DETERMINING OF CHOOSING ENGINE OIL ITS CARE ADDICTIONS IN THE AUTOMOTIVE IN KONYA

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ABSTRACT

In this study, in Konya and in our country, the conscious choice of fuel and oil, the influence of environment to oil which is users to oil and fuels sources, the examination of opportunities of dirty oil are present by looking at the results of survey which was made in the sample from different ages, different education and jobs. The majority of the percent 97 tells that the care of transportation is made according to the kilometers. The part of the percent 3 tells that is made according to the time. It is determined that most important care in transportations is the system of lubrication. The accuracy of rot balance in the percent 7 follow it. It is seen that all people who are members of the survey have got information about the care at transportations.
There is no person who knows the topic that which kilometers has to change the engine oil and kilometers limit according to the oil feature. It is determined that the of people don't fit the time of oil change. Also majority people don't know low the lubrication system works.
Keywords: Education, automotive, engine oils, oil selection

1. INTRODUCTION

There is increase at temperature, loss of energy and corrosion because of friction between surfaces of two components during relative motion of them that are in connection [17]. Lubrication is the first thing to decrease the effects of these actions. Tribology is the discipline which analyses friction, corrosion and lubrication events [20]. The first subject of the content of Tribology is to minimize friction, because friction causes loss off energy of a high percentage. Although lubrication technologies are frequently used for successful contribution of Tribology, it causes a lot of environmental problems[21].

Main purpose of lubrication is, to get maximum power from engine by minimizing friction and prolonging the life of components. Friction of components directly must be prevented to smooth movement, to provide maximum performance and to prolong life of components[1,5,13].

According to statistics around the World, the 70% of machine components become useless because of friction[12]. Lubrication system not only increases performance a little but also saving money over billions. Furthermore, when we consider the loss of components and the time we spend to repair, the importance of lubrication is realized much more [4]. The main characteristics of lubricants must be protective and slider. However, these features of lubricants dissolves through time, then there are corrosions on the components and the maintenance and repair period of the components of a engine becomes shorter. The characteristics of a engine differentiate, according to change of its dimensions [1,3,7].

The life of lubricants determines for all vehicles as a general period and it is recommended to change at the end of this period. Whereas parameters that affect life of lubricants are vary according to vehicle. These can be respected as mark, model, working condition of a vehicle and climate [8]. So lubrication changing periods of a vehicle change according to their work condition. It is beneficial to change lubricant after analyzing former lubricant to decrease the consumption of lubricant to get optimum advantage and general information about a engine can get by analyzing used lubricants [9]. Recently changing period of engine lubricants are prolonged by developing them, exhaust emission is improved by reducing friction and viscosity of lubricants then there is an improvement at oil economy. Under hydrodynamic lubricating conditions, lubricants that have low viscosity shows low resistance and reduces internal friction and so oil economy is gained [10]. However lubricants that have low viscosity increase the consumption of lubricant, because of this lubricant film becomes thin; moreover the lubricant film can be tear [11].

Volatile of synthetic and semi synthetic lubricants that have low viscosity are low because of this consumption of lubricants decrease. Alloys to reduce friction are used to protect metal surfaces by increasing sliding features of lubricants [14]. Lubricants are mostly consumed and change in internal combustion engine.The main purpose of lubrication systems to minimise lubrication loss, corosion, friction at smooth surfaces of a engine. Secondary purpose is to cool down the components that install thermally like especially cylinder head of a enginebike and pistons [16]. Mechanical loss of internal combustion engine includes nearly 25% of internal work in cylinder and constitutes the 10% of total energy. The loss of friction in engines include 72.5% of total mechanic loss and other part consumes for the assistant components like lubrication and water pumps, cooling fan, generator, compressor and hydraulic pumps, etc. Friction at engines usually occurs mostly at margins of mechanisms and then in complex lubrication conditions [18].

Therefore, physical and mechanical (hardness, flexibility, sliding tension, etc.) characteristics, metal, liquid (lubricant) adhere energy, etc. are important during gathering rubbed materials. Nowadays, lubricant consumption reduces, lubricant change period extends and power per liter, isolation techniques improves, lubricants have the account for working at high temperatures, lubricant collecting tanks get smaller (the front part of vehicles are construct smaller to consume oil) by the help of improving technologies [19].
(Aerodynamic) (Figure 1)

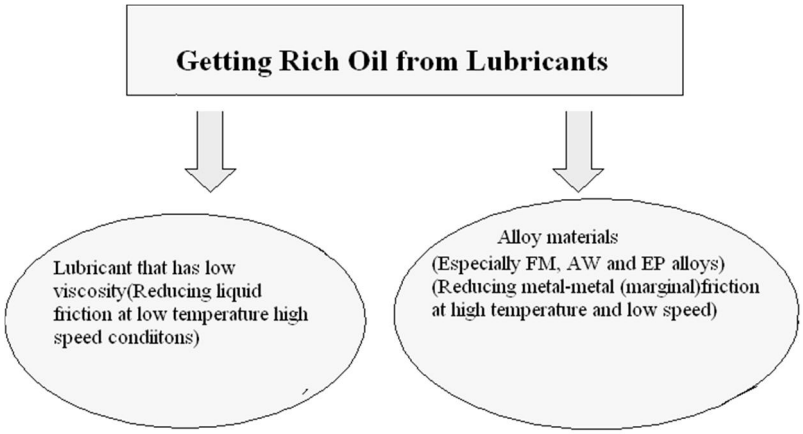

Figure 1. Lubrication at Vehicles and Lubricant Selection

Less lubricant, work at higher temperatures, more working life period is expected from modern vehicles. 7.5 liters of used lubricant will provide energy for an average daily consuming electricity, cooking 48 meals in a microwave oven, cleaning a house (with vacuum cleaner) for 15 months or watching TV for 180 hours [6]. From this point of view people who use automotive must be informed about engine lubricants and sensitive for our environment (Figure2).

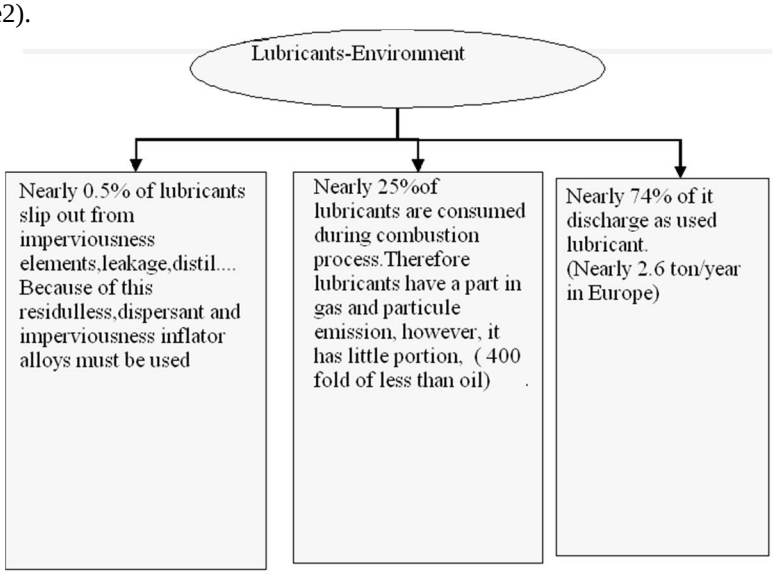

Figure 2. Lubrication and Environment relation at Vehicles

In this study; consciously use of vehicles and lubricant selection in our country,
Less harmful lubricants for environment,
Recycle of these waste lubricants or employability of them for other purposes,
Social effect of whether using herbal originated lubricants, as engine lubricant.
Results of Questioner that was applied to a sample group which is formed of people from different education level and different occupation were examined [15].

2. MATERIAL VE METHOD

2.1. MATERIAL

In this study a sample group, that was constituted from different age, different education levels and different occupations, random selected 400 people in 3 towns (Meram, Karatay and Selçuklu) of Konya as material. Moreover, opinions of drivers, out of these regions, are taken. This survey was realized through direct

conversations and people were never affected and warned. During the survey consciously driving vehicles and selection of lubricants, use of less harmful lubricants for environment, recycling of waste lubricants or re-employability of them for other purposes, whether use of herbal originated lubricants and its social effects of it were determined.

