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Factors Associated with Road Traffic Accident Death and Victim's Social Crisis in East Gojjam Zone, Amhara National Regional State, Ethiopia

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Abstract
This paper studied the determinants of road traffic accident in east Gojjam, ANRS of Ethiopia from 2013 to 2015 , using a cross-sectional secondary data collected from road traffic office and triangularly primary data collected from prior exposed groups. The associations of explanatory variables with car accident death were determined using Logistic regression model; its social crisis was analyzed, through qualitative analysis approach. The result revealed as there were 120 (31.25%) road traffic accident death rate in east Gojjam zone and majorities were Males, aged between 18 years to 30 years old and farmers have more contribution. Road users' factors such as sex, age, educational level, farm occupation, driver's ownership title on vehicle, pedestrians' movement on traffic road, and drivers' lack of willingness to give priority for pedestrians, driver's driving experience, speed management, and overweight were significant determinant factors of road traffic accident death in east gojjam zone, ethiopia. Similarly, Road factors such as main road, Curved and straight road characters, were found significant positive association with road traffic accident while Illumination was associated negatively. Victim's social discrimination, psychological disorder, burden on their family, need to depend on others and being in monotonous life quality were drawn as social crisis of car accidents. Formal Road Safety Training Programs were suggested to change Road users' knowledge, Attitude and Practice (KAP) toward Sustainable Road Traffic Safety, in Ethiopia by stakeholders generally, Debre Markos University and Federal or and Regional state Traffic Offices particularly.
Keywords: Road Traffic, accident, determinants, Road users, East Gojjam Zone

1. Background of the study

Road Traffic Accident is an accident that occurred on a street open to public traffic; resulted in one or more persons being killed or injured, and at least one stirring vehicle was involved. In fact, barely a week passes without reading or hearing news of accidents on African roads and no African country can claim protection to road accidents (Afro Autos, 2013). A common saying in the area of traffic safety is that "accidents are not natural but they are caused" (Desai & Patel, 2011). A driver characteristics such as Speeding, reckless driving and alcoholism are the deadliest factors in single-vehicle crashes, while fatigue and reckless driving are the deadliest factors in two-vehicle crashes (Weiss, 2014) and also a study conducted in Asia, Oman showed that the driver characteristics contributes 72.36% from all other contributors of RTA (Islam. M. and etal 2012).

In Africa (Nigeria), studies showed that accidents significantly increase with increased length of roads (km), presence of road safety corps and population congestion (Augustus, 2012). Lisa, David et al., (2005), and Gungul, (2012) also determined that Vehicle, driver, road and its environment are among the factors that increasingly cause road accidents. However, there is no seasonal variation but trend which shows steady increase accident rate (gbeboh, 2013). Travel risks and traffic exposure grow at a much faster rate with rising motorization and expanding road network (Sensarma, Balani & Rawat, 2011). Report of WHO (2009, 2010) reveals that, drink driving is responsible for between 10 and 32 % of fatal crashes; wearing a seat belt reduces the risk of a fatality by 40 – 50%; a 5% increase in average speed leads to an approximately 10% increase in crashes that cause injuries, and a 20% increase in fatal crashes, wearing a motorcycle helmet correctly can reduce the risk of death by almost 40% and the risk of severe injury by over 70%. Another study by Lisa, David et al. (2005), and Elvic, Runee et al. (2005) found that not wearing a seatbelt is the most common cause of fatality which contributes to fatality among 63% of all vehicle occupants. In rural roads, the implementation of lighting on unlit roads may lead to a 64 per cent reduction in fatal accidents and 20 to 50 per cent of total accident reduction. In the other way round the absence of road lights will add up to the road traffic accident occurrences by 20 to 50% (Sandra 2000).

