



Predictors of perceived poor social support status of pregnant women attending antiretroviral therapy clinics in south west Ethiopia, 2021

Nuredin Mohammed Guta^{a,*}, Sisay Tulu Ruksi^a, Gachana Midaksa Senbata^b, Kalid Seid^a

^a Department of Nursing, College of Health Science, Mizan Tepi University, Mizan-Aman, Ethiopia

^b Department of Public Health, College of Health Science, Mizan Tepi University, Mizan-Aman, Ethiopia

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ABSTRACT

Background: To improve pregnancy outcomes, a pregnant mother living with HIV/AIDS requires a high level of social and emotional support. However, women from low-income countries were subjected to low social support status despite adequate counseling and health messages to increase their social support. Therefore, this study aimed to investigate the predictors of the perceived poor social support status among pregnant women attending ART clinics in Southwest Ethiopia.

Methods: A hospital-based cross-sectional study with consecutive sampling was conducted to enroll 265 pregnant women on antiretroviral therapy (ART) from December 1 to 30, 2021. The data were collected using an interviewer-administered questionnaire. Epidata was used for data entry and analyzed after it was exported to a statistical package for the social sciences. Binary logistic regression was used and the level of significance was declared at P -value <0.05 using Adjusted odds ratio at 95% CI after candidate variables were identified in binary logistic regression at a P -value of <0.25 .

Results: Finding from the study figured out that low level of poor social support is found to be 47.2%. Study revealed that income level [AOR = 5.1 95% CI [1.9,13.6]], disclosure status [AOR: 1.9 95% CI [1.1,3.3]], unwanted pregnancy [AOR = 2.3 CI; [1.4,3.9]], and low adherence level [AOR: 2.1 95% CI [1.1,3.1]] were strong predictors.

Conclusion: This study identified high levels of poor social support. Increasing access to information education and communications focusing on stigma, disclosure & refresher training that boosts the counseling skills of health care providers to enhance adherence level is strongly recommended.

1. Introduction

Social support refers to the extent to which social ties meet certain needs [e.g., emotional, instrumental, affectionate, and/or material social support] or the degree to which people are socially integrated [1,2]. Women need social assistance in order to pay

* Corresponding author.

E-mail address: nurmogut@gmail.com (N.M. Guta).

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attention to their mental and physical well-being and support themselves [3].figure discription as "Figure 1: social support status of pregnant mothers Attending ART clinics of Southwest Ethiopia,2022". in the main document.

Those who have good social support also possess a high level of psychological well-being and self-esteem [4]. Good social support has been demonstrated to have a favourable impact on the outcomes of pregnant women undergoing ART [5]. People who receive social support have improved health, better adherence to antiretroviral therapy, and a higher quality of life [6].

Pregnant women who have an affirmative attitude toward social support are more likely to adopt healthy habits [7]. Social support is expected to improve people's positive relationships, which can help minimize depression, stress, and anxiety, as well as the risk of unfavourable pregnancy and birth outcomes [8]. Women with lower social support have higher fear of childbirth [9].

Poor social support status was associated with being female, having no formal education, adherence to ART drugs, no disclosure status [10], monthly income [11], ethnicity, employment status [12], psychological distress, perceived stigma [13], adherence rate, better quality of life & higher CD4 count [14,15].

Different studies have reported that social support among HIV positive people is usually low [16]. This is linked to one of the challenges to adherence to ART drugs [17] and increases the burden of depression, anxiety, and self-harm [18]. Also study conducted in sub-Saharan Africa shows People Living With HIV Disability (PLWHD) had increased years lived with disabilities [19].

Finding from study done in Eastern China on the stigmatization and social support among pregnant women with HIV or syphilis indicates that the magnitude of social support status was 40.86% [12]. Different studies have reported different magnitudes; Hunan China [53.63%], India[43.1%] [14,15], Amhara region of northern Ethiopia [12.6%] [20], Gamo zone, southern Ethiopia [30.7] [10] and Ian [60.3%] [21].

People living with HIV suffer from a lack of social support. Low level of social support have been linked to worse health outcomes among pregnant women [22]. In Ethiopia, the impact of inadequate social support on the HIV population is growing [13]. Poor social support is one reason for low utilization of health care [23]. It was identified to be low enough to escalate the well-being of mothers living with HIV [24].

