

**USING SMARTPHONE BEFORE SLEEPING AMONG DAWADMI CITIZENS IN SAUDI ARABIA****Marzouq A obari\*<sup>1</sup>, Abdulaziz Sulaiman Al-Ali and Sanjay Deshwali**

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**ABSTRACT**

**Background:** The research is focused on growing problem. The problem is the effect that the Smartphone cause on eyes and on your sleep and the effect in visual pathway. The problem is related to Ophthalmology & neurology science. The gap we hope to cover that to give information based on real research, and give some warnings about the Smartphone light. Many people using Smartphone every day, some of them don't know the consequences of it. The expected number of Smartphone users in Saudi Arabia in 2020 according to STATISIA it going to be 25.3 Million users. If there any effect even if it was one effect, it will affect the 25 Millions. **Methods:** online survey was made. In total 340 citizens (158 females and 182 males where included in the study). Participant where divided into the following groups: Smartphone users between 10 to 20 age (n=36, 10.6%), Smartphone users between 20-30(n=130, 38.2%) Smartphone users between 30-40 (n=127, 37.4%) Smartphone users more than 40 years (n=51, 15%). All participants were Smartphone users. (n=4, 1.2%) was not using Smartphone before sleeping, (n=336, 98.8%) was using Smartphone before sleeping. **Result:** The findings revealed that the Smartphone users before sleeping in low light area where at higher confusion and (n=206, 60.6%) were having pain in their eyes. Were (n=142, 41.8%) felling the need of sleeping again in the morning and have more fatigue and tiredness than normal.(n=125,36.8%) were felling confused and having redness in eyes in the morning. **Conclusion:** The study result showed 4 sample of 340 was not using Smartphone before sleeping. 336 using Smartphone before sleeping and developing physical and eyes issues with time.

**KEYWORDS:** Smartphone, Sleeping, Survey.**INTRODUCTION**

A lot of people now in 21 century using smart - phone without stopping it is big problem not just in social life also in wasting time, but the more dangerous is the effectiveness on sleeping & on your eyes in low light especially before sleeping. We focus on the Smartphone impact on sleeping and eyes in the ways of redness, dryness, low visual activity and other impact on eyes and sleep. STATISTA reliable website for statistic survey shows that the people who use Smartphone more than 90% of the population in Saudi Arabia.

A study was published in 2015 Jun; 4(2): 85–92 on Relationship in Smartphone Users and effectiveness on their Sleeping, Depression and developing some anxious, The result showed that male where significant more than females. First we made an online survey to see if any will develops any anxious or depression or other complication due to Smartphone, especially before sleeping. In total 340 citizens (158 females and 182 males where included in the study).

Participant where divided into the following groups: Smartphone users between 10 to 20 age (n=36, 10.6%),

Smartphone users between 20-30(n=130, 38.2%) Smartphone users between 30-40 (n=127, 37.4%) Smartphone users more than 40 years (n=51, 15%). All participants were Smartphone users. (n=4, 1.2%) was not using Smartphone before sleeping, (n=336, 98.8%) was using Smartphone before sleeping.

**METHODS****Study design**

This was an online survey in Dawadmi area in Riyadh region, random sampling of average Smartphone users between 10 years old to 40 and more years old. The survey start on 01-Sep-tember 2017 for 60 days. All survey questioners were completed before releasing the survey. Final result was collected on 05-November 2017.

**Sample size**

**Participants:** The samples of Dawadmi region were the target population of this study. 340 were questioned direct question about the effect of Smartphone on them before sleeping. (158 females and 182 males where included in the study). Participant where divided into the following groups: Smartphone users between 10 to 20 age (n=36, 10.6%), Smartphone users between 20-

30(n=130, 38.2%) Smartphone users between 30-40 (n=127, 37.4%) Smartphone users more than 40 years (n=51, 15%).

**Data Collection**

Self administered questions on online survey, was published on 01-September 2017.

Full question was filled.

The questions were in two parts.