2.2. METHOD

In this survey people were selected from different age, different education levels and different professions without any restriction as a material. During direct conversations people were applied a questioner which forms of total 20 questions-some of them open ended (there is no restriction for answer) - to acquire the aim. (Table 2.1). Subjects about lubricants, lubrication systems, maintenance, and oil systems related to lubrication systems were the base of our questions. Results, that were acquired, were evaluated at Microsoft Office Excel program. The results of the survey first classified generally and second according to the level of education to find the effects of education level. Acquired results were interpreted by transforming them into graph and chart

Table 2.1. Qestionnaire Asessment Qestions

1. Education Status
2. Professions
3. In your opinion, what is the most important maintainence?
4. Where do you get your car service most?
5. How often do you get your car controlled?
6. Funnctions of the lubricanting oils in vehicles
7. Type of the oil used in vehicles
8. What is the your choice while choosing the oil?
9. Do you get service or mechanic to service your car?
10. At which kilometers and when do you change lubricating oil?
11. When do you control lubricating oil?
12. Do you put any additives into the engine oil?
13. Do you always change engine oil at changing time?
14. Do you know how lubricating system works?
15. What is the period of changing your oil filter?
16. Does waste oil pollute the environment?
17. What happens to waste engine oil in your opinion?
18. In your opinion, where is waste oil stored?
19. In your opinion, does fuel consumption increas when you use engine oil properly but do not change in time?
20. Do exhaust emissions increse if you use engine oil properly but donôt change in time, in your opinion?

3. DISCUSSION-CONSLUSION and SUGGESTIONS

General Evaluation

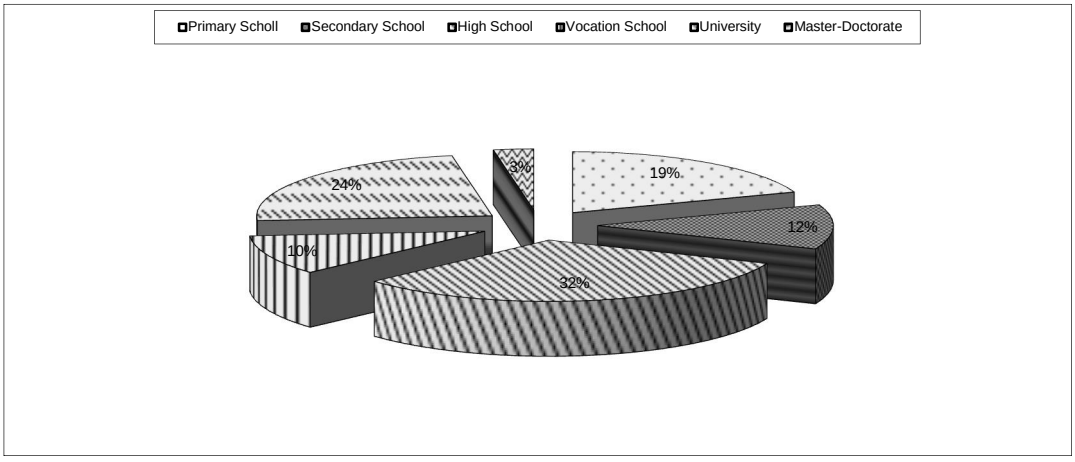

Figure 3. Education Status

In education status, 31% is of high-school education, 23% of university, 20% of primary school, 12% of secondary school, 11% of vocational school and 3% of master and doctorate education. When generally looked at education status, 68% of them has been seen to complete compulsory education period.

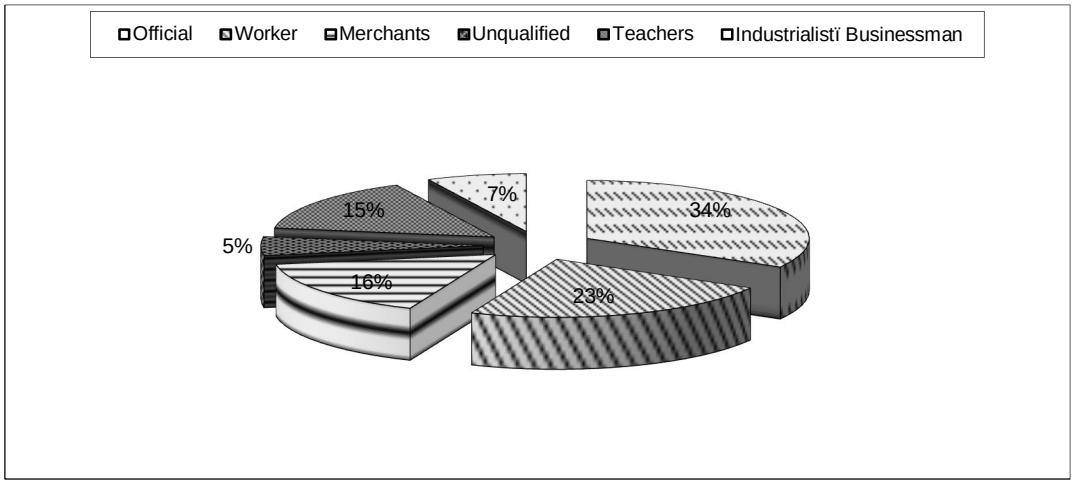

Figure 4. Professions

Those included into the criteria consist of civil servants. This rate is followed by officials (34%), worker (23%), merchants (16%), ones including education status (teachers)(15%), industrialists-businessmen (7%), unqualified (5%), respectively.

Of all primary school graduates, 57% are workers, %17 merchants, 15% industrialists-businessmen, 6% unqualified, 4% civil servants and 1% education workers.

Of all secondary school graduates, 30% are workers, 30% civil servants, 23% merhants, 11% unqualified and 6% industrialists-businessmen.

Of all high school graduates, 29% consists of civil servants, 23% of workers, 21% of education workers, 17% merhants, 5% industrialists-businessmen, 4% unqualified.

Of all vocation school graduates, 29% are workers, 29% civil servants, 24% merhants, 13% education workers, 5% industrialists-businessmen.

Of all university graduates, 49% are civil servants, 33% education workers, 9% merhants, 9% industrialists-businessmen.

Of all master and doctorate graduates, 29% are workers, 29% civil servants, 24% merhants, 13% education workers, 5% industrialists-businessmen.

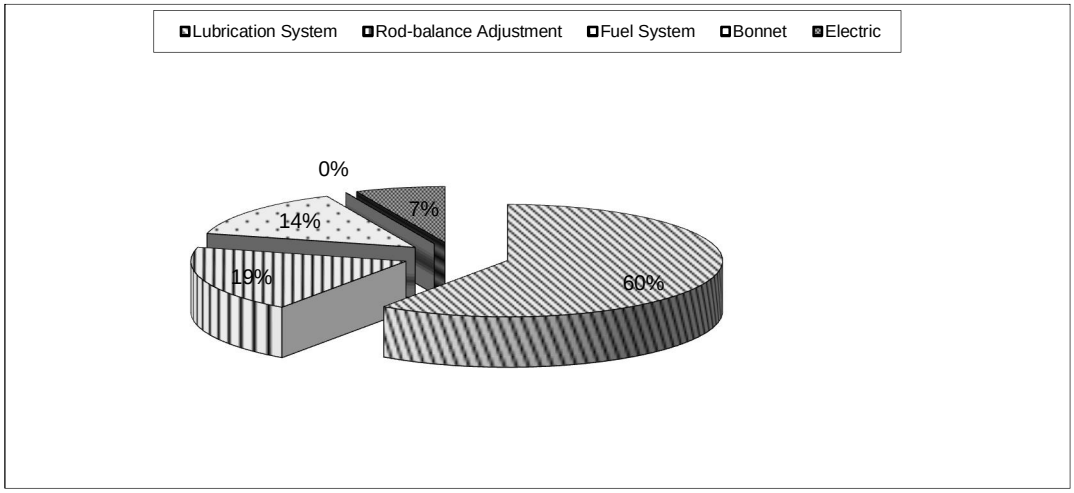

Figure 5. In your opinion, what is the most important maintainence?

