation vouchers. The clinic staff consists of physicians, nurses, health educators, social workers, dieticians, and psychology interns. The staff provides information to patients about support services in the community. The physicians who provide services in this clinic are two Caucasian men, two Caucasian women, an African American woman, and an Asian man.

Data Collection

Participants were recruited by four Caucasian female researchers from the waiting room at the EIC. In an effort to determine overall HCP attitudes unaffected by the current visit interaction, patients were only eligible to participate before interaction with HCPs on the day of data collection. An individual had to be a minimum of 18 years old, HIV-positive, and a patient of the clinic for at least 12 months. Written informed consent was obtained, and patients were assured that participation in the current study would be confidential. Because of the low literacy

rate at this clinic, oral comprehension was assessed, and patients unable to read were administered questionnaires orally. Patients who were unable to show at least a fifth-grade oral comprehension level were excluded from the study. Participants completed the demographics questionnaire with the researcher and then proceeded to complete additional questionnaires measuring attitudes toward their HCP, social support, and depression. The questionnaires were counterbalanced to control for order effects. Participants were provided a small snack for their time. This project was approved by the governing institutional review board of the teaching hospital.

Measures

Demographics questionnaire. The demographics questionnaire assessed participant characteristics including age, gender, race, and years of education. Additional medical information was obtained from a medical chart review. Information gathered from the chart review included duration of HIV diagnosis, months since intake at HIV clinic, HIV medication status (whether or not the patient was taking HAART), CD4 count, and viral load.

Woodcock-Johnson oral comprehension. The oral comprehension section of the Woodcock-Johnson III Test of Achievement (Woodcock, McGrew, & Mather, 2001) measured participants' comprehension of oral language. Comprehension was measured by the ability to comprehend a short passage and subsequently supply the missing word using syntactic and semantic cues. Oral comprehension has a median reliability of .89 in adults aged 19 and older. For the purposes of the present study, the cutoff score was a fifth-grade oral comprehension level. Patients needed to answer items 1 through 13 correctly on the comprehension test to show a fifth-grade level. Patients who did not pass the comprehension test were not included in the study.

Attitudes Toward HIV Health Care Providers Scale. The Attitudes Toward HIV Health Care Providers Scale (AHHCP) is a 19-item scale that assesses patients' attitudes toward their HCP (see Appendix 1). This scale examines the attitudes a

patient has toward his or her medical team, taking into account specific factors such as HIV-related stigma. The scale was initially developed based on reviews of the HIV literature and anecdotal information from interactions with HIV-positive patients. Item sets were independently generated and then reviewed by various staff at the HIV clinic for feedback and suggestions. Redundant or ambiguous items were then eliminated. Individual items from the AHHCP were scored using a six-point Likert-style rating system (ranging from *strongly agree* to *strongly disagree*). Items were both positively and negatively worded, with higher scores indicating a more positive attitude toward HIV HCPs. Two factors emerged from the primary analyses of the scale: Professionalism and Emotional Support. The AHHCP was reported to have excellent internal consistency (.92) and convergent validity with the Patient Satisfaction Scale ($r = .59$) (Bodenlos et al., 2004). The AHHCP was used instead of the Patient Satisfaction Scale, a tool commonly used to measure patient satisfaction (Ware & Hays, 1988; Ware, Snyder, Wright, & Davies, 1983). This was done for several reasons including the following: (a) the AHHCP was designed for specific use with HIV patients, (b) the AHHCP has fewer items and takes less time to administer, and (c) the scale measures attitudes related specifically to HIV disease stigma.

Center for Epidemiological Studies Depression Scale. The Center for Epidemiological Studies Depression Scale (CES-D) is a 20-item self-report measure of depressed mood. It has been reported to have four major factors: depressed affect, positive affect, somatic and retarded activity, and interpersonal activity. Items are scored on a four-point Likert scale (range of 0-3) with anchor points in terms of number of days symptoms occur in a week, such as *rarely or none of the time* (less than one day) and *most or all of the time* (5-7 days). Scores range from 0 to 60, with higher scores indicating greater levels of depression. Internal consistency estimates range from .8 to .9 and test-retest reliability ranges from .4 to .7 (Radloff, 1977). Scores on the CES-D between 16 and 26 are considered indicative of mild depression and scores greater than 27 are related to major depression (Ensel 1986).