Lisa, David et al. (2005) have argued that a small percentage of crashes are caused by mechanical failure of a vehicle. Similarly, Ung (2007) stated that Vehicles have caused road accident because their owners did not properly maintain and regularly inspect the vehicle during the maneuver. The climatic and environmental conditions can also be a factor in transportation crashes (Lisa, David et al. 2005); and also Alister and Simon (2011) argued that, Weather on roads can contribute to crashes. In Ethiopia, pedestrian injuries account for 84% of all road traffic fatalities compared with 32% in Britain and 15% in the United States of

America. In contrary, in the heavily motorized countries, drivers and passengers account for the majority of road deaths involving children (Bunn, Collier et al. 2003). Similarly, Mekonnen (2007) quoted as RTA death rate is estimated to be 130 per 10,000 vehicles and of these, over half are pedestrians, out of whom 30% are children.

WHO (2013) stipulates that, there are large disparities in road traffic death rates between regions, which is highest in the African Region (24.1 per 100, 000 population), and lowest in the European Region (10.3 per 100, 000). Young adults aged between 15 and 44 years account for 59% of global road traffic deaths. More than three-quarters (77%) of all road traffic deaths occur among men. In an absolute similar manner Naci, Chislom et al. (2008) supports this argument by stating that, 51% of fatalities and 59% of disability-adjusted life years lost as the result of road traffic injuries occurred in the most productive age groups. According to IRIN, (2011) Ethiopia has one of the highest road-accident rates in the world and it disclosed that as a minimum 70 people die in every 10,000 vehicle accidents annually in Ethiopia, while the average fatality rate is 60 per 10,000 vehicles across sub-Saharan African countries. Ethiopia is ranked on 12th position in the world registering 2.77% of the total deaths result from road accidents according to WHO (2011) and Afro Autos (2013). UN (2009) reported that the economic costs of road crashes and injuries are estimated to be 1% of Gross Domestic Product (GDP) in low-income countries such as Ethiopia. In another stance, Mohammed (2011) put the cost of RTA in Ethiopia during 2009/10 year as the total national economic loss resulting from road accidents to be estimated as ETB 1.867 Billion. Report of WHO (2004); Naci, Chislom et al. (2008) urges that, in economic terms, the cost of road crash injuries is estimated at roughly 1% of Gross National Product (GNP) in low-income countries, 1.5% in middle-income countries and 2% in high-income countries. The direct economic crisis of global road crashes have been estimated at US$ 518 billion. Persson (2008) argued as in Ethiopian the annual cost of RTA is estimated to be around £40 million.

Conceptual frame work of the study- This was adopted from existing literatures.

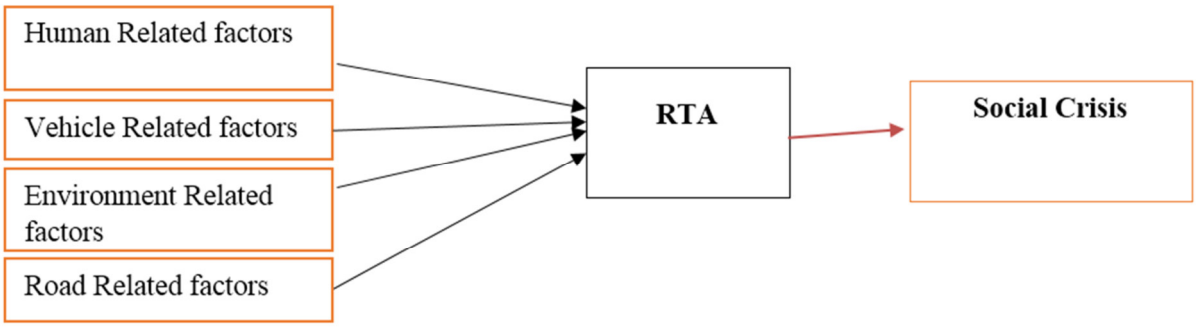

Figure 2.1: research model (developed by researchers)

Road traffic accidents is the leading cause of death by injury and the tenth-leading cause of all deaths globally and if present trends continue, it will be the third major killer after HIV/AIDS and TB by 2020 (WHO, 2013).

Developing countries bear a large share of the burden, which account 85% of annual deaths and 90% of the disability lost because of road traffic injury (Heidi, 2006). Deaths resulting from road traffic accidents in Ethiopia reached 22,786 or 2.77% of the total deaths in the nation and the age adjusted death rate is 37.83 per 100,000; at least 70 people die in every 10,000 vehicle accidents annually and loses about $65 million annually and more victims are mainly public transport travelers in the working age group of 18–30 years (WHO, 2011).

