

Statistical Analysis on Factors that Induces Females to Prostitution: The case of Gondar Town, Ethiopia.

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Abstract

Background: Prostitution is the act of providing sexual services to another person in turn for payment. A considerable number of studies have been conducted on sex work in Ethiopia though they have given little insight and understanding on the life of sex workers outside their work environment particularly their role as mothers. The aim of the study was to identify factors that induce females to prostitution life. **Subjects and Methods:** To meet this requirement I have already collected the data by using self-administered questionnaire, which was distributed to the respondents. The data was gathered from Gondar town using purposive sampling from a total of 56 individuals. The study used chi-square test of association and binary logistic regression. **Results:** According to the study, 35.7% of the respondents problem to engage in prostitution life was income, 28.6% of the respondents problem to engage in prostitution life was peer pressure, 21.4% of the respondents problem to engage in prostitution life was internal feeling, 7.1% of the respondent problem to engage in prostitution life was dismissed from university. Finally, the majority of the respondents involved in prostitution life around 57.1% were interested to live with their parents. **Conclusion:** The study concludes that prostitute's origin they came from, their educational level, economic status, their family size, their father not alive before they engaged in prostitution life have great association with prostitution life.

Keywords: Prostitution, Female, Risk factor, Logistic regression model.

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Introduction

Prostitution is variously described in the literature as sex-work, violence against "women" or "slavery". The root meaning of "prostitute" implies a transaction. It follows that a prostitute performs some kind of sexual activity in exchange for money. Prostitution cannot exist without customer. Who objectively and dehumanize themselves, the prostitution and human sexuality. Work is any sexual performance carried out by a person for payment of certain amount of money or in exchange of goods and service. Child commercial sex worker is the use the child in sexual activities for remuneration or any other form of consideration.^[1]

Generally, in society, not everyone would behave in ways that conform to legal requirements. Some people just do not have the ability, as well as purity in their essence to embrace only permissible conduct, and would rather deviate to prohibited activities. This is precisely the case with prostitution. It is an unlawful way to obtain valuable social interests.^[2]

Children who engaged in commercial sex work by many reasons such as, running away from home, child abuse and neglect, psychological and emotional difficulties, family related risk factors, child-specific risk factors, socio-economic related risk factors, environmental-related risk factors, poverty, personal life style and illiteracy. And

children who engaged commercial sex works has its own consequence such as physical like victimization on the streets: beating, rape and murder, crime like delinquency and contact with the juvenile-justice system, health concern like HIV infection and other sexually transmitted disease and psychological disorders including depression and risks of suicide and substance abuse.^[3]

Child prostitution is growing in both urban and rural area of Ethiopia. In the capital city Addis Ababa the number of children victimized in committal sexual exploitation (CSE) is increased at an alarming rate. Numerous children migrate from rural areas in order to scope poverty. There are different types of child commercial sex work such as working on the street or alcohol houses working, in rented house/beds and working in rent places for chat & drugs.^[4]

In Ethiopia, it is estimated that 28 % of all street children are engaged in the sex trade. Some girls as young as 11 years of age are engaged in sex workers (SW). 20 % of children in her sample began their prostitution career before the age of 11 years.^[5] Studies also indicate that an increasing number of teenage girls come to Addis Ababa to involve in SW because of poverty.^[6] However, it is difficult to get reliable data on the exact number of SWs in Ethiopia. Various studies have different data. The number of SWs in the country stood at 90 000. Conversely, in Addis Ababa alone, studies estimate the number of SWs were 150000.^[7] A study conducted by FHI has indicated the number of SWs is about 8000.^[8] Mehret estimated that 7.1% of the adult

female population of Addis Ababa regularly engaged with multiple partners, the majority on a prostitute client basis.^[9] In both urban and rural, some parents have no harmonious relationship with their children. This enforces children to leave their homes or place of birth and migrate from rural areas to urban area. Especially females are the most risk to problems like that of prostitution. Most of the rural females are migrates to urban area for searching jobs, better life etc. After their migration they face no jobs and without income there is no better life in urban area so that they engage in prostitution life. Some of females simply assumes life in prostitution is better and they engage in prostitution life and after they engage they may face different problems even they may attack by HIV AIDS in turn this hinders 5 years transformation plan. The label of engagement of females in prostitution life in Gondar town is increases from year to year due to varies factors. The objective of this study was to identify factors that induce females to involve in prostitution life using Binary logistic regression model.