It has been determine that the most important maintainence in vehicles is lubricating system at the rate of 60% . this is followed by rod-balance adjustment (19%), fuel system (14%) and electric (7%), respectively. All individuals interviewed were determined to have background on the maintainence in vehicles.

According to the primary school level, 62% replied as lubrication system, 20% as fuel system, 11% as rod-balance adjustment and 8% as electric.

According to the secondary school level, 69% replied as lubrication system, 11% as fuel system, 11% as rod-balance adjustment and 9% as electric.

According to the high school level, 53% replied as lubrication system, 25% as rod-balance adjustment,12% as fuel system and 10% as electric.

According to the vocational school level, 71% replied as lubrication system, 15% as fuel system, 7% as hood of car, and 8% as electric.

According to the university level, 57% replied as lubrication system, 23% as rod-balance adjustment, 17% as fuel system and 3% as electric.

According to the master and doctorate level, 71% replied as lubrication system, 15% as fuel system, 7% as hood of car, and 8% as electric.

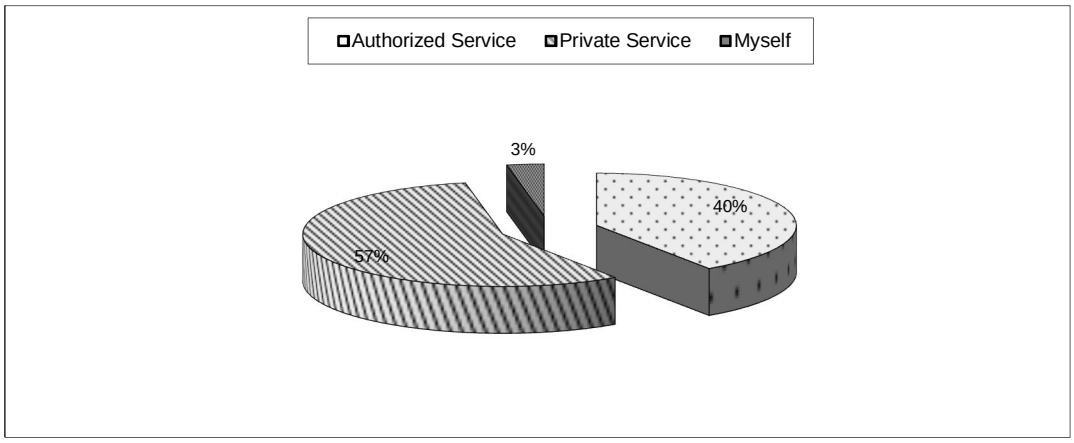

Figure 6. Where do you get your car service most?

Most of the drivers get their cars serviced at private service (56%), at authorized services (41%) and by themselves (3%). The reason why private services are prefered the familiarity between the customers and service owners, cheapter maintenance and that maintenance prices are more expensive in authorized services.

At primary school level, 59% of the customer have prefered authorized services, 35% mechanics (private services) and 6% by themselves.

At secondary school level, 66% of the customer have prefered mechanics (private services), 28% authorized services and 6% by themselves.

At high school level, 59% of the customer have prefered mechanics (private services), 40% authorized services and 1% by themselves.

At vocational school level, 71% of the customer have prefered mechanics (private services), 24% authorized services and 5% by themselves.

At university level, 56% of the customer have prefered mechanics (private services), 43% authorized services and 1% by themselves.

At master and doctorate level, 71% of the customer have prefered mechanics (private services), 24% authorized services and 5% by themselves.

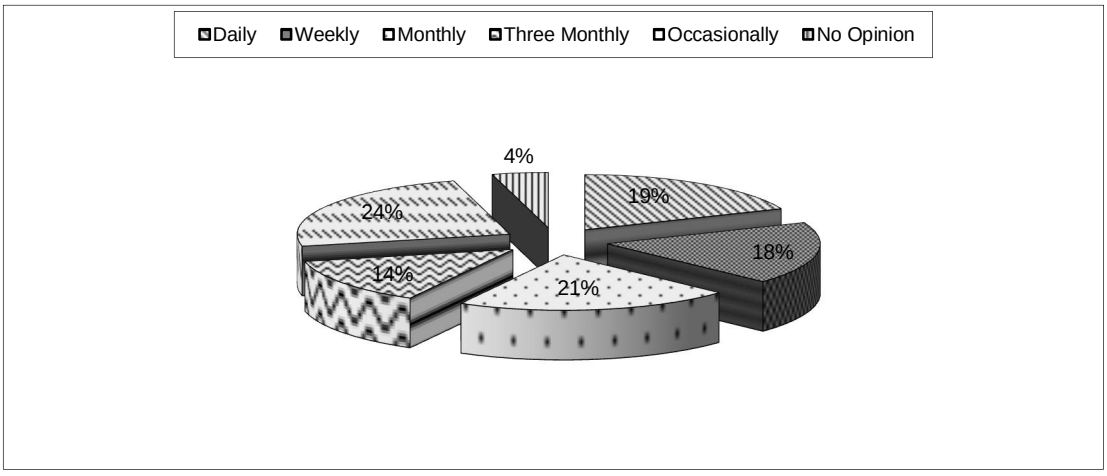

Figure 7. How often do you get your car controlled?

Occasionally is the most rate at the rate of 24%. Drivers expressed that they get their cars controlled when they hear a noise from the engine, there is a problem on indicators before starting a long trip in case of an unprecedented problem. Another most rated group is the ones getting their cars controlled once a month (21%).

At primary school level, 36% have replied as everday, 29% once a week, 17% once a month, 14% occasionally, 3% once three months and 1% no opinion.

At secondary school level, 38% have replied a week,19% as everday, 15% occasionally, 9% once a month, 5% once three months and 4% no opinion.

At high school level, 23% have replied occasionally, 22% once a month, 19% once a week, 16% as everday, 14% once three months and 6% no opinion.

At vocational school level, 38% have replied as a week, 20% everday, 15% occasionally, 15% once three months, 10% once a month and 2% no opinion.

At university level, 26% have replied as occasionally, 24% once a month, 22% once three months, 16% everday, 9% once a week and 3% no opinion.

At master and doctorate level, 38% have replied as a week, 20% everday, 15% occasionally, 15% once three months, 10% once a month and 2% no opinion.

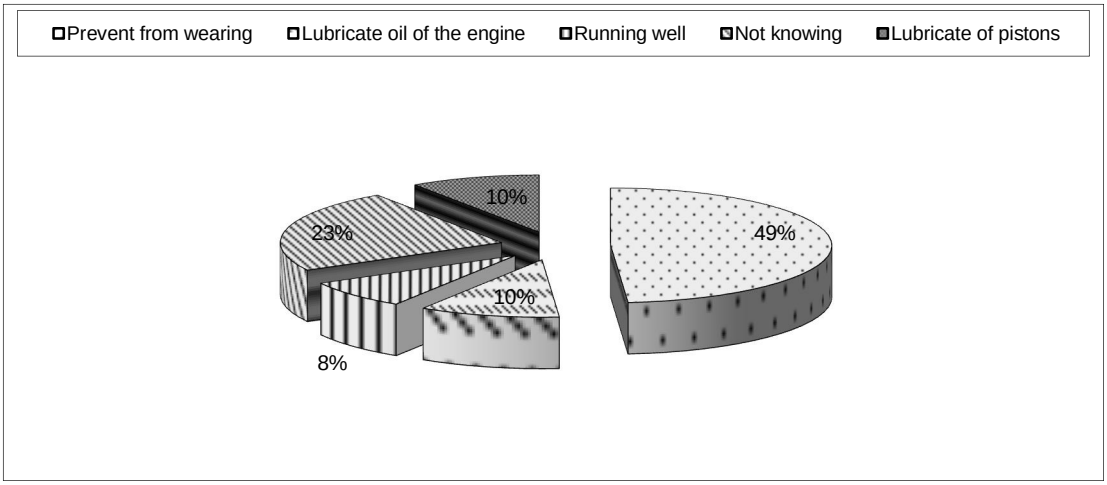

Figure 8. Funnctions of the lubricanting oils in vehicles

While 76% give correct answer on the functions of lubricating oils, it is problematic that 24% have no opinion on them. It can be said that both services and engine oil companics do not give satisfactory education to drivers on this subject.