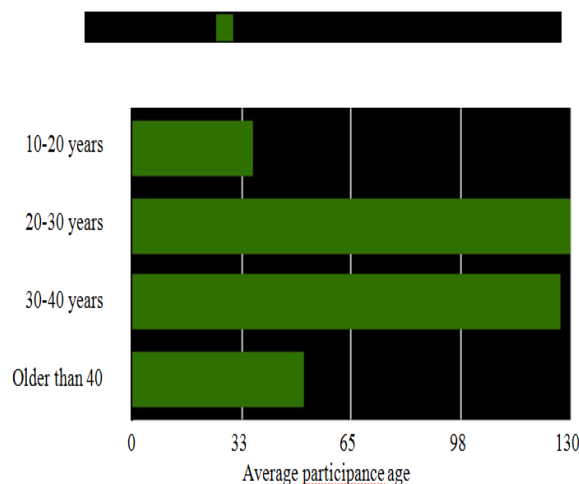
Part 1: Demographic data including name, age, gender, mobile number, name and age.

Part 2: 12 items (questions) specific for smart-phone users.

- ✓ Item 1 asked about the duration in the day do they use Smartphone.
- ✓ Item 2 asked about screen light level of smart-phone the put.
- ✓ Item 3 asked on the most time they use smart-phone
- ✓ Item 4 asked if they use Smartphone in low light areas.
- ✓ Item 5-6 asked do they use Smartphone before sleeping and the duration of using it before sleeping.
- ✓ Item 7-12 asked about the effect they feel in the morning and noticed in the eyes and physical and mental state after using Smartphone before sleeping in lowlight areas or dark room.

**Data Analysis**

340 samples, only 4 of them don't use there Smartphone before sleeping. Result is collected in tables for the analys.



**Figure 1: The figure 1 showed the average age of peoples was tested.**

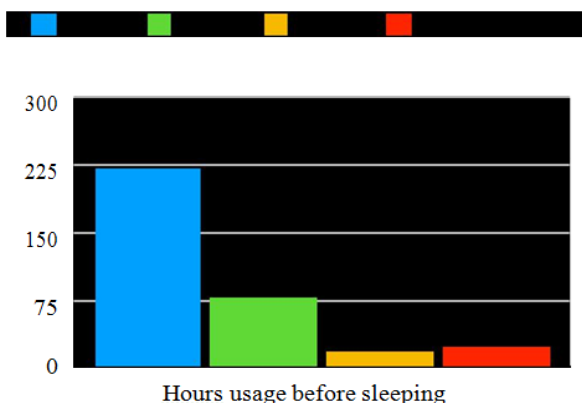
The people were particpance in the study, 10-20 years old n=36(10.6%), 20-30 years old n=130 (38.2%), 30-40 years old n=127(37.4%), older than 40 years old n=51(15%). The majority of the people tested be online survey were from 20-40 years old. "Figure1".

**Table 1: Out of 340 people 98.8% were using Smartphone before sleeping.**

	Number of participant	use	not using
Male	n=182(53.5%)		
Female	n=158(46.5%)		
Smartphone users before sleeping		n=336(98.8%)	n=4(1.2%)

"Table 1"- The result showed that men were higher than females by 7%. Out of 340, 4 of them was not using Smartphone before sleeping.

The majority of usage of Smartphone were in 1-2 h average usage of n=220(64.7%). People using more than 6 h were average of n=22(6.5%).



**Figure 2: Shows the average hours usage of Smartphone before sleeping.**

**Table 2: Out of 340 samples how had eyes issue, redness and lose of focus in morning.**

	Always	Most or some of the time	Never
Having eye pain before sleeping	n=17(5%)	n=271(79.7%)	n=52(15.3%)
redness in eyes in morning	n=7(2.1%)	n=151(44.4%)	n=182(53.5%)
loosing focus in morning	n=9(2.7%)	n=151(44.4%)	n=180(52.9%)

“Table 2” showed the outcome of using Smartphone before sleeping. More than 40% of the 340 sample showed eyes redness, pain and losing focus in morning.

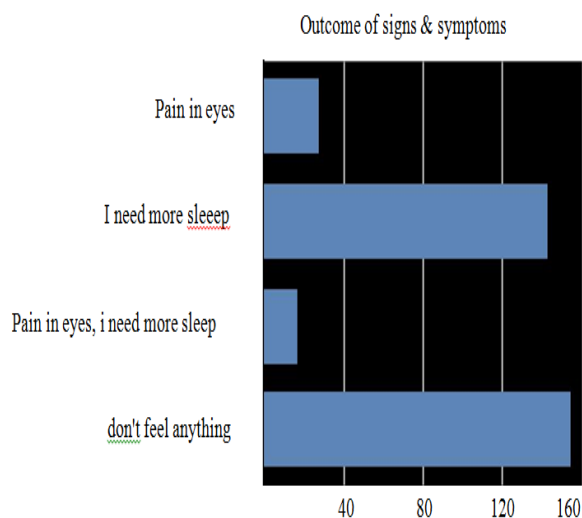
**Figure 3: Outcome of the people who have using Smartphone before sleeping.**

Figure 3: Shows the outcome that 340 people have. n=142(41.8%) feels that they need more sleep in the morning after using smart - phone in last night. n=27(7.9%) developed eyes pain. n=17(5%) developed pain in eyes and needing more sleep. n=154(45.3%) with no outcome noticed.