Most of the country's research has focused on the stigma and disclosure status of pregnant women on antiretroviral therapy [ART] [25]. A limited study conducted in the country addressed social support status limited to the adult population living with HIV/AIDS [20,26,27]. There is a paucity of evidence in the country and no evidence in the study area covering the social support status of the pregnant population attending ART clinics. Therefore, this finding aimed to figure out predictors of poor social support status amid pregnant women attending ART clinics in southwest Ethiopia.

2. Methods

2.1. Study design, and setting

Study was conducted in Mizan Aman town, Bench sheko zone southern, Ethiopia. It is one of administrative cities of Bench Sheko zone. Mizan Aman is found 561 km south west of Addis Ababa. The total population of Mizan Aman town is 52,210 of whom 18,625 are male and 33,585, female. Mizan Tepi University teaching hospital serves more than 1 million populations lived in the surrounding zones of Southwest Region. There are 1855 number of individuals attending ART clinic of MTUTH. Among this, 1076 are women aged 15–49 years. A hospital-based cross-sectional study design was carried out in Mizan Tepi University Teaching Hospital [MTUTH] southwest Ethiopia from December 01 to 30, 2021. All HIV-positive pregnant women who attended MTUTH ART clinics during the study period were involved in this study. Severely ill mothers, those who have no willingness to take part in the study were excluded.

The sample size was determined by using single population proportion formula by considering the following parameters: Proportion [P] of population 12.6% taken from a study conducted in North Shewa Zone [20], Confidence interval of 95%, 4% margin of error were used.

$$n = [Z_{\alpha/2}]^2 \left[\frac{p(1-p)}{d^2} \right] \text{ accordingly, 265 participants were included in this study}$$

2.2. Measurement

Adherence: Adherence to ART involves taking all ART medicines prescribed per order given at correct time [28].

Good adherence: women responding 'No' to all [4] questions of adherence level. These are:

1. Do you have trouble remembering to take your prescription on occasion?
2. Do you ever stop taking your prescription when you're feeling better?
3. Many patients struggle to take their ART medications on time; have you missed any ART doses in the recent three days?
4. Do you ever stop taking your prescription because you're feeling bad?

Poor adherence: If a woman answers 'Yes' to at least one of the four self-report questions, she is regarded as having poor adherence [29].

Support status: was measured using four parameters:Emotional/informational support = eight items, Tangible support = four

items, Affectionate support = three items, and Positive social interaction = three items. The items were measured by five points Likert scale [1. none of the time, 2. a little of the time, 3. Some of the time, 4. Most of the time & 5. all of the time].

Good social support: respondents scored above the mean score of the social support status items.

Poor social support status: respondents scored values below the mean of the social support status items [30–32].

Disclosure status: If the women reported their HIV status to one of the following such as sexual partner, husband, spouse, sister, brother & relatives, their disclosure status was marked as “Yes.” As well as “No” if the women do not tell to one of the following [partner, husband, spouse, sister and brother, relatives] about their HIV status] [33].

History of Lost to follow-up: defined as having a history of letdown to come to a clinic for at least 60 days passed appointment days [34].

Unintended pregnancy: Is the result of a pregnancy that was both unplanned and mistimed at the time of conception.

Unwanted pregnancy: A woman does not wish to get pregnant at the time of conception or at any other time in the future.

Mistimed pregnancy: A woman does not want to become pregnant at the time of conception but will want to become pregnant in the future [35].

2.3. Data collection tools and procedure

The questionnaire was adapted and modified after literature review conducted in developing countries [30–32] and then contextualized to Ethiopia. Finally, questionnaire translated into working language Amharic and retranslated back into English for its consistency by language experts. Two trained BSc nurses collected the data as well as supervised by one MPH degree holder. Data were collected consecutively from pregnant mothers attending ART clinics.