A report by United Nations (2011) showed an estimated 1.3 million people lose their lives and millions more are disabled in often preventable road crashes every year, predominantly in low-income and middle-income countries. This is the leading worldwide cause of death for children (35%), adolescents, and young adults aged 10-24 and nearly half of those dying on the world's roads are pedestrians (65%). In line with this report, WHO (2011) described that 145 people die at every hour of every day, because of RTAs. The impact of road transport accident over the socio-economic aspects of the world, Africa and all developing nations is even much worse. The human cost is profound-unimaginable suffering and grief (UN, 2011). In most countries, the economic cost imposed is huge and it takes between 1 to 3 % of the GDP's shares (UNECA, 2011).

The economic cost is also a staggering $100 billion a year in developing countries only. In Africa $10 billion annually and remains the second leading cause of death for 5-44 ages' groups around the continent. In addition to this, Africa shares about 91.8% of RTA and lost the average of 1 million citizens each year due to RTA. Ethiopia has 271,000 vehicles and 184 people are died per 10,000 vehicles whereas South Africa have 5 million vehicles but only 17 persons are died per 10,000 vehicles world bank, (2010).

In Ethiopia, report of the federal police (2013) indicated that 11,952 deaths and 39,419 heavy and slight physical injuries are occurred within five years (2009-2013). The report indicated that males with the age level of 18-30 have high contribution. This means that about 68 deaths per 10,000 vehicles. In Amhara region only in periods (2009 to 2012), 2,747 deaths, 8,500 heavy and slight physical injuries and 271.67 million birr was lost

(Amhara region trade and transport office, 2013). In the same manner as the national and regional impacts of RTA, the community of east Gojjam zone faces a chronic problem of RTA though the magnitude is different. For instance, in the years (2010 to 2012), there were 155 death accidents, 171 heavy and slight injuries and 18,604,350.66 birr value was damaged (east Gojjam zone police office, 2012).

This problem is still a growing issue and hence that 193 traffic accidents are occurred and around 4 million birr expected properties are damaged in a single year of 2014 (east Gojjam zone traffic office, 2014). RTA situation requires immediate decisions and actions in order to curb the growing problem. However, the RTA related issues of the zone are not studied yet. Therefore, this research tried to identify factors associated with road traffic accident death and its social impacts in east Gojjam zone within selected years (2013-2015).

1.1. Population and Method

Research Design –The data collection involved cross-sectional gathering of both numeric information as well as triangularly text information so that it involves both quantitative and qualitative information.

Nature and Source of Data -primary and secondary sources of data were taken, where, primary data were obtained from prior exposed key informants and the secondary data were collected from the Road Traffic Accident case recorded by Traffic police offices in east Gojjam, Ethiopia.

Sampling Techniques- six woredas were selected, using simple random sampling technique and proportional stratified sampling technique was taken based on prevalence of car accident in each woreda, and finally 384 cases of victims were randomly reviewed. In addition to this purposively prior exposed persons were contacted in each selected areas.

Data Collection Methods and Procedure -The RTA data recorded from 2013 to 2015 were reviewed from East Gojjam zone or wereda Traffic police Office and Triangularly Primary Data was collected from persons who were faced to car accident earlier through FGD and IDI techniques.

Study Variables- RTA (death or non-death case) was dependent variable, while Human factors, Road factors, Vehicles factors, and Environment factors were independent variables

Model Specification: To investigate association of explanatory variables with dependent variable, binary logistic regression model was undertaken, giving 1 value for death case, otherwise 0.

$$P(Y) = \frac{1}{1 + e^{-[\beta_0+\beta_1 X_1+\beta_2 X_2+\beta_3 X_3+\beta_4 X_4+---\beta_n X_n]}}$$

Where,

$P(Y)$= Probability of road traffic accident death occurrence.

$X_1, X_2, X_3, X_4 — X_n$ Explanatory variables: Human characters, Vehicles characters, Road characters, and environmental characters β_0

$\beta_1, \beta_2, \beta_3, \beta_4$ +---- β_n are parameters to be estimated.