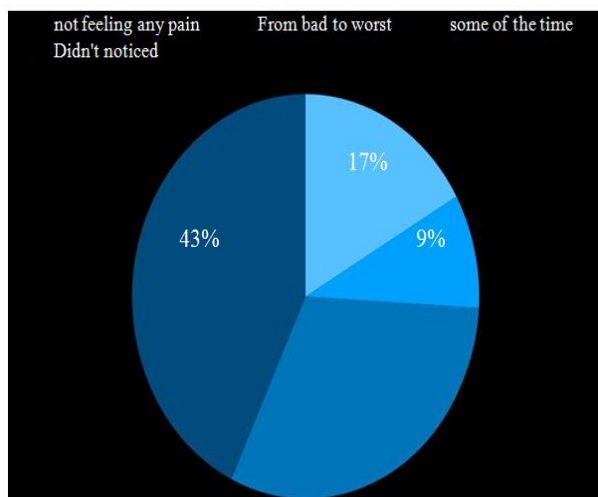
**Figure 4: The people who developed eye pain over time through using Smartphone before sleeping.**

Figure 4: Result showed, n=31(9.1%) feeling that there Smartphone usage situation were increasing the pain on their eyes by time N=106(31.2%) feeling pain some of the time. n=146(42.9%) didn't noticed any pain. n=57(16.8%) didn't have any pain.

## DISCUSSION

The study aim is to have an idea if using Smartphone before sleeping have any effect on sleeping quality and to see the impact that it has on eyes and morning focus. 340 people were tested to see any significant on eyes and focus. Male 182, female 152 participants. 336 were using Smartphone before sleeping, showed in **table 1**. The majority of usage of Smartphone were in 1-2 h average usage of 220(64.7%), People using more than 6 h before sleeping were average of n=22(6.5%), showed in **figure 2**. outcome of using Smartphone before sleeping, more than 40% of the 340 sample showed eyes redness, pain in eyes before sleeping and losing focus in morning showed in **table 2**. outcome of 340 people have: 142(41.8%) feels that they need more sleep in the morning after using Smartphone in last night, 27(7.9%) developed eyes pain, 17(5%) developed pain in eyes and needing more sleep, 154(45.3%) with no outcome noticed, showed in **figure 3**. Eyes pain in morning result, showed; 31(9.1%) feeling that there Smartphone usage situation were increasing the pain on their eyes by time, 106(31.2%) feeling pain some of the time, 146(42.9%) didn't noticed any pain, 57(16.8%) didn't have any pain.

The focus of the study decreases the Smartphone usage at night before sleeping. Many people using Smartphone every day, some of them don't know the consequences of it. The expected number of Smartphone users in Saudi Arabia in 2020 according to **STATISIA** it going to be 25.3 M users. If there any effect even if it was one effect, it will affect the 25 M. The result was remarkable among the usage of Smartphone before sleeping, 98.8% using it before sleeping. More than 40% developing eyes, morning focus, eyes pain before sleeping and eye pain in the morning.

Smartphone addiction in young age, a study was made in 2015 Dec; 4, the result was 256 found with Smartphone addiction out of 1,519 student. Study was made in 2015 Sep; 4 about physical changes and the connection between it and Smartphone addiction, result showed low physical activity and less calories burns. Relationship of heavy Smartphone use and depression study, at 2015 Jun; 4, result showed higher female addiction more than males.

These study focus only on outcome of full day of usage of Smartphone. My study is the first study to see the outcome problems of Smartphone use before sleeping on focus, eyes redness, eye pain and sleeping quality. Other researches didn't focus the effect of using Smartphone before sleeping.

## CONCLUSION

The study result showed a large number of Smartphone usage before sleeping more likely to have eyes pain, redness and loss of focus in the morning. The result were higher than expected, that higher the chance of future studies to be done.

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