EFFECT OF DAY TIME SLEEP FOR A WHILE (NAP) IN EFFICIENCY OF WORKING PROFESSIONALS

Dr. Anantkumar V. Shekobar*1 and Dr. Kanchan M. Borkar2

1Professor and H.O.D., Dept. of Shalya Tantra, S.V.N.H.T Ayurved College, Rahuri Factory, Rahuri, Maharashtra, India.
2Associate Professor, Dept. of Shalya Tantra, S.V.N.H.T Ayurved College, Rahuri Factory, Rahuri, Maharashtra, India.

*Corresponding Author: Dr. Anantkumar V. Shekobar
Professor and H.O.D., Dept. of Shalya Tantra, S.V.N.H.T Ayurved College, Rahuri Factory, Rahuri, Maharashtra, India.

ABSTRACT
The medical science proves that the night sleep offer beneficial effect to improve mental and physical strength. The proper sleep helps to retain declarative material. Literature also proved importance of day time sleep for a while (nap). The day time sleep for little time (nap) improves working efficiency and regains refreshment. The present investigation assessed efficacy of day time nap on 30 working professionals. The investigation observed that memory performance was significantly enhanced after napping. The results demonstrate that the even a short period of sleep offer refreshment and enhances working creativity. The investigation suggest that the onset of sleep may set off active processes of consolidation which once initiated remain effective even if sleep terminated after short period of time. The results suggested that the Mid-Day Napping reduces stress, decreases problem associated with stress such as; hypertension, strengthen the focus & improve decisions making ability.

KEYWORDS: Jhapakee, Mid-Day Sleep, Nap, REM sleep, QAILULAH.

INTRODUCTION
The various scientific and traditional literatures proved efficacy of Mid-Day Napping. Sushrata, the father of Indian surgery mentioned that after taking meal, the person should sit like a king (comfortably), till the fatigue is relived.[1] In Indian culture such phenomenon is practices with different names as Jhapakee in Hindi and Dulaki in Marathi language. It is also mentioned as Qailulah in Islam. The Islamic literature reveals a short mid-day nap (Qailulah) as Sunnah. The Sunnah of short mid-day nap relieves sleeplessness. The Sunnah not only means to sleep during the day time but it also recommended that if one lie down for some time without inducing short nap then it also help to relax whole body. The various research investigations also proved the total body relaxation effect of mid-day nap. The observation of different studies confirms that the relaxing once during the day is very powerful tool to boost mental and physical strength.[2-3]

The time of napping play significant role it should be about 15 to 30 minutes since if it is longer than this period then your body falls into deep sleep difficult to wake from it and may impart dazed feeling. The science believes that 15-20 minute nap is enough to recharge the whole body system. The medical also emphasized that nap after lunch in dark area over chair offer significant mental relief for working professionals. Therefore a working person should relax for a while after lunch instead of involving in mobile, gossiping, tobacco consumption (after lunch smoking habits) & wasting time in computers or social networking site.[4]

Universal adoptability
“Mid day sleep” (nap) offer beneficial effects on the person of all ages therefore the concept of mid day napping (Qailulah) also adopted officially by some countries like China & Japan. The Chinese company implemented a mid-day half hour sleep for its employees since they believe that this may help to increase productivity. Some organization divided a day into two productive halves before nap and after nap. The corporate hubs of Hong Kong set “Nap lounges” for taking mid day nap in a particular peaceful environment.[5]

Duration and timing of napping
The best duration of the nap (Qailoolah) is up to 30 minutes. The 30 min. relaxation offer beneficial effects such as; it refresh brain, rejuvenating effect and helps in memory consolidation. The 20 – 30 minutes nap allow person to only enter in the light stage of the sleep and one will be able to wake up easily without any sleep hangover. The best timing for same is anytime between 1 pm to 3 pm. The post lunch nap recommended acquiring complete relaxation.[6-7]
MATERIAL AND METHODS
1. Survey on working professionals of middle age.
2. Assessment of working efficiency based on various parameters.
3. Analysis of survey results to find statically significant.
4. Providing guideline related to the ideal nap in day time for working professional.