β_0 = Constant, and e is the base of natural logarithms

Data Analysis - Logistic Regression Model was employed for determinant factors of Road Traffic Accident death in which 1 was assigned for death case, otherwise 0 and Social impact of road traffic accident was analyzed qualitatively.

1.2. Result

The three years data showed 120 (31.25%) death case in which 91(75.8%) of them were male. Victims in terms of age showed, 196 (51%) were from 18 year to 30 year and 101(26.3%) of them were 30 year to 50 year. Similarly, their death proportion was **61 (50.8%)** and 32 (26.7%) respectively. Among vulnerable, 50.1% were farmers and they have account 33.3% of total death.

Table 1. Demographic characteristics of road users and road traffic accidents

Variables		**Road Traffic Accident**		
		Death N (%)	Not Death N (%)	Total
Sex :	Male	91 (75.8%)	168(63.6%)	259 (67.4%)
	Female	29 (24.2%)	96 (36.4%)	125(32.6%)
	Total	120	264	384
Age	less than 18 year	2 (1.7%)	36(13.6%)	38(9.9%)
	18-30 year	61 (50.8%)	135(51.1%)	196(51%)
	30-50 year	32 (26.7%)	69(26.1%)	101(26.3%)
	Above 50 year	25 (20.8%)	24(9.1%)	49(12.8%)
	Total	120	264	384
Occupation:	Student	20(16.7%)	35 (13.3)	55(14.3%)
	Farmer	40(33.3)	156 (59.1)	196(50.1%)
	Gov. employee	22(18.3%)	32(12.1%)	54(14.1%)
	Merchant	38(31.7%)	41(15.5%)	79(20.6%)
	Total	120	264	384
Ownership title of driver on car	Owner	18(15%)	59(22.3%)	77(20.1%)
	Employee	88(73.3%)	197(74.6%)	285(74.2%)
	Family member	14(11.7%)	8(3%)	22(5.7%)
	Total	120	264	384
Educational level of Exposed Group	Cannot read and write	70(58.3%)	92(34.8%)	162(42.2%)
	Below high school	24(20%)	111(42%)	135(35.2%)
	High school and above	26(21.7%)	61(23.1%)	87(22.7%)
	Total	120	264	384
Group of Exposed Road users	driver	6(5%)	12(4.5%)	18(4.7%)
	pedestrians	80(66.7%)	108(40.9%)	188(49%)
	passengers	34(28.3%)	144(54.5%)	178(46.4%)
	Total	120	264	384
Driver's experience	Less 1 year	33(27.5%)	47(17.8%)	80(20.8%)
	1-5 year	44(36.7%)	93(35.2%)	137(35.7%)
	5-10 year	23(19.2%)	44(16.7%)	67(17.4%)
	More than 10 year	20(16.7%)	80(30.3%)	100(26%)
	Total	120	264	384

Information on the Table 1, also revealed that cases of 77 (20.1%) persons were occurred when owners drive their own vehicle, but the case of 285(74.2%) were by employed drivers who lead more death case which accounts 73.3% of total percentage of death. Majority of victims 162(42.2%) did not started school education and they have high percentage of death 70 (58.3%) compared to people attained below high school 24(20%) and high school and above 26(21.7%). The majorities, 136(51.5%) of vehicles that encountered RTA have less than 5 service years and it account 46.7% of death out of total death. In terms of their service types 157(40.8%) were public transportation vehicles and 118 (30.7%) of them were vehicles that were used for Load/cargo.

Determinants of road traffic accident- Sex of responsible party [OR=7.11, CI (1.37, 36.85)], was positive, and significantly Associated, whereas age was negative but significantly associated to death on Traffic accidents. Driver's experience of < 1 year [OR=4.59, CI (6.53, 7.95)] showed significant contribution; 1 year to 5 Year experience was not significantly [OR=2.96(0.83, 10.61)] related, however, 5 year to 10 year driving experience [OR=1.61, CI (1.71, 65.86)] positively and significantly associated.