Social Support Questionnaire. The Social Support Questionnaire (SSQ) is a 27-item self-report measure of social support (number of supports) and satisfaction with social support. Participants are instructed to read each statement and list the number of supports (SSQ-Number) they have for the described circumstance and then to rate their satisfaction with that support (SSQ-Satisfaction). The patients are provided with nine slots to record support for each statement (scores range from 0-248). Good reliability estimates are reported with coefficient alpha .94 for SSQ-Satisfaction and .97 for SSQ-Number (Sarason et al., 1983).

Appointment attendance. Retrospective chart reviews were conducted by researchers to obtain number of health care appointments at the HIV clinic that were attended and missed in the last year. Attendance was defined as the percentage of total outpatient appointments (including visits with the physician, nurse, health educator, dietician, social worker, and psychologist) attended during the 12-month period before completion of measures. Percentage of appointments attended out of number scheduled for each participant was examined rather than the absolute number of appointments kept. This reduced confounds associated with individual variations in the frequency of scheduled appointments.

Results

Participant Characteristics

A total of 140 patients were approached, and 109 completed the study. Nonparticipants included 29 patients who refused and 2 who were ineligible because they failed the oral comprehension test. The majority of the patients were African American, male, single, unemployed, and taking HIV antiretroviral medications (see Table 1). The participants were diagnosed with HIV for, on average, over 6 years ($M = 78.8$ months, $SD = 48.32$ months) and attended the clinic for over 4 years ($M = 52.00$ months, $SD = 31.31$ months). Please see Table 1 for additional information on CD4 count and HIV viral load. The average number of appointments scheduled for the past year was 9.8 ($SD = 5.0$), and 70% of

Table 1. Patient Characteristics (N = 109)

Characteristic	
Mean age in years (<i>SD</i> , range)	38 (10.33, 18-61)
Men, %	58
Race, %	
Caucasian	14
African American	85
Hispanic	1
Marital status, %	
Single	59
Married	19
Separated	5
Divorced	17
Mean education in years (<i>SD</i> , range)	12 (2.0, 7-18)
Employment status, %	
Unemployed	63
Employed part time	8
Employed full time	29
Mean months diagnosed with HIV (<i>SD</i> , range)	78.8 (48.32, 12-252)
Mean months attending this HIV clinic (<i>SD</i> , range)	52.0 (31.31, 12-144)
Patients taking HIV antiretroviral medications, %	71
Mean number of appointments scheduled (<i>SD</i> , range)	9.8 (5.0, 1-28)
CD4 count, % (most recent)	
< 100	14
101-250	15
251-500	37
> 501	34
HIV viral load (most recent)	
< 1,000	40
1,000-10,000	21
10,000-100,000	24
> 100,000	15

these appointments were attended ($M = .70$, $SD = .22$). The mean number of appointments that were no-showed over the last year was 2.58 ($SD = .12$).

Variables Associated With Number of Appointments Scheduled

Preliminary analyses were conducted to identify variables associated with number of appointments scheduled. Gender, medication status, and race were not significantly related to number of appointments scheduled in the current sample.

Table 2. Descriptive Statistics of Scales

Variable	Mean	SD	Range
AHHCP (<i>N</i> = 108)	99.55	16.21	48-114
AHHCP-Prof (<i>N</i> = 108)	42.27	7.35	13-48
AHHCP-ES (<i>N</i> = 108)	57.24	9.67	24-66
SSQ-N (<i>N</i> = 107)	54.33	36.41	0-208
SSQ-S (<i>N</i> = 103)	147.95	20.25	61-179
CES-D (<i>N</i> = 107)	20.99	14.77	0-55

NOTE: AHHCP = Attitudes Toward HIV Health Care Providers Scale, AHHCP-ES = Attitudes Toward HIV Health Care Providers Scale—Emotional Support, AHHCP-Prof = Attitudes Toward HIV Health Care Providers Scale—Professionalism, CES-D = Center for Epidemiological Studies Depression Scale, SSQ-N = Social Support Questionnaire—Number of Supports, SSQ-S = Social Support Questionnaire—Satisfaction with Support.

