STUDY TO DEVELOP A CORRELATION OF SLEEP PATTERN OF CHILDREN WITH PRAKRITI (CONSTITUTION) AND ITS IMPORTANCE IN CHILD REARING

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ABSTRACT
Nidra is a special state of mind in which the mind is not associated with any type of indriyas. The detachment from bahya vishya is resulted from tiredness of body as well as mind. There are 4 stages of Nidra accepted by School of Indian literature. The objective of present study was to study the correlation between the sleep pattern and Prakriti for various stages of childhood period and to develop guidelines for sleep pattern in Children according to Prakriti. Total 225 children were enrolled to study the sleep pattern according to age. Sleep was assessed by self made 5 point scale which was in the form of close ended questionnaire. The children with Insomnia, and who used hypnotic and sedative drugs were excluded from the study. It can be concluded that there is variation in sleep according to Prakriti - Since vata prakriti children are more prone to develop Slow wave sleep (SWS) during night due to poor sleep and more night awakenings need long hour sleep. They need to go early to bed in nights. They also need sleep in day time up to 2 hours. In pitta children the pattern of sleep is Rapid eye movement (REM) type. This doesn’t vary and have less night awakening need 1-2 hrs sleep less than vata prakriti. Kapha children having the SWS for 1-2 hours and then change to REM sleep during whole night. They need average amount of sleep and should avoid sleeping in day time. So it can be concluded that there is variation in sleep according to Prakriti - Since vata prakriti children are more prone to develop Short Wave Sleep during night due to poor sleep and more night awakenings need long hour sleep.

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INTRODUCTION

Prakriti (constitution) reflects the proportion of doshas which represents the ideal state of balance. Prakriti manifests through our physical characteristics, natural urges, likes and dislikes and psychological predilections. So, if we recognized our prakriti (constitution) and modify our lifestyle accordingly, we will be able to achieve better health with our optimal working. The eminent Vaid Acharya Sushruta postulated that based on dominancy of doshas Prakriti may be of seven different types. The prakriti of a person is according to the predominance of a particular dosha at the time of conception and is also influenced by the environmental factors. Prakriti remains unchanged during the course of one's life time and is genetically determined[1]. We depend upon physiological, anatomical and psychological factors for identification of Prakriti (constitution). Present study was planned for the children. By knowing prakriti (constitution) of children we can apply useful guidelines on them which may help them to make a right judgment and attitude towards life. It will also help to form a useful framework for future of children[1]. Acharyas manifest a great importance to Nidra in the form of ‘Traya upstambha’. An adequate sleep is must. It proves balya, varnya and pushtikara[2] that why sleep is selected as a part of this study.

Sleep is also under the influence of various doshas in the body. As per the characters mentioned in the Samhitas, Vata children are usually light sleepers, may toss and turn and have trouble getting to sleep or may wake up several times during the night. Their ability to sleep varies greatly from night to night. They wake up feeling unrested. Sleep walking, sleep-talking and grinding of teeth at night are usually vata types. Sleep hours are lesser and interrupted. They wake up in morning feeling unrested. Pitta children sleep easily, lightly and wake up alert. If they wake up in the night, they can return to slumber quickly. They have sound sleep. Kapha children drop off to sleep quickly and sleep heavily but wake up rested and alert. They enjoy sound sleep for long hours. Rarely does a kapha children have difficulty in sleeping. So the Characters selected for planning the questionaries- Visham, Anavasthita, Nidralu, Gambhira etc. “Nindyate iti Nidra” (Sabda kalpadruman)[3] Nidra (Sleep) is a special state of mind in which the mind is not associated with any type of indriyas. The detachment from balya vishya is resulted from tiredness of body as well as mind[4]. There are 4 stages of Nidra accepted by School of Indian literature[5]. Jagrat avastha – The phase in which person is able to perceive the subject via panchindriyas[6]. Swapan avastha – The phase in which person experience some feelings depending upon what he has done or perceived during the Jagrat avastha[7]. Sushipta avastha – The phase in which nothing is experienced by person. Only the vital function (like respiration, Circulation etc) occurs[8]. Tureeya Avastha – It is experienced by only Yogis [9,10].