Subjects and Methods

Study area and data

The study area was Gondar town and the target population of the study was female population live with prostitution life. Across-sectional survey conducted in the month of April 2013 using purposive sampling method. The data was collected using primary data by distributing a self-administrative questionnaire to a sample of prostitute that found in Gondar town. A sample of 56 females who participated in prostitution life involved in the study.

The study variables and data

Dependent variable

The dependent variable: which life is better (0= living in prostitution life, 1=living with their parent).

Independent variable;

Educational level of prostitute parent and prostitute itself(0=illiterate, 1=grade 1-8, 2= grade 9-12, 3=higher institution), prostitute father and mother alive(0=no, 1=yes), the age of prostitute(0=18-21 year,1=22-25 year,2=26 and above), prostitute parent income before they engaged in prostitution life(0= low income,1= medium income 2=high income), house hold size of prostitute parent(0=1-2,1=3-4,2=5-6,3=7and above), current average income after engage in prostitution (0= '<500 birr', 1='500-1000 birr', 2='1000-2000 birr', 3= '>2000 birr'), etc.

Logistic regression Model

Logistic regression is used when the dependent variable or the response variable is qualitative in nature or categorical. Binomial or binary logistic regression is the form of regression, which is used when the dependent variable is dichotomous and the independent variables are of any type. Logistic regression models are special cases of generalized linear models (GLMS) for binary data.

The regression model when the dependent variable is

quantitative our aim or objective is to estimate the expected or mean value given that the value of regresses $E(Y_i/X_{1i} \dots X_{ki})$. However, in logistic regression objective is to find the probability of something happening (probability of success). Logistic regression is used in various areas of social sciences and medical research.

Consider collection of k independent variables will be denoted by the vector $X = (x_1, x_2 \dots x_k)$.

The success probability of outcomes of interest is denoted by p_i

$$p_i = p(y_i = 1/x_{1i} \dots x_{ki}) = \frac{\exp^{g(x)}}{1 + \exp^{g(x)}}$$

Where: $g(x) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \dots + \beta_k x_k$ and

Odd of success is used to describe the chance that a binary response variable leads to success relative to failure.

The formula is given by: odds $(y_i = 1/x_{1i} \dots x_{ki}) = p_i / (1 - p_i) = e^{g(x)}$
 $= e^{\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \dots + \beta_k x_k}$

Log odds model:

Logit (odds) $= \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \dots + \beta_k x_k$

The most appropriate analytical methodology for this study was binary logistic regression. The ratio of probability success to probability of failure was $p/(1-p)$ is odd ratio.

The significance of the coefficient of individual variable in the binary logistic regression Model is tested by using Wald test statistic. This is given by:

$$X^2 = \left[\frac{\beta_i}{se(\beta_i)} \right]^2 \sim X^2_{\alpha}(1)$$

Ho: $B_i = 0$ vs H1: $B_i \neq 0$, for $i = 1, 2, \dots, k$

Decision: Reject Ho if $X^2 \geq X^2_{\alpha}(v)$ or the corresponding P-value of each variables less than α . The overall significance of the binary logistic regression model is checked by using Omnibus test of model coefficient. The hypothesis testing is given by:

Ho: $\beta_0 = \beta_1 = \beta_2 = \dots = \beta_k = 0$ vs.

H1: at least one of the coefficients is different from 0

Decisions: reject H0 in favor of H1 if P-value is less than α .

Ho: $\beta_0 = \beta_1 = \beta_2 = \dots = \beta_k = 0$ vs.

H1: at least one is different from zero.

Results

The age group 22-25 the number of prostitutes was larger than the others. The age group of 18-21, 22-25 and greater than 25; there were 18, 25 and 13 respondents respectively. The percentage of respondent with age group 18-21, 22-25 and greater than 25 was 32.1%, 44.6% and 23.2% [Table 1]. 25% of the respondents came from urban area, 53.6% of the respondents came from rural and 21.4% of the respondents migrated from semi urban area [Table 1].

Table 1: Age and place of residence distribution of prostitutes

Variable	Category	Frequency of prostitution	Percent (%)
Age	18-21	18	32.1
	22-25	24	42.9
	25 and above	14	25.0
Place of Residence	Urban	14	25
	Rural	30	53.6

	Semi urban	12	21.4
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[Table 2] reveals that; 35.7% of the respondents' problem to engage in prostitution life was income, 28.6% of the respondent's problem to engage in prostitution life was peer pressure, 21.4% of the respondent's problem to engage in prostitution life was internal feeling, 7.1% of the respondent's problem to engage in prostitution life was dismissed from university, and 7.1% of the respondent reason to engage in prostitution life was other problem and hence income problem take the largest contribution.