Variables Associated with Appointment Attendance

Independent *t*-tests and analyses of variance were used to examine differences between categorical demographic variables and appointment attendance. Gender and race were not related to appointment attendance; however, patients who were prescribed HAART medications attended significantly more appointments ($M = .75$, $SD = .20$) than patients who were not prescribed these medications ($M = .60$, $SD = .24$), $t(109) = -3.42$, $p < .001$.

Table 2 describes the descriptive statistics of the predictor variables. Overall, the scores on the CES-D suggest that the mean score ($M = 20.99$) was higher than the cutoff for mild depression (> 16), indicating that many of the patients in this sample had depressive symptoms. Using Pearson's correlations, the relationship between continuous demographic and psychosocial variables and appointment attendance was assessed (see Table 3). The AHHCP and SSQ-N were positively associated with appointment attendance ($p < .01$). Variables such as age, education, number of months at clinic, CES-D, SSQ-S, viral load, and CD4 count did not show a significant relationship to appointment attendance.

Regression Analysis

A hierarchical multiple regression analysis was used to test the hypothesis that attitudes toward HIV

HCPs, number of social supports, satisfaction with social support, depression, and medication status accounted for a significant portion of variance in appointment attendance (see Table 4). The first model of the regression was significant and included HIV medication status ($R^2(1, 98) = .09$, $p < .002$). The second model, which included the psychological variables (social support, attitudes toward HIV HCPs) along with medication status were significant predictors of appointment attendance ($R^2(5, 94) = .27$, $p < .0001$). The difference between the R^2 change was .18. Specifically, higher scores on the AHHCP (more positive attitudes toward HCP) were significantly related to greater appointment attendance ($\beta = .289$, $t = 3.10$, $p < .01$). The SSQ-N (larger social support networks) was significantly associated with higher levels of appointment attendance ($\beta = .253$, $t = 2.65$, $p < .01$). Medication status was also a significant factor in appointment attendance, because patients who were prescribed HAART had higher levels of appointment attendance than those who were not ($\beta = .257$, $t = 2.90$, $p < .01$). Depression and satisfaction with social support were not significant predictors of appointment attendance.

Discussion

The hypothesis that health care appointment attendance is associated with attitudes toward HCPs, social support, and depression among HIV/AIDS patients was partially supported. Positive attitudes toward HCPs and larger social support networks were significantly related to appointment attendance in the current sample; however, depression and satisfaction with social support were not. When examining attitudes toward HCPs and social support networks along with medication status, 27% of the variance was explained.

These results provide further support for the association between a good patient-provider relationship and health behaviors (Heckman et al., 2004; Hyer et al., 2003; Roberts, 2002) and extend these findings to appointment attendance in HIV/AIDS patients. This was the first study to the authors' knowledge that examined how a patient's attitudes toward his or her HCP impacts outpatient appointment attendance. The

Table 3. Correlation Matrix of Independent and Dependent Variables

1	2	3	4	5	6	7	8	9	
	# Months at	Viral Load	Education	CD4 Count	AHHCP	SSQ-N	SSQ-S	CES-D	% Attendance
Clinic									
1. # Months at clinic	---	-.09	-.09	.21 ^a	-.06	-.08	-.08	-.07	-.003
2. Viral load	---	---	.02	-.24 ^b	-.05	-.09	-.17	-.05	-.13
3. Education	---	---	---	.14	.16	.21 ^b	.03	-.15	.15
4. CD4 count	---	---	---	---	-.004	.02	-.04	-.06	-.05
5. AHHCP	---	---	---	---	---	.16	.26 ^a	-.21*	.32 ^a
6. SSQ-N	---	---	---	---	---	---	.28 ^a	-.35*	.31 ^a
7. SSQ-S	---	---	---	---	---	---	---	-.28 ^a	.18
8. CES-D	---	---	---	---	---	---	---	---	-.17
9. % Attendance	---	---	---	---	---	---	---	---	---

NOTE: AHHCP = Attitudes Toward HIV Health Care Providers Scale, CES-D = Center for Epidemiological Studies Depression Scale, SSQ-N = Social Support Questionnaire—Number of Supports, SSQ-S = Social Support Questionnaire—Satisfaction.