In modern system of medicine Sleep is a physiological phase of unawakening that enlists between two phases of normal and routine awakening. It is the period of rest for the body and mind during which bodily functions are partially suspended and sensitivity to the external stimuli is diminished but really or easily regained. Sleep is divided into 2 broad types by the measurement of eye movement[11]. REM (Rapid eye movement) It’s including low voltage EEG and rapid eye movements. Most memorable dreaming occurs in this stage. NREM (Non rapid eye movement) has four stages[12]. With this pretext present study was conducted to develop correlation between prakriti and sleep pattern.

Aims and Objectives of The Study

1) To study the correlation between the sleep pattern and Prakriti for various stages of childhood period.
2) To develop guidelines for sleep pattern in Children according to Prakriti.

MATERIALS AND METHODS

The study was planned in the form of survey conducted in the area of New Delhi and Jaipur. Door to door survey was conducted in Delhi and children from OPD/IPD of National institute of Ayurveda, Jaipur were included in the study. Total 225 children were enrolled to study the sleep pattern according to the age. Child age group varies in its order due to impact of growth and development of various system with difference of time. To overcome with this problem, childhood period was assessed under four major groups:

- Group – A- Infant group- which again is divided into two parts
  - 0-group for Neonates
  - A+ group for 1-12 months
- Group – B- 1-6 years
- Group – C- 6-10 years and
- Group – D- 10-16 years and the study was done.

The sleep pattern of the disease was assessed by close ended questionnaire by self made 5 point scale.

- Irritable, less active - Vata
- Active - Pitta
- Fresh and Very fresh - Kapha

Exclusion criteria: Insomnia, use of hypnotic and sedative drugs. Those children fulfilling the inclusion criteria were included in the study after taking written informed consent from the parents of the children.
RESULTS AND DISCUSSION

The major findings of the sleep pattern in different age groups of children are tabulated in table 1 and figure 1. Children who get enough sleep are less prone to behaviour problems and moodiness. They often develop better memory, concentration and longer attention spans. Growth sports are accelerated during sleep as human growth hormone is released. The pattern of sleep observed in different age groups as follows: Group (Neonate group) showed maximum of “Kapha Pitta” and “Pitta Kapha” type of sleep pattern. About 25% and 18.75% strongly dominant by kapha dosha. Normal newborn takes sleep up to 12 to 20 hrs. The average of about 16 hours divided into feeds. They can sleep sound for long 7 to 8 hrs without waking. But after few weeks or month they return abruptly to a late night or wake up schedule may be due to growth and development changes. In Infant Group (A-group), the sleep pattern was equally correlated with “kapha Pitta” type as well as “Vata Pitta” type about 16.13% in each class. Followed by “kapha Pitta” and “Pit Vat”, around 12.90% can be compared with the slightly increase of pitta level in the body due to various activities occurring in the body necessitate for development. In Group B (1-6years) again pattern common is of “Kapha”, “kapha Pitta” and “Pitta Kapha” types with 19.67%, 18.03% and 13.11% respectively. Toddlers and preschool sleep an average about 12 hours a day and take one interval. Sleep problems are common. Nightmares and night terror may occur. In group C (6-10 years) the maximum perfection is again seen in “kapha Pitta” and “Kapha” group about 25.86% and 22.41% which again remain same in Group-D children. School children require less sleep as they grow older than at least 10 hrs a day. Teenagers get sleepy later than preteens and often have trouble of falling sleep. Puberty brings change to their sleep wake cycle. Again there was dominancy seen of kapha dosha in all groups suggest relation of kapha dosha and effect of sleep with age. Overall assessment of sleep based genes, environment factor and sleeping habits. It was also proved on the basis of genes that the single point mutation in CK d genes reduces the enzymatic activity after the pattern of sleep CK (Enzyme kaesin kinase) is an indeed key regulator of sleep. Overall prakriti influence of sleep pattern seen about 48.4%. Sleep is totally under the impact of kapha dosha in children. (Table no.1). During 8 hrs Sleep, Van cauter, Leprout and Plat found that, the men with the high percentage of SWS (Average 24%) also had high growth hormone secretion while subjects with low percentage of SWS (Average 9%) had low growth hormone secretion[13]. The metabolic rate goes down during sleep and some anabolic hormones such as growth hormones are secreted during sleep. This is the explanation for Kapha Prakriti being healthy and well built [14]. Non REM sleep has an anabolic effect which is evident by physiological process of growth and rejuvenation of the organism, immune, nervous, muscular and skeletal system. The activity occurring during REM sleep is seems to be particularly important to the developing organism- According to ontogenetic hypothesis explains[15]. Behavioral problems, permanent sleep disruption, decrease brain mass and abnormal amount of neural cell death are some of the possible side effects of deprivation of active sleep in early life. [18]. For development of brain in infants REM sleep appears to be important. REM induced muscle inhibition in the presence of brain activation exists to allow for brain development by activating the synapse yet without any motor consequence which may get infant in trouble[19]. Development abnormalities may be result of early deprivation of REM. In late life, sleep is linked to memory in many ways. Memory is possibly affected by certain stage of sleep such as REM and slow wave sleep[16] affects working memory which is necessary for further processing and support higher level cognitive functions such as decision making, seasoning and episodic memory[17]. Procedural memory benefits from lack REM- Rich sleep where as declarative memory benefits from early SWS – rich sleep[11]. The different studies suggest the correlation between sleep and many complex functions of memory.