At primary school level, we have got the data as follows: 37% replied as they prevent cars from wearing, 21% lubricate engines, 15% cause engines to run well, 14% no idea and 13% expressed that lubrication is made to give parts long-life.

At secondary school level, 62% have replied as prevent from wearing, 15% lubricate engine, 13% cause engines to run well, 6% lubricate of pistons and 4% no idea.

At high school level, 41% have replied as prevent from wearing, 20% no idea, 11% surfactants, 7% lubricate of pistons, 6% lubricate engine, 5% cause engines to run well and 2% clearing engine.

At vocational school level, 66% have replied as prevent from wearing, 15% no idea, 12% cause engines to run well, 11% lubricating, 5% lubricate of pistons and 2% lubricate engine.

At university level, 51% have replied as prevent from wearing, 17% no idea, 9% cause engines to run well, 9% lubricate of pistons, 8% parts long-life, 4% surfactants and 2% lubricate engine.

At master and doctorate level, 66% have replied as prevent from wearing, 15% no idea, 12% cause engines to run well, 5% lubricate of pistons and 5% lubricate engine.

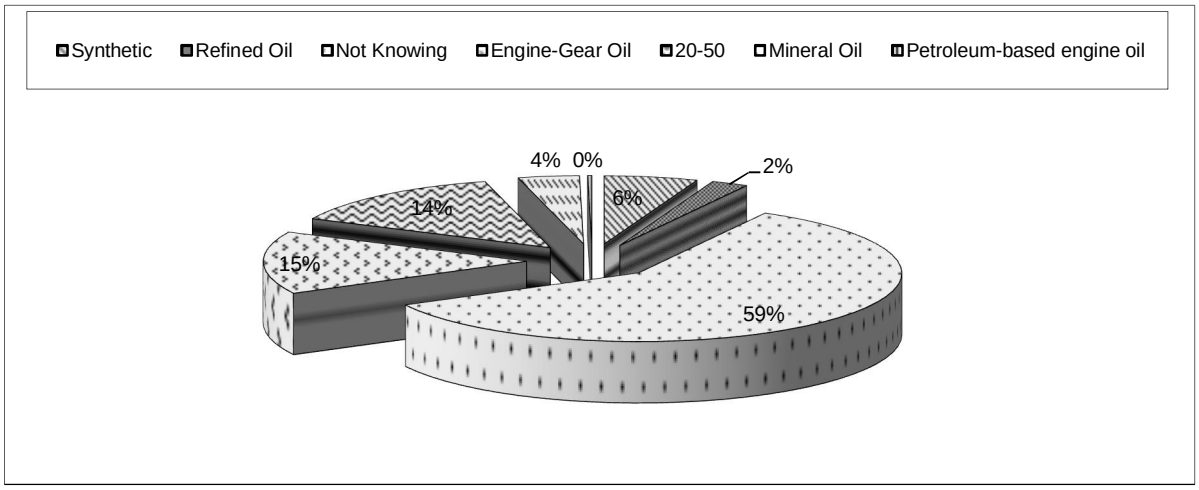

Figure 9. Type of the oil used in vehicles

Many drivers (59%) do not know what type of oil is used in their vehicles. Those who know what type of oil is used in their vehicles consisted of very little rate, 12% (synthetic + 20/50 mineral oil)

At primary school level, 52% replied as no idea, 18% as 20/50 number engine oil, 13% as refined oil, 6% as engine-gear oil, 5% as synthetic oil, 3% as mineral oil and 3% as petroleum-based engine oil.

At secondary school level, 44% replied as no idea, 28% as 20/50 number engine oil, 19% as engine-gear oil and 9% as mineral oil.

At high school level, 42% replied as no idea, 30% as engine-gear oil, 16% as 20/50 number engine oil, 10% as mineral oil and 2% as thin oil.

At vocational school level, 48% replied as no idea, 27% as 20/50 number engine oil, 15% as engine-gear oil and 10% as mineral oil.

At university level, 44% replied as no idea, 21% as 20/50 number engine oil, 27% as engine-gear oil, 4% as synthetic oil, 2% as mineral oil, 1% thin oil and 1% as petroleum-based engine oil.

At master and doctorate level, 48% replied as no idea, 27% as 20/50 number engine oil, 15% as engine-gear oil and 3% as mineral oil.

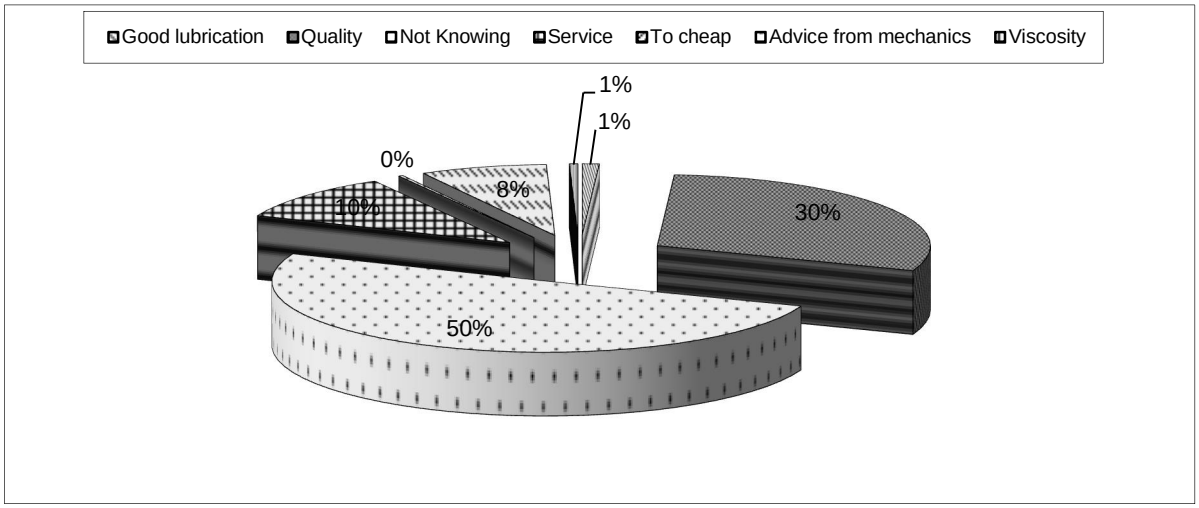

Figure 10. What is the your choice while choosing the oil?

When asked what reasons affect their choices of oil, 50% replied as not knowing, 29% as quality of the oil, 11% as advice from the service station, 8% as advice from their mechanics, %1 as being good lubrication and 1% as viscosity.

At primary school level, 34% expressed as not knowing, 30% as quality, 12% as advice from their mechanics, 12% as good lubcation, 8% as advice from the service stations and 4% as cheap prices while choosing the oil for their vehicles.

At secondary school level, 49% expressed as not knowing, 36% as quality, 9% as advice from the service stations and 6% as advice from their mechanics while choosing the oil for their vehicles.

At high school level, 46% expressed as quality, 27% as not knowing, 17% as advice from the service stations, 9% as advice from their mechanics and 1% as good lubcation while choosing the oil for their vehicles.

At vocational school level, 34% expressed as not knowing, 32% as quality, 22% as advice from the service stations and 12% as advice from their mechanics while choosing the oil for their vehicles.

At university level, 41% expressed as not knowing, 30% as quality, 15% as advice from the service stations, 10% as advice from their mechanics and 4% as viscosity while choosing the oil for their vehicles.

At master and doctorate level, 34% expressed as not knowing, 32% as quality, 22% as advice from the service stations and 12% as advice from their mechanics while choosing the oil for their vehicles.