a. $p < .01$

b. $p < .05$

Table 4. Multiple Regression Predicting Percentage of Appointment Attendance

Block	Variable	Beta	<i>t</i>	<i>P</i>	value
1 ^a	HIV medication status	.31	3.19	.00	
2 ^b	AHHCP	.29	3.10	.00	
	SSQ-N	.25	2.65	.01	
	SSQ-S	.00	.04	.97	
	CES-D	-.01	-.13	.89	
	HIV medication status ^c	.26	2.90	.00	

NOTE: AHHCP = Attitudes Toward HIV Health Care Providers Scale, CES-D = Center for Epidemiological Studies Depression Scale, SSQ-N = Social Support Questionnaire—Number of Supports, SSQ-S = Social Support Questionnaire—Satisfaction.

a. Model 1: $R^2 = .09$, (1, 98) = 10.15, $p < .002$

b. Model 2: $R^2 = .27$, (5, 94) = 6.79, $p < .0001$

c. HIV Medication Status refers to patients being given highly active antiretroviral treatment.

study was also the first to use the newly designed measure (AHHCP) that was developed to assess specific attitudes that HIV patients have toward their HCP taking into account disease-related factors including stigma. It is especially important to use an attitudes scale assessing stigma in HIV patients, because Schuster et al. (2005) reported that 26% of patients perceive some type of discrimination in the health care setting. According to these results, there is a significant association between how patients perceive HCPs and whether they attend appointments. This relationship is critical, because Wolf et al. (2004) reported that in patients with low literacy

skills, the physician is likely the sole source of HIV information. Therefore, if patients fail to attend appointments, they may miss important information about their disease.

The current results provide further evidence for the relationship between social support and appointment attendance similar to those of Catz et al. (1999). The authors' findings are also consistent with a larger body of literature showing a relationship between social support and a variety of adherence behaviors in HIV/AIDS patients (Catz et al., 2000; Gonzalez et al., 2004; Heckman et al., 2004; Hyer et al., 2003; Malcolm et al., 2003; Roberts, 2002). With the intensive medical management needed for HIV/AIDS and the stigma associated with the disease, it is not surprising that patients who have larger support networks tend to be more adherent. HIV disease not only requires high levels of disease management but is also related to high levels of emotional strain. Perhaps having an outside support network buffers the negative effects that this emotional stress can have on health behaviors.

Curiously, the current findings suggest that size of support network is more important than satisfaction with support with regard to attending appointments. This differs from the literature, which has more frequently shown that quality rather than quantity of social support is more strongly related to health outcomes (Bruhn, 1996). Perhaps this difference is because of the nature of the outcome variable, in that

tangible support alone could facilitate appointment attendance (e.g., in the form of transportation). Perhaps a larger network lays the groundwork for more tangible social support or increases the likelihood of more access to the elements of social support that matter to appointment attendance. This may explain the current results; however, all patients in the current sample had access to free transportation to medical appointments, although it is possible that these transportation alternatives were not used as readily as support persons. Examining additional markers of adherence along with specific types of social support is needed to further delineate this relationship.

As expected, being prescribed HAART medication was related to appointment attendance. For the patients in this study, 30% were not taking medications, and their attendance rates were lower than those who were prescribed HAART medications. This makes sense intuitively, because patients need to attend these appointments to receive refills of medications. However, appointment attendance is still critical for patients who are not being prescribed HAART medications because health care appointments may have prophylactic effects on the progression of HIV disease. For instance, attending appointments provides an opportunity for education, monitoring of disease status, treatment of HIV-related conditions, and possible initiation of HAART medications when necessary.

Depression was not significantly related to appointment attendance in the current study. These results are contrary to past research that has shown a significant relationship between depression and medication adherence (Catz et al., 2000; Gordillo et al. 1999; Holzemer et al., 1999; Malcolm et al., 2003; Paterson et al., 2000; Singh et al., 1996). It may be that depression is uniquely related to different HIV adherence behaviors. Because adherence to antiretroviral medications is a complex, daunting task that requires higher levels of motivation and attention on a daily basis, depression may affect this behavior more substantially. On the other hand, medical appointments are scheduled less frequently and require less effort. Thus, depression may not influence this type of behavior to the same degree.