CONCLUSION

So it can be concluded that there is variation in sleep according to Prakriti. Vata prakriti children are more prone to develop SWS during night due to poor sleep and more night awakenings need long hour sleep. They need to go early to bed in nights. They also need sleep in day time up to for 2 hours. In pitta children the pattern of Sleep is REM type. This doesn’t vary and have less night awakening. They need 1-2 hrs sleep less than vata prakriti. Kapha children having the SWS for 1-2 hours and then change to REM sleep during whole night. They need average amount of sleep and should avoid sleeping in day time. So we can prescribe different sleep patterns according to Prakriti of children for their proper development and health.
Table No.1  
Sleep pattern in various Age group of children.

<table>
<thead>
<tr>
<th>Sleep pattern</th>
<th>0 Gr.</th>
<th>%</th>
<th>A Gr.</th>
<th>%</th>
<th>B Gr.</th>
<th>%</th>
<th>C Gr.</th>
<th>%</th>
<th>D Gr.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vata</td>
<td>1</td>
<td>6.25</td>
<td>3</td>
<td>9.68</td>
<td>4</td>
<td>7</td>
<td>2</td>
<td>3.45</td>
<td>1</td>
<td>1.70</td>
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<tr>
<td>Pitta</td>
<td>2</td>
<td>12.50</td>
<td>3</td>
<td>9.68</td>
<td>4</td>
<td>6.56</td>
<td>5</td>
<td>8.62</td>
<td>3</td>
<td>5.08</td>
</tr>
<tr>
<td>Kapha</td>
<td>1</td>
<td>6.25</td>
<td>2</td>
<td>6.45</td>
<td>12</td>
<td>19.67</td>
<td>13</td>
<td>22.41</td>
<td>12</td>
<td>20.34</td>
</tr>
<tr>
<td>VataPitta</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>16.13</td>
<td>6</td>
<td>9.84</td>
<td>2</td>
<td>3.45</td>
<td>2</td>
<td>3.89</td>
</tr>
<tr>
<td>PittaKapha</td>
<td>3</td>
<td>18.75</td>
<td>2</td>
<td>6.45</td>
<td>8</td>
<td>13.11</td>
<td>10</td>
<td>17.24</td>
<td>10</td>
<td>16.95</td>
</tr>
<tr>
<td>Kapha Pitta</td>
<td>4</td>
<td>25</td>
<td>5</td>
<td>16.13</td>
<td>11</td>
<td>18.03</td>
<td>15</td>
<td>25.86</td>
<td>18</td>
<td>30.51</td>
</tr>
<tr>
<td>KaphaVita</td>
<td>1</td>
<td>6.25</td>
<td>4</td>
<td>12.90</td>
<td>4</td>
<td>6.56</td>
<td>3</td>
<td>5.17</td>
<td>4</td>
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<tr>
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<td>4.92</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>3.90</td>
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<tr>
<td>VataPita Kapha</td>
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<td>18.75</td>
<td>2</td>
<td>6.45</td>
<td>3</td>
<td>4.92</td>
<td>2</td>
<td>3.45</td>
<td>3</td>
<td>5.08</td>
</tr>
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</table>

Mean=1.6  Mean=3.1  Mean=6.1  Mean=5.8  Mean=5.9  
S.D=1.35  S.D=1.37  S.D=3.27  S.D=5.16  S.D=5.57

Sleep pattern of children is under the influence of kapha dosha

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