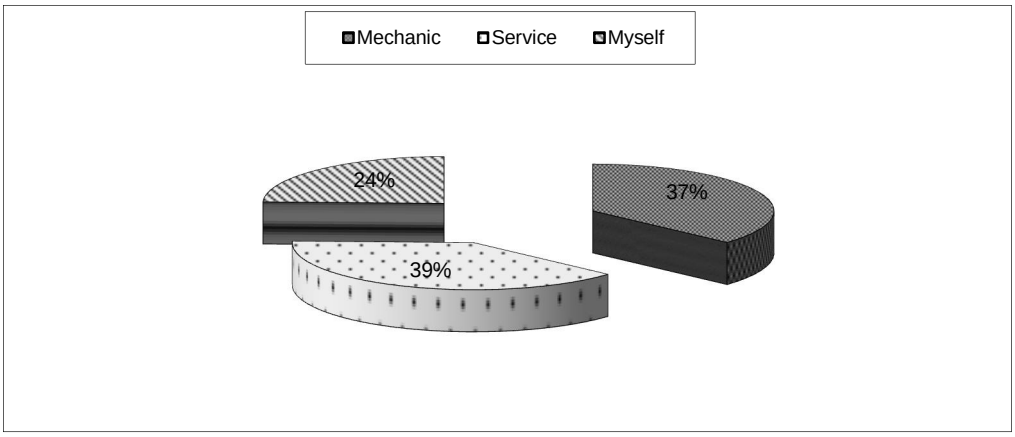

Figure 11. Do you get service or mechanic to service your car?

When they are asked whether they get a service or mechanic to service their car, 35% chose service, 37% chose a mechanic and 25% chose their own prefered oil.

The score participants replied were as follows according to their education level:

At primary school level, 45% prefered service, 40% a mechanic, 15% their own,

At secondary school level, 49% prefered a mechanic, 38% a service, 13% their own,

At high school level, 45% prefered their own, 32% service, 28% a mechanic,

At vocational school level, 61% prefered a mechanic, 32% their own, 7% service,

At university level, 38% prefered their own, 36% service, 26% a mechanic,

At master and doctorate level, 61% prefered a mechanic, 32% their own, 7% service.

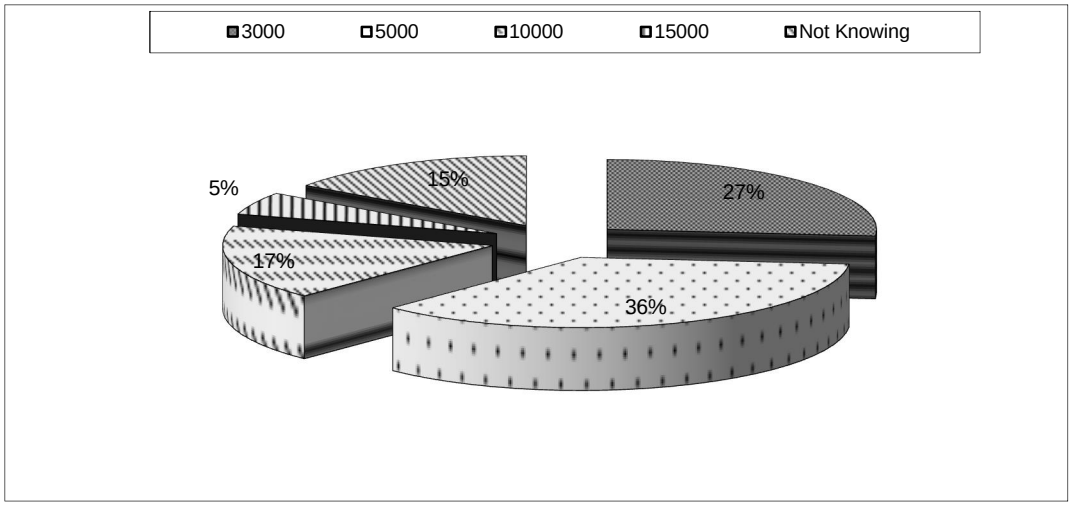

Figure 12. At which kilometers and when do you change lubricating oil?

When asked at which kilometers they change engine oil, 36% replied as 5000 km, 27% as 3000 km, 17% as 10 000 km, 15% as 15 000 km.

The score related to engine oil changing which participants replied were as follows according to their education level:

At primary school level, 19% 5000 km, 16% not knowing, 15% 3000 km, 15% prior to a long trip, 13% 10 000 km, 6% service, 5% 20 000 km, 4% 30 000 km, 4% 15 000 km, 3% 50 000 km,

At secondary school level, 46% 5000 km, 30% 3000 km, 9% 10 000 km, 9% not knowing, 2% service, 2% 15 000 km, 2% prior to a long trip,

At high school level, 37% 5000 km, 29% 3000 km, 12% 10 000 km, 12% not knowing, 7% service, 2% 15 000 km, 2% prior to a long trip,

At vocational shool level, 50% 5000 km, 27% 3000 km, 10% 10 000 km, 7% not knowing, 2% service, 2% 15 000 km, 2% prior to a long trip,

At university level, 30% 5000 km, 19% 3000 km, 19% 10 000 km, 16% not knowing, 8% service, 6% 15 000 km, 1% 20 000 km, %1 30 000 km,

At master and doctorate level, 50% 5000 km, 27% 3000 km, 10% 10 000 km, 7% not knowing, 2% service, 2% 15 000 km, 2% prior to a long trip,

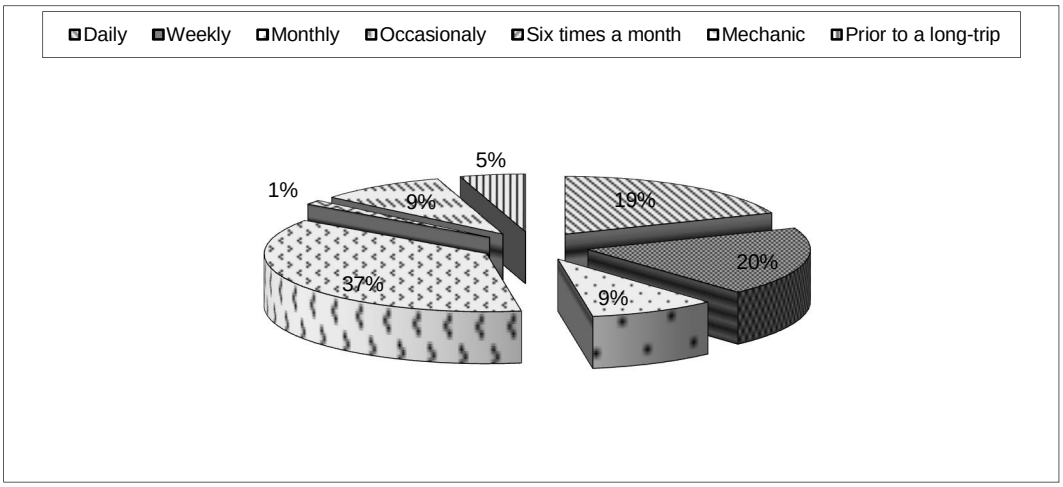

Figure 13. When do you control lubricating oil?

Answers from participants to this question were as follow: 38% occasionally, 19% once a week, 19% everyday, 9% once a month, 9% checked by a mechanic, 5% prior to a long trip and 1% once six months.

The score obtained from the participants in this part were as follows according to the education levels of the participants:

At primary school levels, 29% occasionally, 15% once a week, 14% once a month, 13% everyday, 11% checked by a mechanic, 10% prior to a long trip and 8% once six months,

At secondary school levels, 26% occasionally, 25% everyday, 17% once a week, 15% checked by a mechanic, 11% once a month, 4% prior to a long trip and 2% once six months,

At high school levels, 32% occasionally, 18% everyday, 18% once a week, 12% checked by a mechanic, 8% once a month, 8% prior to a long trip and 4% once six months,

At vocational school levels, 36% occasionally, 20% everyday, 20% once a week, 12% once a month, 5% checked by a mechanic, 5% prior to a long trip and 2% once six months,

At university levels, 33% occasionally, 17% once a week, 16% everyday, 10% checked by a mechanic, 9% not knowing, 7% once a month, 4% prior to a long trip and 4% once six months,

At master and doctorate levels, 36% occasionally, 20% everyday, 20% once a week, 12% once a month, 5% checked by a mechanic, 5% prior to a long trip and 2% once six months.