Limitations

These results should be interpreted with caution. First, appointment attendance as a health behavior was examined retrospectively, so causality cannot be inferred. Second, the population examined in this study was from an HIV clinic serving predominantly low-income African Americans. Generalizability of these results to other HIV populations is limited. Similarly, to participate in this study, patients had to attend an appointment. The results cannot generalize patients who choose not to attend medical appointments. Besides level of depression, information on patients' mental health problems and substance use behavior was not obtained. These problems could likely reduce the size of patients' social network and also impair their ability to keep medical appointments. Therefore, obtaining this information may be important in future studies. In addition, patients may have different relationships with different providers. So, it is important to keep in mind that patients were responding to the AHHCP for the team as a whole, therefore the impact of discrimination or positive relationships may be attenuated. Last, because this study was executed in a health care setting, the patients may have been hesitant in answering the information on their attitudes toward HCPs truthfully.

Future Directions

Future research should replicate these results in different populations for increased generalizability and in a prospective manner to help determine causality. Further, examining how appointment attendance and medication adherence relate and interact with these predictors would also be beneficial because being prescribed HAART medications and not adhering to these complex regimens can be detrimental (Sethi, Celentano, Gange, Moore, & Galland, 2003). In addition, it is important to collect information on the patients not attending appointments; therefore, using a mailed questionnaire may be useful because attitudes, depression, and level of social support may be different in patients attending their appointments versus those who do not. Finally, because this study has provided more evidence for

the importance of support factors in HIV disease, future research may be directed toward examining how interventions to increase social support and positive attitudes toward HCPs affect future adherence behaviors. Controlled studies could examine how specific types of support (tangible, emotional, informational) affect various types of adherence behaviors.

Implications for Nursing

The authors' results suggest that interventions should be directed toward support both within and outside the health care setting. Elements of professionalism of the health care team as a whole that influenced appointment attendance included patients' perceptions of the health care team's knowledge, effort, motivation, and caring. Mindful showing of these qualities to patients will assist them in returning regularly for their health care, rather than providers assuming that patients understand that knowledge, effort, motivation, and caring are present. In addition, positive patient-provider relations might be promoted through enhancing employee wellness and investing more time and energy in education of staff.

Although a difficult task, assisting patients in building support networks outside the medical setting might be encouraged through distribution of information to patients about support groups and community services during health care visits. Linking patients with support groups, establishing buddy systems, and creatively examining how patients can support each other may be helpful, as well as making institutional supports plainly evident, such as transportation and other referral networks.

Special attention to patients not currently being prescribed HAART medications is warranted. It cannot simply be assumed that these patients are engaging in positive health behaviors and will return when they are in need of medication. Perhaps education about the need for regular follow-up at the clinic along with relationship enhancement elements will increase the likelihood of these patients maintaining contact with the clinic and improve outcomes.

Appendix 1.

Attitudes Toward Health Care Providers Scale

Directions: Read each statement carefully, and then circle the number (1, *strongly disagree* to 6, *strongly agree*) that best describes how you feel about it. *Medical team* includes the doctor, nurses, dietician, social worker, and any other medical staff member you interact with at the clinic. Items with *P* are from the Professionalism Scale and *ES* are from Emotional Support scale.

- (P) I believe that my medical team is knowledgeable about HIV/AIDS.
 - (P) My medical team puts an effort into my treatment.
 - (P) I believe my medical team is motivated to help me.
 - (P) My medical team cares about my health
 - (P) I believe that my medical team knows a lot about HIV drugs.
 - (P) I believe I receive the best available health care.
 - (P) My medical team is lazy.
 - (P) My medical team is knowledgeable about new HIV treatments.
 - (ES) I believe that my medical team cares about me.
 - (ES) My medical team supports me.
 - (ES) My medical team encourages me.
 - (ES) My medical team is helpful.
 - (ES) My medical team makes me feel comfortable.
 - (ES) The medical team spends enough time with me.
 - (ES) My medical team is sensitive to how I feel.
 - (ES) My medical team thinks I am a bad person because I have HIV.
 - (ES) My medical team cares about my opinion.
 - (ES) I believe that my medical team sees me as stupid.
 - (ES) My medical team judges me.
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