Table.2. Association of road traffic accident death (n = 384) with selected demographic characteristic of road users; crude and adjusted odds ratios (OR) from logistic regression

Explanatory Variable	Road Traffic Accident death		COR (95%CI)	AOR (95% CI)	P-Value
	Death N (%)	Not Death N (%)			
Sex :					0.019
Male	91 (35.1%)	168(64.9%)	1.79(1.10, 2.92)	7.11 (1.37, 8.65)	
Female	29 (23.2%)	96 (76.8%)	1	1	
Age					0.0001
less than 18 year	2 (5.3%)	36(94.7%)	0.05(.01, 0.25)	0.01 (0.00, 0.03)	0.001
18-30 year	61 (31.1%)	135(68.9%)	0.43(0.23, 0.82)	0.052(0.01, 0.29)	0.001
30-50 year	32 (31.7%)	69(68.3%)	0.45(0.22, 0.9)	0.11 (0.02, 0.58)	0.009
Above 50 year	25 (51.0%)	24(49.0%)	1	1	
Occupation:					0.001
Student	20(36.4%)	35 (63.6)	0.62(0.31, 1.23)	1.07(0.19, 5.94)	0.942
Farmers	40(28.57)	100 (71.43)	1.28(0.16, 0.49)	1.13 (0.03, 1.52)	0.004
Gov. employee	22(20%)	88(80%)	0.742(0.37,1.49)	2.3 (0.51, 10.41)	0.28
Merchant	38(48.1%)	41(51.9%)	1	1	
Owner/ship title on car					0.047
Owner	18(23.4%)	59(76.6%)	0.17(.06, 0.48)	0.09(0.01, 1.12)	0.041
Employed	88(30.9%)	197(69.1%)	0. 26(0.10,0.63)	1.062(0.01, 1.57)	0.014
Family member	14(63.6%)	8(36.4%)	1	1	
Educational level					0.001
Can't read and write	70(43.2%)	92(56.8%)	1.785(1.03,3.11)	2.09(0.61, 7.23)	0.245
Less than high school	24(17.8%)	111(82.2%)	0.51(0.27, 0.96)	0.13(0.03, 0.61)	0.009
High school and above	26(29.9%)	61(70.1%)	1	1	
Driver's experience					0.001
Less 1 year	33(41.2%)	47(58.8%)	2.81(1.45, 5.45)	4.59 (6.53, 7.95)	0.000
1-5 year	44(32.1%)	93(67.9%)	1.89(1.03, 3.47)	2.96(0.83, 10.61)	0.095
5-10 year	23(34.3%)	44(65.7%)	2.09(1.04, 4.22)	1.61(1.71, 65.86)	0.011
More than 10 year	20(20.0%)	80(80.0%)		1	

Driver's lack of willingness to give Priority for Pedestrians, [OR= 5.64; CI (2, 10)], over weight [OR=3.5, CI (1.19, 10.45)], Speed management and pedestrian's movement, were significantly Associated with the death case of road traffic accident.

Table 3: Association of road traffic accident death with investigated road safety practice factors; COR and AOR from logistic regression.

Explanatory Variable	Dependent Variable (RTA)		COR (95%CI)	AOR (95% CI)	P-Value
	Death N (%)	Not Death N (%)			
Pedestrians' movement					0.005
Crossing on right way	3(16.7%)	15(83.3%)	.3(.08, 1.12)	0.02(0.001, 28)	0.005
Crossing on wrong way	41(41%)	59(59.0%)	1.05(.6, 1.86)	2.6(0.16, 2.22)	0.04
Walked on vehicle's road	6(15.4%)	33(84.6%)	.28(.11, 0.72)	0.02(0.002, 0.204)	0.001
Walking on pedestrians' road	8(18.2%)	36(81.8%)	0.34(0.14, 0.8)	0.11(0.02, 0.78)	0.027
Walking on left side	17(37.0%)	29(63%)	0.89(0.43,1.83)	0.99(0.17,5.71)	0.988
Walking on right side	2(9.5%)	19(90.5%)	0.159(0.04, 0.72)	0.028(0.001, .84)	0.039
Stand at center of road	14(77.8%)	4(22.2%)	0.43(0.13, 1.4)	0.16(0.02, 1.72)	0.132
Other condition	39(39.8%)	59(60.2%)	1	1	
Willingness to give priority					0.006
NO	23(53.5%)	20(46.5%)	2.89(1.52, 5.51)	5.64 (2 ,10)	
yes	97(28.4%)	244(71.6%)	1	1	
Over weight					0.023
Yes	55(44.4%)	69(55.6%)	2.39(1.52, 3.76)	3.5 (1.19,10.45)	
No	65(25.0%)	195(75.0%)	1	1	
Speed Management					0.000
Yes	29(12.7%)	200(87.3%)	0.10(0.06, 0.17)	0.03 (0.01, 0.10)	
No	91(58.7%)	64(41.3%)	1	1	