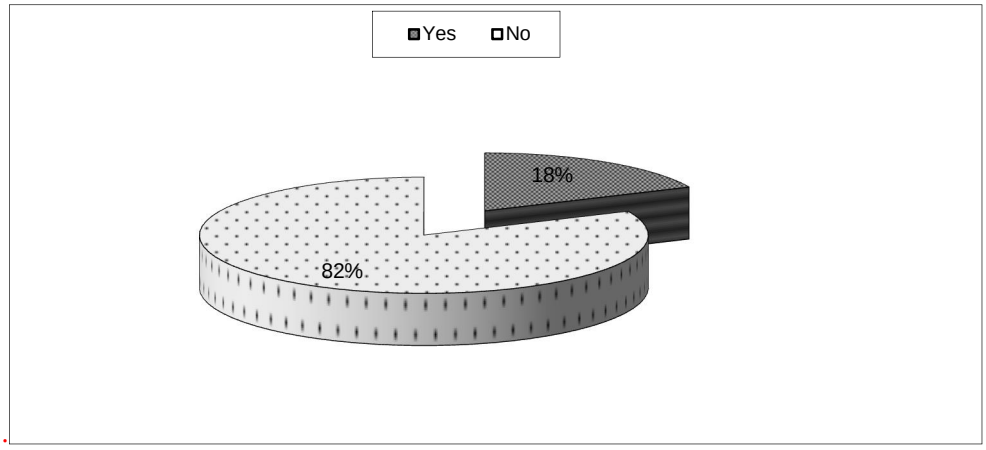

Figure 14. Do you put any additives into the engine oil?

To this question, 82% gave an answer as **no**, and 18% as **yes.**
The scores according to the education levels of the participants were as follows:
At primary school levels, 79% no, 21% yes,
At secondary school levels, 89% no, 21% yes,
At high school levels, 85% no, 15% yes,
At vocational school levels, 88% no, 12% yes,
At university levels, 93% no, 7% yes,
At master and doctorate levels, 88% no, 12% yes.

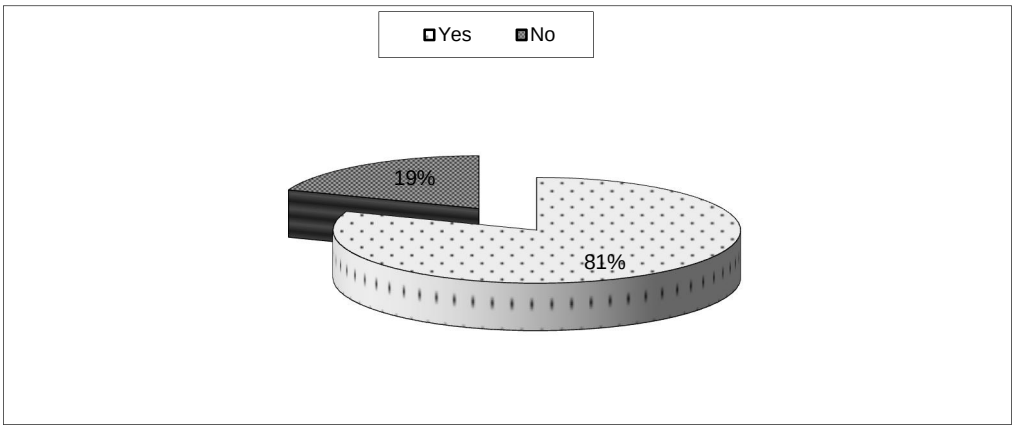

Figure 15. Do you always change engine oil at changing time?

. To this question, 81% of the participants replied as no, and 19 percent of them as yes.
According to their education level, the scores were as follows:
At primary school levels, 77% no, 23% yes,
At secondary school levels, 68% no, 32% yes,
At high school levels, 82% no, 18% yes,
At vocational school levels, 93% no, 7% yes,
At university levels, 85% no, 15% yes,
At master and doctorate levels, 93% no, 7% yes.

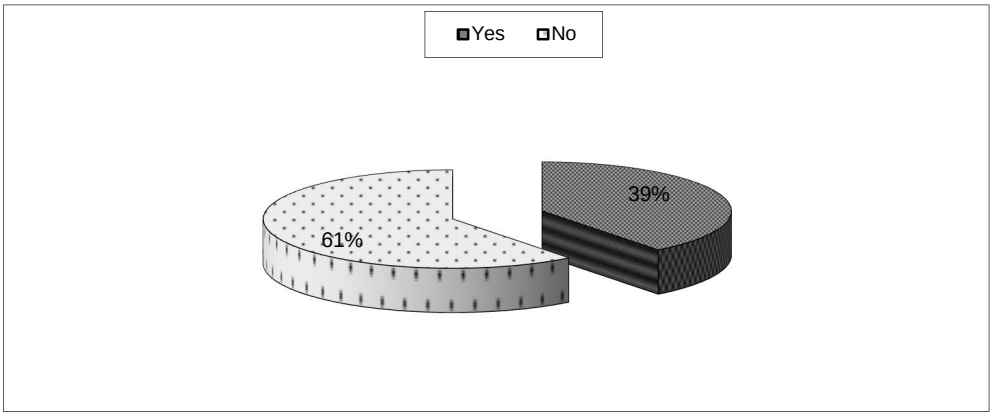

Figure 16. Do you know how lubricating system works?

To this question, 60 percent of participants replied as **no**, and 40 percent as **yes**.
At primary school levels, 73% no, 27% yes,
At secondary school levels, 53% no, 47% yes,
At high school levels, 59% no, 41% yes,
At vocational school levels, 56% no, 44% yes,
At university levels, 60% no, 40% yes,
At master and doctorate levels, 56% no, 44% yes.

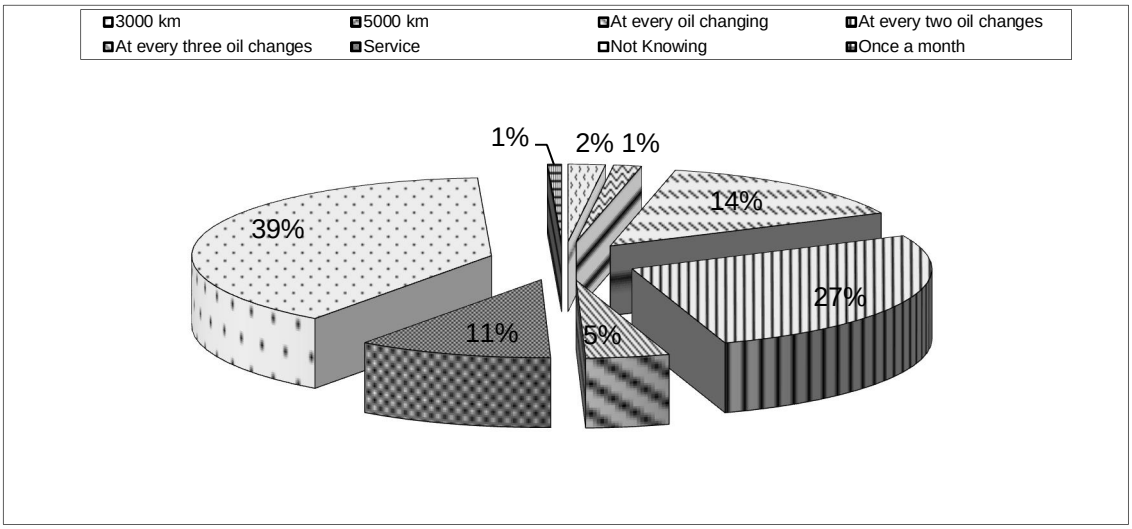

Figure 17. What is the period of changing your oil filter?

To this question, participants gave answers as follows: 38% donôt know, 26% an oil change at every two oil changes, 15% at every oil change, 11% my service changes, 5% at every three oil changes, 2% at 5000 km, 2% at 3000 km and 1% once a month.