2.4. Data quality control

Pretest was done in Bonga primary hospital before actual data collection by using a structured questionnaire on 14 [5% of total sample size] pregnant attended ART clinic service. Data collectors trained for 2 days on how to maintain confidentiality and respect the rights of participants, as well as study purpose, methodology & how to conduct the interview. To ensure completeness, accuracy, and consistency of information during data collection, supervisors have visited the data collection site on every day of data collection before receiving a questionnaire from each data collector and in the meantime goes to the hospital and crosschecks adherence to the data collection protocol.

2.5. Data entry and analysis

The data was double-checked before being imported into Epidata 3.1 and exported to SPSS version 25. Descriptive statistics such as frequency, table & percentage were used to describe the data. Binary logistic analysis was fitted to identify predictors associated with outcome variables using 95% confidence interval, crude odd ratio, and variables with [p-value < 0.25] observed in the binary logistic regression analysis was subsequently involved in the final model of logistic regression. Finally, 95% confidence interval and adjusted odds ratio used to identify variables associated with poor social support at a cut-off point p-value of less than 0.05 in multivariable analysis.

Table 1
Socio-demographic characteristics of pregnant mothers Attending ART clinics of southwest Ethiopia, 2021, [n = 265].

Variable	Category	Frequency	Percentages %
Age	Less than 25 years	111	41.9
	25–29 years	76	28.7
	30–34 years	45	17.0
	Greater than 35 years	33	12.5
Education status	No formal education	24	9.1
	Primary	199	75.1
	Secondary/higher	42	15.8
Religion	Orthodox	135	50.9
	Muslim	74	27.9
	Protestant	37	13.7
	Others*	24	8.9
Occupation	Housewife	29	10.9
	None governmental employee	132	49.8
	Government employee	40	15.1
	Farmer	46	17.4
	Others**	18	6.8
Monthly income in ETB	Greater 1400	38	14.3
	650–1400	57	21.5
	Less than 650	170	64.2

* = Catholic & Hawriat, ** = daily laborer & merchant.

3. Results

3.1. Socio-demographic characteristics of pregnant mothers attending ART clinics

A total of 265 respondents were interviewed which makes a response rate of 100%. Concerning age category nearly half 111 [41.9%] of respondents belong to the age group below 25 while 76 [28.7%] of them belong to the age group 25–29. One hundred and thirty-five [50.9%] of respondents were orthodox followers followed by Muslim religion 74 [27.9%]. Regarding the educational status greater than half 199 [75.1%] of the respondents have primary education while 24 [9.1%] of them have no formal education. Of the total respondents, 132 [49.8%] were housewives by their occupation [Table 1].

3.2. Health care system-related characteristics of pregnant mothers attending ART clinics

One hundred and fifty-two [57.4%] of the study participants travelled for more than an hour to reach health-care facilities for follow-up. In terms of the time when they diagnosed for HIV, nearly half of the study participants [135 [50.9%]] found out they were HIV positive after becoming pregnant. Concerning disclosure status, 176 [66.4%] of the respondents disclosed their HIV status to their husbands or partners, family and/or friends and/or other significant persons. Two hundred and eleven [79.6%] of the respondents were adherent to antiretroviral medication. [Table 2].

3.3. Support status of pregnant mothers attending ART clinics

3.3.1. Emotional/informational support

The majority of participants, 78[29.4%] had most of the time someone listens to them when they needed to talk. More than one-third 90[34%] of study participants get information on the situation most of the time. About 92[34.7%] of study participants had someone to give them good recommendation about a crisis sometimes. Almost about 97[36.2%] of participants had someone to confide in or talk about their problems sometimes. More than half 96[36.2%] of study participants had someone with whom they can communicate their most personal worries and fears sometimes [Table 3].

3.3.2. Tangible support of pregnant mothers attending ART clinics

The majority of participants, 96[36.2%] had somebody to help them if they were restricted to bed most of the time. More than half 109[41.1%] of the participants had someone to prepare their meals if they were unable to do so sometime [Table 4].

3.4. Affectionate support of pregnant mothers attending ART clinics

Concerning Affectionate support the majority 98[37%] of respondents had somebody who showed them love and affection most of the time. Less than half 117[44.2%] of the participants had someone who hug them most of the time [Table 5].

3.5. Positive social interaction of pregnant mothers attending ART clinics

Concerning Positive social interaction, 94[35.5%] of the respondents had someone with whom to have fun with them most of the time. Less than half 101[38.1%] of the participants had someone to do something enjoyable with them most of the time [Table 6].