Accident on main road [OR=4.8; CI (1.29, 5.8)] and urban road [OR=1.9; CI (0.491, 7.367)]; straight road characters [OR=3.28, CI (2.85, 19)] and Curved road characters [OR=13.82; CI (1.68, 14.5)] were positive and

significantly associated and illumination [OR= 0.06, CI (0.02, 0.23)], inversely and significantly associated.

Table 4: Association of road traffic accident death (n=384) with selected Road and environmental factors; crude and adjusted odds ratios (OR) from logistic regression

Explanatory Variable	Road Traffic Accident		COR (95%CI)	AOR (95% CI)	P-Value
	Dead N (%)	Not Dead N (%)			
Road system					0.054
main road	57(35.8%)	102(64.2%)	2.24(1.2, 4.17)	4.8 (1.29, 5.8)	0.019
urban road	46(32.9%)	94(67.1%)	1.96(1.03, 3.70)	1.9 (0.491, 7.367)	0.352
rural road	17(20.0%)	68(80.0%)		1	
Road Character					0.013
Straight	74 (36.5%)	129 (63.5%)	3.52 (1.51, 8.23)	3.28(2.85, 19)	0.031
Curved	39(29.8%)	92(70.2%)	2.60(1.08, 6.29)	13.82(1.68, 14.5)	0.0221
Cross road	7(14.0%)	43(86.0%)		1	
Road is blacktop					0 .008
Yes	80(36.4%)	140(63.6%)	1.77(1.13, 2.78)	2.51(0.9, 6.95)	
No	40(24.4%)	124(75.6%)	1	1	
Road surface					0.021
Dry	119(32.5%)	247(67.5%)	8.19(1.08, 62.275	5.8(1.83,17.88)	
Not dry	1(5.6%)	17(94.4%)		1	
Light:					0.000
Day	70(25.2%)	208(74.8%)	0.38 (0.24, 0.60)	0.06(0.02, 0.23)	
Night	50(47.2%)	56(52.8%)	1	1	
Days of the week					0.024
Monday	12 (21.1%)	45(78.9%)	0.57 (0.23, 1.46)	0.14(0.02, 1.31)	0.085
Tuesday	16 (25.4%)	47(74.6%)	0.73 (.31, 1.75)	0.54(0.07, 4.5)	0.572
Wednesday	23 (46.0%)	27(54.0%)	1.84 (0.78, 4.34)	5.76(0.74, 45.01)	0.095
Thursday	17 (25.8%)	49(74.2%)	0.75 (0.32, 1.76)	0.8(0.11, 5.89)	0.830
Friday	14 (28.0%)	36(72.0%)	0.84 (0.340, 2.07)	4(0.5, 31)	0.181
Saturday	25 (43.9%)	32(56.1%)	1.68 (0.73, 3.9)	4.3(0.6, 30.7)	0.146
Sunday	13 (31.7%)	28(68.3%)		1	
Year					0.018
2005	35 (42.2%)	48 (57.8%)	1.55 (0.91, 2.64)	8 (1.11, 61.22)	0.039
2006	27 (22.5%)	93 (77.5%)	0.62 (0.36, 1.05)	0.81 (0.167, 3.9)	0.793
2007	58 (32.0%)	123 (68.0%)	1	1	
Form of incidence					0.035
Collision to car	31 (24.6%)	95 (75.4%)	0.62 (0.38, 1.00)	0.31(0.104, 0.92)	
Non-collision	89 (34.5%)	169 (65.5%)	1	1	

Collision with another car type of incidence [OR=0.31(0.104, 0.92)], significantly associated, as majority of car accident cases were non-collision to car rather, it were car reversing and collision to pedestrians.