The score we obtained from participants in this part were as follows:

At primary school levels, 28% an oil change at every two oil changes, 23% at every oil change, 13% at 5000 km, 10% at 3000 km, 10% at every three oil changes, 8% donôt know, 5% my service changes and 3% once a month,

At secondory school levels, 44% donôt know, 21% an oil change at every two oil changes, 19% at every oil change, 6% my service changes, 4% at every three oil changes, 2% at 5000 km, 2% at 3000 km and 2% once a month,

At high school levels, 36% donôt know, 20% an oil change at every two oil changes, 13% my service changes, 12% at every three oil changes, 9% at every oil change, 5% at 5000 km, 3% at 3000 km and 2% once a month,

At vocational school levels, 40% donôt know, 24% at every oil change, 20% an oil change at every two oil changes, 7% my service changes, 5% at 3000 km, 2% at every three oil changes and 2% at 5000 km,

At university levels, 37% donôt know, 19% an oil change at every two oil changes, 15% my service changes, 12% at every three oil changes, 10% at every oil change, 6% at 5000 km and 1% at 3000 km,

At master and doctorate levels, 40% donôt know, 24% at every oil change, 20% an oil change at every two oil changes, 7% my service changes, 5% at 3000 km, 2% at every three oil changes and 2% at 5000 km.

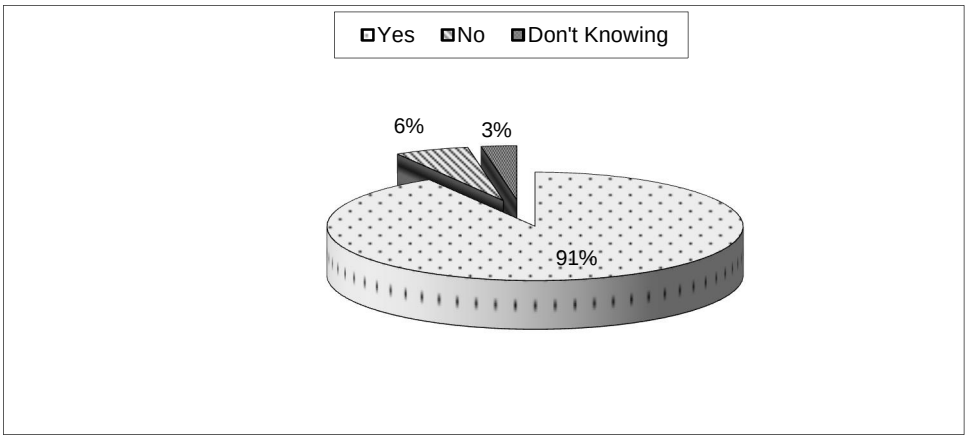

Figure 18. Does waste oil pollute the environment?

To this question, 91% of the particapants gave answers as yes, 6% as no and 3% as donôt know.

At primary school levels, 87% yes, 12% no, 1% donôt know,

At secondary school levels, 94% yes, 4% no, 2% donôt know,

At high school levels, 93% yes, 7% no,

At vocational school levels, 93% yes, 7% no,

At university levels, 9% yes, 9% no, 1% donôt know,

At master and doctorate levels, 93% yes, 7% no.

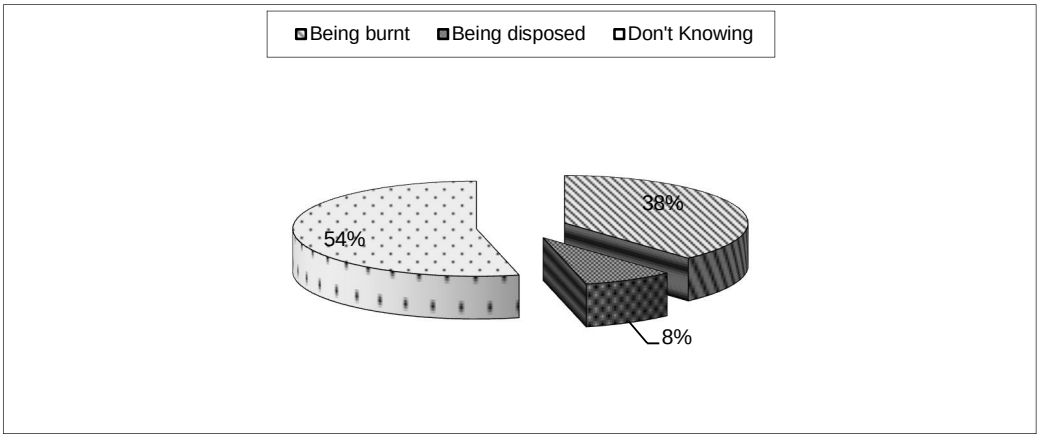

Figure 19. What happens to waste engine oil in your opinion?

To this question, 54% of the participants replied as don't know, 38% as being burnt and 8% as being disposed.

In this part, the score we obtained were as follows:

At primary school levels, 41% being burnt, 30% being disposed, 11% don't know,

At secondary school levels, 71% don't know, 19% being burnt, 4% being disposed, 4% back transformation,

At high school levels, 44% don't know, 23% being burnt, 13% back transformation, 11% being disposed, 9% pollutes to environment,

At vocational school levels, 52% don't know, 22% back transformation, 18% being burnt, 5% being disposed, 3% pollutes to environment,

At university levels, 41% don't know, 37% being burnt, 12% back transformation, 7% being disposed, 3% pollutes to environment,

At master and doctorate levels, 52% don't know, 22% back transformation, 18% being burnt, 5% being disposed, 3% pollutes to environment.

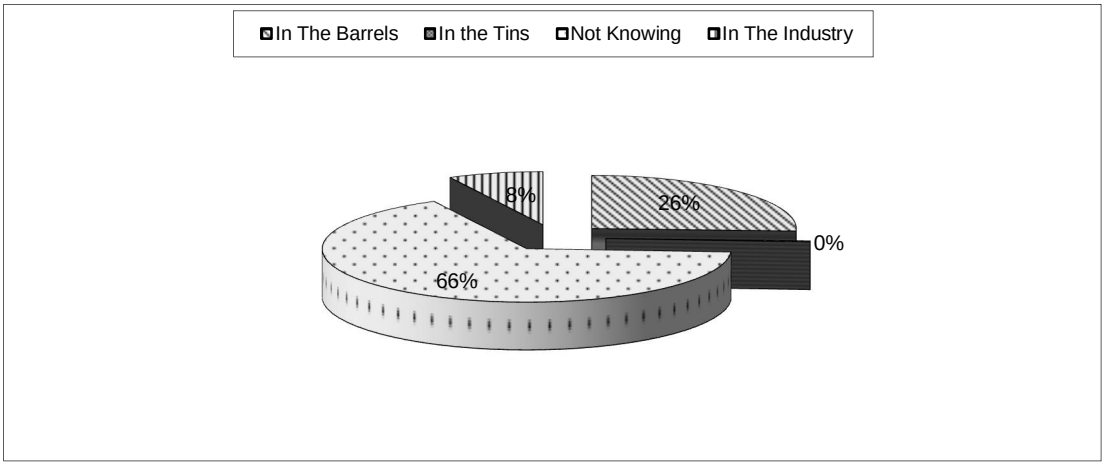

Figure 20. In your opinion, where is waste oil stored?

To the question of where waste oil is stored, participants replied as: 66% don't know, 26% in barrels, 8% in industry and 0,5% in tins.

According to the education levels, the participants scores were as follows:

At primary school levels, 37% don't know, 32% in barrels, 19% in tins and 12% in industry,

At secondary school levels, 77% don't know, 17% in barrels and 6% in industry,

At high school levels, 64% don't know, 26% in barrels and 12% in industry,

At vocational school levels, 71% don't know, 24% in barrels and 5% in industry,

At university levels, 69% don't know, 21% in barrels and 10% in industry,

At master and doctorate levels, 71% don't know, 24% in barrels and 5% in industry.