Table 2

Health care system-related characteristics of pregnant mothers Attending ART clinics of Southwest Ethiopia, 2021[n = 265].

Variable	Category	Frequency	Percentages %
Unable to understand instructions given	Yes	246	92.8
	No	19	7.2
Frequency of Counseling on ART adherence	At screening	243	91.7
	At the initiation of treatment only	21	7.9
	Sometime	1	.4
The time needed to reach health care facilities	<1hr	113	42.6
	≥1hr	152	57.4
Time of diagnosis for their HIV Status	Before being pregnant	130	49.1
	After being pregnant	135	50.9
unwanted pregnancy	Yes	128	48.3
	No	137	51.7
ART drug side effect	Yes	72	27.2
	No	183	72.8
HIV Disclosure Status	Disclosed	176	66.4
	Not Disclosed	89	33.6
Level of ART Adherence	Good	211	79.6
	Poor	54	20.4
History of Lost to follow up	Yes	67	25.3
	No	198	74.7

Table 3
Emotional/informational support of pregnant mothers Attending ART clinics of southwest Ethiopia,2021 [n = 265].

Emotional/informational support	NT Freq.[%]	LT Freq.[%]	ST Freq.[%]	MT Freq.[%]	AL Freq.[%]
Someone you can count on to listen to you when you have something to say	9[3.4]	46[17.4]	10[3.8]	78[29.4]	46[17.4]
Someone to give you information to help you understand a situation	7[2.7]	44[16.6]	80[30.2]	90 [34]	44[16.6]
Someone who can provide you sound advice in a time of crisis	14[5.3]	64[24.2]	92[34.7]	77[29.1]	18[6.8]
Someone with whom you can confide or speak about yourself or your problems	8 [3]	26[9.8]	88[33.2]	97[36.2]	46[17.4]
Someone whose advice you really want	6[2.3]	48[18.1]	96[36.2]	85[32.1]	30[11.3]
Someone with whom you can communicate your most personal worries and fears	2[0.8]	42[15.8]	96[36.2]	92[34.7]	33[12.5]
Someone to go to for advice on how to deal with a personal problem	1[0.4]	38[14.3]	91[34.3]	105[39.6]	30[11.3]
Someone who understands your problems	2[0.8]	37 [14]	107[40.4]	84[31.7]	35[13.2]

NT = none of the time LT = a little of the time ST = some of the time MT = most of the time AL = all of the time.

Table 4
Tangible support status of pregnant mothers Attending ART clinics of Southwest Ethiopia, 2021 [n = 265].

Tangible support	NT Freq.[%]	LT Freq.[%]	ST Freq.[%]	MT Freq.[%]	AL Freq.[%]
If you were confined to your bed, you would need someone to assist you.	4[1.5]	30[11.3]	94[35.5]	96[36.2]	41[15.5]
Someone to take you to the doctor if you need it	7[2.7]	48[18.1]	97[36.6]	81[30.6]	32[12.1]
Someone to prepare your meals if you were unable to do it yourself	0[0]	32[12.1]	109[41.1]	92[34.7]	32[12.1]
If you were sick, you'd have someone to assist you with your everyday tasks.	3[1.1]	32[12.1]	95[35.8]	97[36.6]	38[14.3]

NT = none of the time LT = a little of the time ST = some of the time MT = most of the time AL = all of the time.

Table 5
Affectionate support status of pregnant mothers Attending ART clinics of MTUTH, southwest Ethiopia, 2021 [n = 265].

Affectionate support	NT Freq.[%]	LT Freq.[%]	ST Freq.[%]	MT Freq.[%]	AL Freq.[%]
Someone who expresses their love and affection for you	4[1.5]	33[12.5]	94[35.5]	98 [37]	36[13.6]
Someone to love and make you feel wanted	6[2.3]	26[9.8]	112[42.3]	91[34.3]	30[11.3]
Someone who hugs you	4[1.5]	25[9.4]	94[35.5]	117[44.2]	25[9.4]

3.6. Level of poor social support

This study revealed that the level of poor social support was found to be 125(47.2%) [CI = 41.2,52.8] [Fig. 1].