Table 2: Prostitute reason to enter in prostitution life

Variable	Category	Frequency of prostitution	Percent (%)
Reason becoming prostitution	income problem	20	35.7
	Peer pressure	16	28.6
	internal feeling	12	21.4
	dismissed from university	4	7.1
	Others	4	7.1
Conflict with parent	Father	8	14.3
	Mother	3	5.4
	Brother	3	5.4
	Other	4	7.1
	Missing system	38	67.9
Prostitution	Life with prostitution good	24	42.9
	Life with parent	32	57.1

The [Table 2] reveals that: 14.3% of the respondents were conflicted with their father, 5.4% of the respondents were conflicted with their mother, 5.4% of the respondents were conflicted with their brother and 7.1 % of the respondents with other.

From the above table 2, the number of prostitution said living with their parent was larger than (57.1%) living in prostitution life. The percentage of respondent said living with their parent and living in prostitution life was 57.1% and 42.9 %, respectively.

Table 3: Educational background of the respondents' families

Level of education	Father's education		Mothers education	
	No. of resp.	Percent	No. of resp.	Percent
Illiterate	28	50.0	34	60.7
1-8 grade	23	41.1	17	30.4
9-12 grade	4	7.1	4	7.1
Higher institution	1	1.8	1	1.8

The [Table 3] above shows that only 7.1% of the mothers and fathers of the respondents reached secondary level of education and only 1.8% of the respondents' fathers and mothers have higher institution level of education. It indicates that the educational background of the respondents' parents was quite low. This implies low level of parental education, which means less family income and more likely to push children towards prostitution.

The [Table 4] below gives the association b/n prostitution life and some covariates using Pearson chi-square test.

Table 4: Chi-square tests of association

Pearson chi square test			
Variable in the study	Value	Df.	Asymp. sig (2-sided)
Age	21.484	8	.006
Father alive before they engage in prostitution life	33.950	4	.000
Mother alive before they engage in prostitution life.	4.323	4	.364
House hold size of your parent before they engage.	34.895	12	.000
Prostitute mother educational level.	9.257	12	.681
Prostitute father educational level.	10.889	12	.538
Prostitute educational level.	40.785	12	.000
Prostitute area they came from	22.806	8	.004
Prostitute relationship with their parent before they engaged.	9.514	4	.049
Your parent monthly income before they engage.	21.675	8	.006

The p-value for age of prostitute, father alive before they engage in prostitution life, house hold size of your parent before they engage, prostitute educational level, prostitute area they came from, prostitute relationship with their parent before they engaged and prostitute parent monthly income before they engage in prostitution life were statistically significant with prostitution life (P-value<0.05) [Table 4].

Next I stated the result of chi-square statistic and its significant level. The probability of obtaining this chi-square statistic (26.9337) if there is in fact exists the effect of the independent variables, taken together, on the dependent variable. This is, of course, the p-value, which is compared to a critical value, perhaps .05 or .01 to determine if the overall model is statistically significant. In this case, the model is statistically significant because the p-value is less than 0.01. These R2 estimated 0.71 indicates that approximately 71% of the variable in which life is better for prostitute can be predicted from the linear combination of the three independent variables.

Table 5: Variables in the Equation Individual case analysis for each variable to identify the most determinant factors that included

Covariates	Coefficients	S. error	Wald	P-value	Odd ratio
Constant	1.636	1.392	2.382	.240	5.135
Age(1)	.356	.808	9.194	.011	1.427
Age (2)	.564	.761	.054	.000	1.758
Duration of Prostitution(1)	-.671	.897	2.560	.044	.511
Duration of Prostitution(2)	0.98	.807	.015	.003	.906
Current Income (1)	-.839	4.970	6.310	0.000	.300
Current Income (2)	1.039	1.305	6.034	.026	.354
Current Income (3)	1.180	1.198	3.970	.225	.307

The above table shows, the coefficient, standard error, Wald statistics and odds of the individual. It is important to test

the significance of coefficient of individual variable by comparing Wald statistics with χ^2 α or by comparing the corresponding p-value with $\alpha=0.05$.

So in this study the p-value for the age of prostitute, age of prostitute(1), age of prostitute(2), for how many year live in the prostitution life (1), for how many year live in the prostitution life (2), Prostitute current average income (1) and Prostitute current average income (2) was less than the level of significance ($\alpha=0.05$). Hence, the variables age of prostitute, age of prostitute (1), age of prostitute (2), for how many year live in the prostitution life (1), for how many year live in the prostitution life (2), Prostitute current average income (1) and Prostitute current average income (2) were statistically significant variables in determining the dependent variable (which life is better for prostitutes) in binary logistic regression model.