Inclusion Criteria
- Working professionals possess office work.
- Age group of 30 to 45 years.
- Professionals feeling restlessness.
- Professionals of either sex.
- Professionals who wished to participate in study willingly.
- Professional those superior allow them to have a nap for a while in working time.

Exclusion Criteria
- Professionals possess field work.
- Age group below 30 & above 45 years.
- Professionals not feeling restlessness.
- Professionals who do not wished to participate in study.
- Professional those superior not allow them to have a nap for a while in working time, even he/she ready to be part of study, but positive consent of superior considered.
- Professionals taking medication related to sleep disorders.
- Professionals possess significant health problems.
- Professionals having disturbed family circumstances which may induce stress.

Survey protocol
Stratified random sampling method was used to obtain the desired sample. The professionals for survey were selected from Rahuri Factory region of Maharashtra (India). Various private organizations from the region were visited and surveyed for the working persons who lost their efficiency due to the restlessness especially second half of the day. Total 30 persons were taken for the present study. Participants were belongs from variables gender, religion, socio-economic status and working culture.

Data collection
The questionnaires were prepared and presented before the registered professionals to collect the data. The importance of investigation first described to the employees and employer of the organizations. Respondent were briefed about the correlation of day time nap with overall working efficiency. Before initiating the study certain instructions were given for getting appropriate responses.

Assessment Criteria
The correlation of day time nap with overall working efficiency was assessed on the basis of following criteria:
1. Restless
2. Fatigue (mental & physical)
3. Refresh feeling
4. Productivity & creativity
5. Control in anger & stress
6. Working efficiency for whole day (overall assessment).

Study protocol
The registered professionals were advised to take daily mid day nap as per following guideline:

Guideline for taking day time nap
- Napping about 20-30 min.
- Napping should be in fixed day time which should not vary since body adopt the natural napping time dependents cycle.
- Consistent napping to avoid disturbance of routine napping cycle, since irregular napping might disrupt internal body clock.
- Late afternoon napping should be avoided; it delays your falling asleep time in the evening and disturbed biological clock.
- The post-lunch time have a drop in body temperature and alertness; this time is best for taking nap.
- The mind should be calm, no mobile, television or any other electronic gadget while napping.

Duration of study: 30 working days.

OBSERVATION AND RESULTS
The belonging of participant’s age wise:

<table>
<thead>
<tr>
<th>Age</th>
<th>No. of participant</th>
</tr>
</thead>
<tbody>
<tr>
<td>30-35</td>
<td>13</td>
</tr>
<tr>
<td>36-40</td>
<td>12</td>
</tr>
<tr>
<td>41-45</td>
<td>05</td>
</tr>
</tbody>
</table>

Figure 1. Number of participants belonging from various age groups.

Sex:-The numbers of female participants were of 20% and the male were of 80%.
Computer related work: Most of the professionals were found to have working on computers instead of manual working. 83.33% professionals possessed computer related work only 16.66% professionals associated with direct filling or non computerized working pattern.

Fixed Lunch time: The 73.00% were possessed fixed routine of lunch while remaining professionals not take their lunch timely.

Working hours (office timing): All the registered persons having office timing 8 hrs. (Working duration), however sometime may exceed depending upon work completion status.

Health status: All of registered persons were free from any severe/chronic illness which affects working efficiency.

Addiction: The most of the registered persons were addicted to the mobile & gossiping during and after lunch (76.66%). The 50% of the participants were found to possess habits of tobacco/smoking.

Stress: The 70% of participants’ complaint about work related stress due to the excess burden & loss of efficiency.

Table 1: Contribution of factors towards the decreased day time efficiency (restlessness).