Social impact of Road Traffic Accident - In depth interviewed more percentages responded as they were limited in Social relationships, whereas others were psychologically demoralized. The result of the focus group discussion in line with in-depth interview showed victims can not involve in day to day social activities, they are restricted by the injury to participate with the social labor forces and they have been socially undermined. As a result, most of the participants agreed with as RTA could lead social relationships limitation in the society like, movement limitation**,** Participation restriction**,** socially undermined**.** Furthermore, the impacts of RTA on victims also death related burden on family (premature death), job absences, and need of care from other persons, low Life quality, and lack of ability to perform daily tasks in the home such as cooking, clothing, moving and doing homework.

Discussion- Similar to report of WHO (2011) and Ethiopia Federal Traffic office (2013) Sex of road users were significantly associated and more number of males were vulrnubles of car accident death than females in east gojjam zone. Age is inversely associated with fatal of road traffic accident which mean that the tendency of person take road safety is become high as age as added up, similarly United Nations (2011) found as less percentage of victims were at child age but reversed by Naci, Chislom et al. (2008).

At the time drivers drive their own vehicle, there is less probability to see high severe road traffic accident than if they have not ownership title on that vehicle. Except for illiterate groups that had positive but insignificant association, educational level of road users associated inversely and significantly. The result told us, as lower grade level educated groups less likely resisted not see severe of car accidents than higher level educated groups. Like (Weiss , 2014, Bunn Collier et al. 2003, Mekonnen, 2007) association of pedestrians'

movement on road and fatal on road traffic accident was significant. Moreover, Pedestrians' wrongly crossing of the road was significantly related with death of road users. However, walking on left side has less association but insignificance and contradicted with found by (Persson, 2008).

Similar to found by (Islam. M. and etal, 2012, Gungul, 2012) drivers' lack of willingness to give priority for pedestrians, and overweight have positive Significance relation with car accident death. Speed control/management indicated inverse and significance contribution on the occurrence of fatal cases but the result is opposed by (Desai & Patel, 2011) which found the positive association. Drivers experience has very high significance, especially less than 1 year experience and for 1 year to 5 year showed positive but insignificant.

Unlike Berhanu (2000), death accident on main road, in urban road of curved and straight character, positively, significantly associated. Unexpectedly blacktop road surface has positive and significance relation with probability of fatal case occurrence.

Driving in day time period (illumination) is significantly but inversely associated with severe of RTA which was in lined with found by (Sandra 2000). This showed that number of road users died on RTA during day time period was less compared to death at night time period.

The finding also revealed that less number of live was passed in case of two vehicles collision compared to non-collision with other cars, like car reversed or crashed to pedestrians/buildings.

Conclusion - Within studied years there were 120 (31.25%) road traffic accident death rate in east Gojjam zone and majorities were Males, aged between 18 years to 30 years old and they were farmers in occupation.

Road users' factors (sex, age, educational level, farm occupation, driver's ownership title on vehicle, pedestrians' movement on traffic road, Driver's lack of willingness to give priority for pedestrians, driver's experience, driver's speed management, over weight were major determinants for road traffic accident death case incidence in East Gojjem Zone. Main road system, and Curved road characters, were associated positively; Illumination (driving day time period) were associated inversely to severe crash on road accidents
Individual's Psychological disorder, restriction from social participation, burden on family (premature death), need of care from a third person, low Life quality were social crisis of Road traffic accidents.

Recommendation- Formal Training Curriculum on Road Safety should be developed to Change Community's Knowledge, Attitude and Practice (KAP) towards Road Safety Program. Hence that stakeholders like Debremarkos University, Federal or and Regional state road traffic office ought to collaborate with NGO, WHO and others stakeholders to undertake road safety measures.

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