3.7. Factors associated with social support status of pregnant mothers attending ART clinics

In bivariable binary logistic regression analysis; Income level, disclosure status, poor adherence to ART drugs, unwanted pregnancy and lost follow up had a *P*-value of ≤ 0.25 resulting candidates for multivariable logistic regression analysis. Accordingly, in multivariable logistic regression analysis Income level, disclosure status, poor adherence to ART drugs, and unwanted pregnancy were significantly associated 'with poor social support status.

In this finding mothers experiencing unwanted pregnancy were 2.3 times more likely to have poor social support status [AOR = 2.3, CI [1.4, 3.9]] than mothers not exhibiting any stigma. Similarly, mothers with high income are 5.1 times more likely not to have poor social status [AOR = 5.1, 95% CI [1.9, 13.6]] than mothers with low income. Women with disclosure status [AOR: 1.9, 95% CI [1.1, 3.3]] were 1.9 times more likely to have poor social support status compared to those not disclosed. The odds of women with poor adherence levels [AOR: 2.1, 95% CI [1.1, 3.1]] was 2.1 times higher than counterparts see table below [Table 7].

Table 6
Positive social interaction of pregnant mothers Attending ART clinics of South West Ethiopia, 2021 [n = 265].

Positive social interaction	NT Freq.[%]	LT Freq.[%]	ST Freq.[%]	MT Freq.[%]	AL Freq.[%]
Someone to have a good time with	3[1.1]	36[13.6]	94[35.5]	94[35.5]	38[14.3]
Someone to get together with for relaxation	5[1.9]	35[13.2]	101[38.1]	97[36.6]	27[10.2]
Someone to do something enjoyable with	1[0.4]	36[13.6]	92[34.7]	101[38.1]	35[13.2]

NT = none of the time LT = a little of the time ST = some of the time MT = most of the time AL = all of the time.

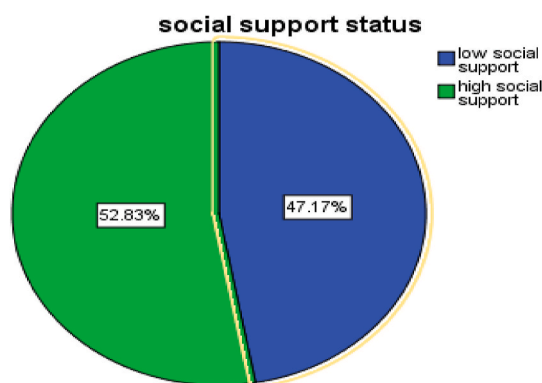


Fig. 1. Social support status of pregnant mothers Attending ART clinics of Southwest Ethiopia,2022.

4. Discussion

This finding aimed to identify predictors of poor social support among pregnant women attending ART clinics in southwest Ethiopia. The study found that 125 [47.2%], CI = [41.2,52.8] of participants encountered poor social support. Income level, disclosure status, poor adherence to ART drugs, and unwanted pregnancy were found to be significant predictors.

This study findings was higher than the study conducted in Eastern China [40.86%] [12], the Amhara region of northern Ethiopia [12.6%] [36], Gamo zone of southern Ethiopia [30.7]. This difference may be due to sociodemographic characteristics, severity of illness, changes in sample sizes, and study design used in these studies [10].

Our finding was below study conducted in Hunan China [53.63%] [14] and Tabriz, Iran [60.3%] [21]. This disagreement may be attributed to differences in socioeconomic and demographic characteristics, large or small sample sizes used, and set up giving ART services.

In this study, income level was identified as a significant factor affecting social support status. This is consistent with a study performed in Kunming city of China [16]. These are justified as individuals with low socio-economic status are compelled to do more jobs and earn more money for survival which can affect their time to seek social support. However, people with high incomes receive more social support because they do have communication and creation of different social while engaging in different income bearing activities as well as strong social network pertaining to their income.

A disclosure status is one of the predictors of social support. This is parallel to the results of a study performed in the Gamo zone, southern Ethiopia [10]. This is justified because women who disclose their HIV-positive status are more likely to be isolated by the community due to fear of transmission to them.