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Contribution of factors towards constipation</th>
<th>Sum of All Signed Ranks</th>
<th>No of Pairs</th>
<th>Z</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Computer related work</td>
<td>372</td>
<td>23</td>
<td>4.14</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>2</td>
<td>Fixed Lunch time</td>
<td>429</td>
<td>27</td>
<td>4.21</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>3</td>
<td>Working hours (office timing)</td>
<td>427</td>
<td>21</td>
<td>4.54</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>4</td>
<td>Health status</td>
<td>343</td>
<td>25</td>
<td>4.51</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>5</td>
<td>Addiction</td>
<td>432</td>
<td>24</td>
<td>4.65</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>6</td>
<td>Stress</td>
<td>351</td>
<td>28</td>
<td>4.22</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

Wilcoxon Matched-Pairs- Signed-Ranks Test.

Effect of nap on assessment score & overall improvement in working efficiency
The participants were advised to take nap for 20-30 min. for 30 working days during their working hrs. The participants were suggested to follow guideline of study while taking nap (day time sleep for little time) along with disciplined daily routine and balanced dietary habits. The repeated survey revealed that the mid day sleep (napping) greatly improves the working efficiency and decreases restlessness.

Table 2: Effect of nap on assessment score & overall relief.

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Assessment Criteria</th>
<th>% Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Restless</td>
<td>62.124</td>
</tr>
<tr>
<td>2</td>
<td>Fatigue (mental &amp; physical)</td>
<td>54.182</td>
</tr>
<tr>
<td>3</td>
<td>Refresh feeling</td>
<td>57.724</td>
</tr>
<tr>
<td>4</td>
<td>Productivity &amp; creativity</td>
<td>69.251</td>
</tr>
<tr>
<td>5</td>
<td>Control in anger &amp; stress</td>
<td>49.562</td>
</tr>
<tr>
<td>6</td>
<td>Working efficiency for whole day</td>
<td>65.569</td>
</tr>
</tbody>
</table>

DISCUSSION
The time of sleep play significant role towards the getting beneficial effects of nap. Nap for 10-20 minute only offer the first, lightest stage of sleep known as non-rapid eye movement or non-REM sleep. This little day time sleep (nap) enable individual to wake up easily. The
nap offer excellent cognitive rest and benefits for faces and physical compatibility. The day time nap offer reduction in coronary mortality since due to the reduction in cardiovascular stress associated anxiety. The nap helps to boost declarative verbal memory, procedural motor skills and perceptual learning. Therefore enhance creativity & working efficiency in office hours. The most of the working professionals are habitual to use mobile, involve in gossiping, smoking & social networking site after lunch; these all activity just waste the time and decreases productivity, therefore a working person should relax for a while after lunch to get complete physical & mental relief.

1) Limitation of Study
➢ The procedure is not possible in non cooperative professionals.
➢ Napping for long time may cause sleep hangover.
➢ Large population of different region may be included for conclusive results.
➢ Need of consideration of other factors also important related to the working environment and life style modification.

2) Scope of Study
➢ Study established the benefits of day time nap in working professionals.
➢ Study supports the policy of some countries who adopted day time nap officially.
➢ Study provide path for surveying large population regarding the same concept.
➢ Study not only relates working efficiency with day time nap but also correlates decreased risk of stress induced diseases like hypertension with daily nap.

CONCLUSION
The study concludes that sleep for short periods in day time improve memory and cognitive function, ideal nap for 20-30 min. for a quick refresh. Study observed that the mid day nap offers following benefits:
- Naps refresh and revive a tired mind.
- Boost in energy levels and alertness.
- Lowers blood pressure.
- Calms nerves.
- It decreases anger, fear and restlessness.
- Enhances creativity.
- Restore focus.
- It is also beneficial to students for concentration and memory power and grasping.

The results & data of present investigation suggested for future study on large population considering others factors. The literature & observed data also offer beneficial effects in students also, napping after exhausted study may reduces unnecessary burden to the students and facilitate healthy mental status which boost learning ability of students and also help to recall the key-points. Current investigation strongly supports positive role of nap to acquire good learning environment.

REFERENCES
3. Tucker MA, Fishbein W Enhancement of declarative memory performance following a daytime nap is contingent on strength of initial task acquisition. Sleep, 2008; 31: 197–203.