Discussion

The odds for prostitutes who said living with their parent was better whose age group 18-21 is 42.7% more likely than that of age group 26 and above. The odds for prostitutes who said living with their parent were better whose age group 22-25 were 75.8% higher than that of the reference age group 26 and above. The odds for prostitutes who said living with their parent was better for duration prostitution less than or equal to 3 years is 48.9% less likely than that of the reference 8 and above. The odds for prostitutes who said living with their parent was better for prostitute live in prostitution life 4-7 years was 9.4% less likely than that of the reference group 8 and above. The odd ratio of prostitution who preferred living with their parent for the income category less than 500Birr 70% less likely than that of the reference income category greater than or equal to 2000birr. The odd ratio of prostitution who preferred living with their parent for the income category between 500 and 1000birr 64.6% less likely than that of the reference income category greater than or equal to 2000birr. Similar results found in the previous studies which are done by Flores indicated that economic, family conditions, psychological factors, socio-cultural factors and family level of per-income is considered as a pushing and pulling factors of child commercial sex work.^[1] Previous study regarding to income concludes that prostitution is, in some way, the product of the limited opportunities for women to earn money, and their lack of economic independence in industrial societies. Prostitution could be attractive to the group of women, who are economically dependent on men, or to governments as a means of revenue generation. Most women can earn a higher income from prostitution than through legitimate jobs.^[10] Place of residence was one of the factor for prostitution. Other study found that migration from less developed areas to cities facilitates women for involvement into prostitution.^[11] Family size was one of the key factors for female becoming prostitution. When the household unable to support their child; they left their homeland and migrated to urban area to survive and support their family. Previous study revealed that illiteracy, failure

of family support and lack of ability to fulfill their basic needs of the family or children, were key factors for adopting prostitution.^[12] Divorce or separate of the family was associated with prostitution. Other study found that family is the primary and most important entity for the socialisation of children. There is a direct relationship between family disjuncture and youth deviance. Breakdown in family, absence of close parental supervision and living in a morally corruptive environment, underline the perversion observed among children, particularly teenagers.^[13] Education was a major influenced factor for prostitution. Previous study revealed that women have a low level of educational attainment as all of them didn't join secondary school. This implies that they have fewer opportunities to join formal employment and this restricts them to participate in low paying informal jobs like housemaid. According to a 2001 Central Statistic Authority CSA) report, in Ethiopia 84 % of rural women had no education compared with 67 % of men.^[14] From the finding age was one of the factor for prostitution. Specially young females was more vulnerable group. Previous study revealed that young people are among the most vulnerable groups; half of new infections in Ethiopia in the year 2009 occurred among those in the age range of 15 to 24.^[15,16] The common, risky, sexual practices in this age group include early sexual intercourse, multiple sexual partners, unprotected sexual intercourse, engaging in sex with older partners and non-regular partners such as commercial sex workers.^[17] Monitoring and changing the behavior of this vulnerable group is paramount in order to control the HIV pandemic.^[16,18]

Conclusion

The majority of the respondent involved in prostitution life by the problem of income. The majority of the respondents involved in prostitution life around 57.1% were responded to live with their parents. The respondent problems to enter in prostitution life were depending on their age ,place of residence, their household size, there educational level, parent monthly income before they engage, their educational level were the most determinant factors. The prostitute problem to enter in prostitution life and the area they came from was associated. The prostitute problem to enter in prostitution life and their parent household size was associated. The prostitute problem to enter in prostitution life and their educational level was associated. The study shows that most of the prostitutes were below the age of twenty six. The majority of the child prostitutes are from outside of Gondar town (they came from rural or semi urban) and thus live alone. The girls seem to have come from the different parts of the woreda and from the different ethnic groups. They migrated to Gondar in order to look for a job. The educational background of the children's parent for the majority of the girls was low. Most of the parents were either illiterate or have primary level education. The findings indicate that main reasons which push girls to be involved in prostitution were: Poverty, Early marriage,

Conflict with parents, families and/or husband, Death of mother and/or father or both. The adult groups view prostitution as a violation of children's rights, a major societal problem, which needs to be addressed. The respondents feel that prostitution can be avoided by paying special attention to the rights of children. If the basic needs of children are fulfilled, they will not resort to prostitution.

Ethical Approval

Ethical approval was obtained from Department of Statistics, University of Gondar. To build more trust and resolve related confidentiality issues we have employed record officers. Besides, during report writing full considerations was made to protect the moral and confidence of the study population.

Source of Finance

During this study, financial support was not received from any organization.

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