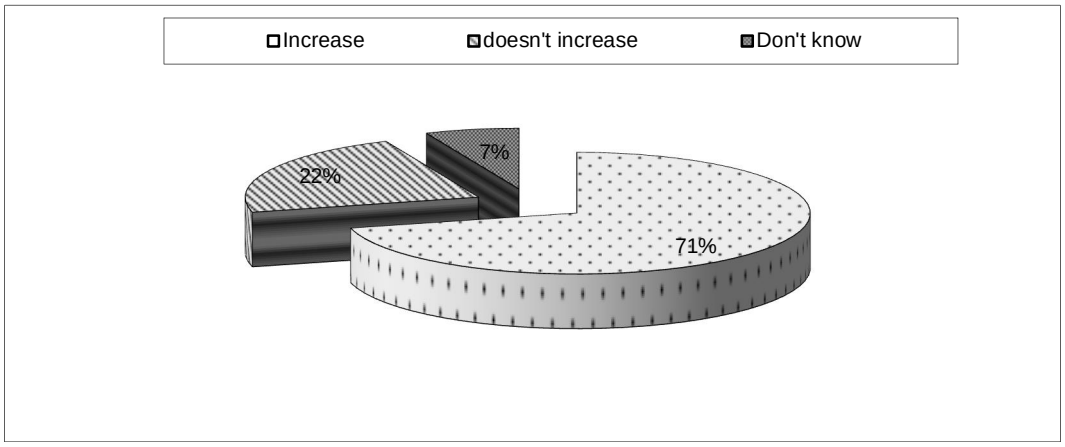

Figure 21. In your opinion, does fuel consumption increas when you use engine oil properly but do not change in time?

To this question, 70 percent of the participants replied as increase, 23% as doesnôt increase and 7% as donôt know.

The scores which we obtained from participants in this part were as follows:
At primary school levels, 60% increase, 20% doesnôt increase, 20% donôt know,
At secondary school levels, 79% increase, 15% doesnôt increase, 6% donôt know,
At high school levels, 74% increase, 24% doesnôt increase, 2% donôt know,
At vocational school levels, 78% increase, 12% doesnôt increase, 10% donôt know,
At university levels, 75% increase, 24% doesnôt increase, 1% donôt know,
At master and doctorate levels, 78% increase, 12% doesnôt increase, 10% donôt know.

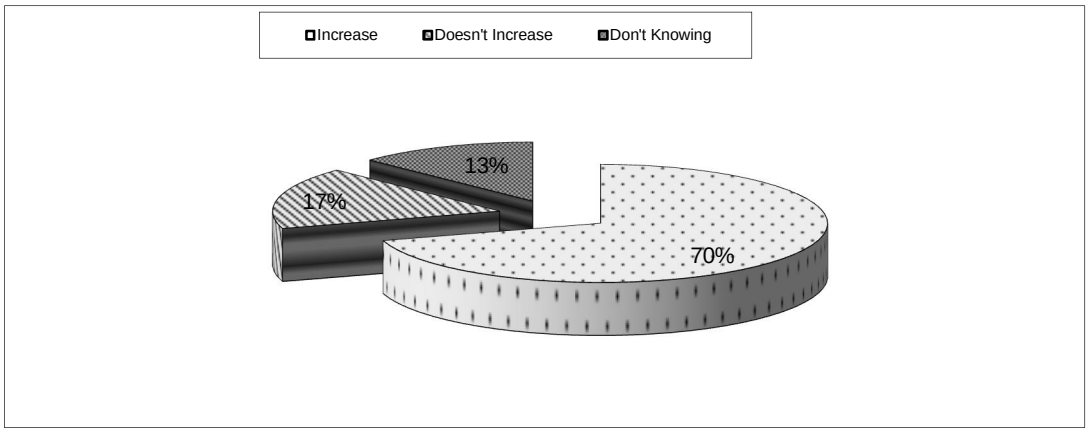

Figure 22. Do exhaust emissions increse if you use engine oil properly but donôt change in time, in your opinion?

To this question, 70 percent of the participants gave answers as increase, 17 percent as doesnôt increase and 13 percent as donôt know.

The score in this part were as follows according to the education level:
At primary school levels, 45% donôt know, 42% increase, 13% doesnôt increase,
At secondary school levels, 68% increase, 17% donôt know, 15% doesnôt increase,
At high school levels, 57% increase, 35% doesnôt increase, 8% donôt know,
At vocational school levels, 68% increase, 20% donôt know, 12% doesnôt increase,
At university levels, 69% increase, 31% doesnôt increase,
At master and doctorate levels, 68% increase, 20% donôt know, 12% doesnôt increase.

RESULT and SUGGESTIONS

In this survey;

- Conscious lubricant and oil selection in Konya and in our Country in parallel with Konya,
- The effects of lubricants that are used from the point of environment ,
- Determining the viewpoint of drivers about alternative lubricant and oil sources,

- Recycling of these waste lubricants and examine possibilities of re-employment of them for other purposes ,
- Outputs of a survey, which was applied on a sample group that was formed of different age, different education level and different profession, were explicated then presented.

It has been determined that lubrication system is the most important maintenance with 60% for vehicles; the second one is car wheel balance with 19%; then oil system with 14%; the last one is the electricity system with 7%. It is seen that all of the people who participated in this survey have knowledge about car maintenance.

Although 76% of the participants answered the question about the duty of lubricant correctly, 24% of them can not answer correctly, it is a thought provoking. Lots of drivers do not know the type of lubricants they use in their vehicles. The people who know the type of their lubricants (synthetic +20/50+lube) that they use, are 12% of them. It is a very low ratio.

Answers for the reasons of lubricant selection are 50% of them ñI do not knowò, 29% of them ñits qualityò, 11% of them ñrecommendation of the serviceò, 8% of them ñrecommendation of repairmanò 1% of them ñfor a good lubricationò,1% ñaccording to its viscosityò

Answers to the question about engine lubricant changing kilometer Engine lubricant changing kilometers of the people are shown in the following; 36% of them ñat 5000 kmsò, 27% of them ñat 3000kms.ò, 17% of them ñat 10 000kmsò, 15% of them ñat 15 000kmsò change their lubricants. They do not know the period according to its characteristics.

70% of them ñincreaseò, 23% of them ñnot increaseò , 7% of them ñI do not knowò to the question about the increase of oil consumption, unless lubricant is changed at proper time

About checking time of lubricant, answers of the people are as in the follows; 38% of them ñoccasionallyò, 19% of them once a week, 19% of them ñevery dayò, 9% of them ñonce a monthò, 9% ñrepairmanò, 5% of them ñbefore a travelò, % 1 of them ñonce in a six monthò check their lubricants in their vehicles.

About adding lubricant 71% of them said ñNoò, 29% of them said ñYesò.

About adding alloy in lubricant, 82% of them said ñNoò, 18% of them said ñYesò .

About changing lubricants at proper time; 81% of them said ñNoò and, 19% of them said ñYesò.

About having knowledge of lubrication system, 60% of them said ñNoò, 40% said ñYesò.

About the increase of exhaust emission, unless use and change properly; 70% of them said ñNoò, 17% said ñnot increaseò, and 13% of them said ñI do not knowò.

About pollution of environment by waste lubricants, 91% of them said ñYesò, 6% of them said ñNoò, 3% said ñI do not knowò.

About the consumption of waste lubricant, 54% of them said ñI do not knowò, 38% of them ñthey are set on fireò, 8% of them said ñthey are thrownò. About storage place of waste lubricants 66% of them said ñI do not knowò, 26% of them said ñin barrelsò, 8% at industrial placesò, 0,5% of them said ñin tinsò. There is a serious gap about what lubricants are done or must be done.

According to outputs;

1. There must be more serious support of educative mess media about engine lubricants and lubrication.
2. Authorized and proper vehicle services must be trained much more than now.
3. Firms related to lubricant and lubrication must hold regional seminars and informing and presenting meetings for authorized and proper services rigorously.
4. People must be made conscious about waste engine lubricants and must be cooperated with environmental organizations. There are job facilities for storing, transporting and re-employment of waste lubricants. This sector must be acquired to our country.
5. If waste lubricants after change of lubricants in vehicles are re-employed instead of pouring it to environment, drinking water need of approximately 60 people in a year. Therefore not only at production of lubricants, but also at the use of them energy saving will be provided.

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