Social support status was significantly associated with adherence level. This is similar to a study conducted in North Shoa, Ethiopia [20], Gamo Zone southern Ethiopia [10] & India [15]. This is because women who were less adhered to ART drugs had low social support status since women with low adherence develop advanced stages of the disease in which people fear to give caring for them. As well as people with advanced disease stage may have poor social networks due to they have no time to engage with neighbors due to they are bedridden and busy with caring burden for their illnesses.

This study found that unwanted pregnancy was a strong predictor of social support status. This is in agreement with a report of study from the Umlazi, South Africa [37], rural southwestern Ethiopia [38] This may be explained as women experienced unwanted pregnancies receiving less support from the community because of low birth preparedness and complication readiness by the family members. In addition mothers with unwanted pregnancies had not prepared for pregnancy, and the pregnancy is less communicated and social reaction to pregnancy is reduced. Thus, likely hood of receiving social support is poor.

Strength: The study used primary data to measure support status of pregnant women attending ART clinics.

Limitation: Shares limitation of a cross-sectional study. Perceived social support status is an individual self-report measure that may be subjected to bias. The study used data from general population to determine sample size of specific population.

5. Conclusion

This study figures out low social support status of pregnant women who attended ART clinics. In general, poor social support was associated with income level, disclosure status, poor adherence to ART drugs, and unwanted pregnancy. Increasing access to IECs focusing on unwanted pregnancy, disclosure & refresher training that boosts the counseling skills of health care providers to enhance adherence levels is strongly recommended. Providing evidence on the importance of social support to ensure that women receive critical support from family, relatives, society, and healthcare institutions is encouraged.

Ethics standard

Before data collection began, the Mizan-Tepi University College of Medicine and Health Sciences Ethics Committee gave their

Table 7

Bivariable and multivariable logistic regression analysis of factors associated with support status of pregnant mothers attending ART clinics of southwest Ethiopia, 2021 [n = 265].

Variables		Support status		COR [95% CI]	AOR [95% CI]	P-value
		Low	High			
Income	Greater 1400	30	8	1	1	
	650–1400	25	32	4.8[1.9,12.3]	5.1[1.9,13.6]	0.001
	Less than 650	70	100	5.4[2.3,12.4]	5.9[2.5,14.1]	0.001
Disclosure status	Yes	73	103	1.98[1.2,3.3]	1.9[1.1,3.3]	0.023
	No	52	37	1	1	
Adherence level	Yes	32	22	1	1	
	No	93	118	1.8[1.1,3.4]	2.1[1.1,3.1]	0.028
Lost to follow up	Yes	86	112	1.8[1.1,3.1]	1.5[0.79,2.9]	0.21
	No	39	28	1	1	
unwanted pregnancy	Yes	48	80	2.1[1.3,3.5]	2.3[1.4,3.9]	0.002
	No	77	60	1	1	

P-value of * < 0.05, COR=Crude Odds Ratio, AOR = Adjusted Odds Ratio.

approval [Ref no.:037/2021]. The administrative units of the hospital were contacted. To maintain secrecy, the questionnaires were coded & the respondents were informed about the scope of the study, the benefits of participating in the study, and their right to leave at any time. All participants gave written consent. This research was carried out in line with the Helsinki Declaration.

Consent for publication

Not applicable.

Author contribution statement

Nuredin Mohammed Guta; Sisay Tulu Ruksi: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Wrote the paper.

Gachana Midaksa Senbata; Kalid Seid: Contributed reagents, materials, analysis tools or data; Wrote the paper.

Data availability statement

Data will be made available on request.

Declaration of interest's statement

The authors declare no conflict of interest.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Acronym & Abbreviation

AIDS: Acquired Immune Deficiency Syndrome; ART: Anti-retroviral Therapy; AOR: Adjusted Odd Ratio; CI: Confidence Interval; COR: Crude Odd Ratio; MTUTH: Mizan Tepi University Teaching Hospital; MPH: Masters of Public Health; HIV: Human Immune Virus, IECs: Information Education and Communication; LTFU: Lost To Follow Up; SPSS: Social Package for Social Science; PLWHD: People Living With HIV Disability.

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