

IMPACT OF LOCKDOWN ON HEALTH OF PEOPLE: A CROSS SECTIONAL SURVEY

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ABSTRACT

Introduction: India came across a historic and most prolonged lockdown that the present generation may never forget, it was declared on 22nd March 2020, and persisted up to 31st May with different phases of restrictions and relaxations. There was an inevitable change in the lifestyle of people during the lockdown, ensuring crores of people were effectively confined to their homes. There was a notable change among people in the pattern of *Ahara* (Food), *Nidra* (Sleep) and *Bramhacharya/Vihara* (Routine Activities), which are the three sub pillars of life. **Materials and Method:** A study was done to analyse the impact of lockdown on the health and wellbeing of people. The focus of the study was to explore lifestyle changes due to restricted mobility during the lockdown in India. An open online survey thorough google form was conducted; 710 subjects of various age groups responded to it. Questions were framed out of *Arogya lingaas* (Signs of health) explained by *Acharya Kashyapa*. **Results:** The study revealed a significant Impact of Lockdown on the wellness of mankind in terms of *Shareerika* (Physical) *Manasika* (Mental) and *Samajika* (Social) *Swasthya* (Health). **Discussion:** It depicts both positive and negative impacts of lockdown on the wellness of human beings. This study provided insight into the effect of home confinement on physical activity, social participation, dietary behaviour and sleep quality etc. This would help to address the clinical issues of patients in post lockdown days.

Keywords: Wellness. Lockdown. *Swasthya*. *Trayopasthamba*,

INTRODUCTION

Indians witnessed a historical nationwide lockdown for more than 69 days; lockdown could bring many unusual changes in the lifestyles of people, impacting all dimensions of health. Major changes in the lifestyle can be grouped in terms of *Ahara* (Food), *Nidra* (Sleep) and *Bramhacharya* (Routine Activities) that are considered as three sub pillars of life^[1]. Wellness depends on these three factors^[2]. *Bhagavad-Gita* Quotes *Yukta Ahara* (Ideal food), *Yukta Vihara* (ideal routine activities), *Yukta Karma chesta* (ideal deeds), and *Yukta Swapna* (ideal sleep) are the path of *yoga* leading to sorrowless life^[3]. *Ahara* is the basic need of all living beings^[4], also *Ahara* is the key factor responsible for happiness, strength, *ojas*, and *Ayu*^[5]. On the other hand, *Ahara* if consumed in an improper way of consuming food can lead to deadly diseases^[6]. *Nidra* is the time when the body repairs and prepare itself for the next day, proper and timely *nidra* endows happiness, nourishment, strength, knowledge and life, whereas it destroys those if it is improper^[7]. *Bramhacharya*, though different sciences interpret it as controlling sexual organs, it is controlling all sense organs and utilizing them to attain *Bramha jnana* (Superior knowledge) as per *Ayurveda*^[8]. *Bramchacharya* can be a collection of regimens that helps us to lead a healthy and sorrow free life. *Acharya Charaka* mentions *Bramhacharya* as *Ayushyanam agrya*^[9]. *Vridha Vagbhata* quotes *Bramhacharya* as *Dwayaloka rasaayana*^[10]. *Acharya Kashyapa* mentions *Arogya lingas*^[11], which can be used to assess the wellness of people.

MATERIALS AND METHODS:

This is an observational study aimed to analyse discrete and qualitative factors like diet practices, sleeping habits and preventive methods adopted, lifestyle changes associated with the lockdown. The proposal was submitted to the Institutional research committee and IEC Clarence was obtained to conduct an online cross-sectional survey based on the snowball seaming technique. A structured questionnaire containing 30 mandatory questions with one open-ended question was circulated among participants. Multiple choice questions regarding their food habits, sleeping habits,

Daily regimens, and other health-related states, comparing before and during lockdown was asked. Responses were collected through Google form. The survey link was open for all healthy individuals aged above 18 years of age. The link was made available in the public domain like Facebook and blogs. The outreach of the survey was limited to people understanding English and having an internet connection. Sampling errors arising due to limited and unequal coverage among people from different age groups, occupations or states of residence were marginally removed by considering only those variables for analysis that had a considerably large sample size. Random selection and testing were not performed due to limited responses for many categorical variables. Response bias was reduced while framing the questionnaire by diversifying the questions and processing errors were minimized by cleaning the data. Although further bias in sampling may be prevalent due to respondent effect, fatigue effect and neutral responding. Obtained data were statistically analysed and interpreted. Descriptive statistics like measures of central tendencies, frequencies and proportions have been used to evaluate the responses. Data wrangling, cleaning and visualization were done using version 4.0.0, Microsoft Excel 2016 and Data wrapper.

RESULTS AND DISCUSSION

The 20 days long survey could gather 710 responses, Included 43% of males and 57% of females from 5 age groups.[Table 01]. People from more than 5 states took part in the survey, The study revealed the following outcomes. Food must be consumed in proper quantity and the *Matra* again depends on one's own *Agni*^[12] (Digestive fire). *Ayurveda* emphasis on *Dwikalabhajana*^[13]. However, it is also said that one should not remain hungry for more than 2 *Yaama* i.e., 6 hours and one should not have food within a *Yaama*^[14], *Acharya Bhava mishra* opines one should consume food whenever feels hungry even at midnight^[15]. It was found that 65% of samples consumed three times food in a day was reduced to 51% during the

lockdown. And there was an increase from 36.1% to 49% who consumed food more than 6 times. There was an overall increase in the frequency of the food consumed. Hunger is an *Adharaneeya vega* [16]. Hunger indicates increased *Agni* [17] and *Annabhilasha* is the first *Arogya linga* explained by *Acharya Kashyapa* [11]. There was a decrease from 78.4% to 70.4% who felt hungry less than 4 times a day, whereas an increase from 21.7% to 29.6% felt hungry more than 6 times during lockdown, *Kaala* (Season), *Vaya* (Age) and *Avastha* Condition of individual) also, play a role in the frequency of feeling hungry. Food consumed with no worries and a calm mind can only nourish body and mind [18]. Contentment after having food denotes the proper consumption of food [19]. There was an increase from 50.6% to 61.7% of samples who felt contented with the food they ate and a reduction from 23.8% to 14.2% found in the sample who was not satisfied with the food during the lockdown. Maybe this is because most of the people stayed at home and had stress free food with families. There was 35% of the sample with an increase in overall food consumed, no change for 42% and quantity was reduced by 23% during the lockdown. It may be due to increased contentment the overall quantity of food was increased in many.

Bhuktasya paripaka (Proper digestion) is another sign which can be assessed with *Srusta vit Mootra vaatatwa* (proper evacuations of bowel n flatus) which are the signs of health [11]. The ease of defecation has increased from 33.8% to 36.1% and difficulty has reduced from 10.9% to 9.4% during lockdown. *Udgara shuddhi* (clear belching) is one among *Jeer-na ahara lakshana* [20]. It was seen that 11% of samples got good belching often from rare during the lockdown. *Shareera lagutwa* (lightness of body) indicates positive health in the body, The lightness of the body throughout the day has reduced from 47.6% to 37.6% during the lockdown. This reduction may be due to lack or reduced physical work and can also be due to increased quantity and frequency of having food. [Fig.1 Changes in food habits during lockdown] *Indriya prassannata* (Pleasantness in sense organs) is another indicator of wellness, this can be assessed

based on how often one wishes to perceive pleasing sound, sight, smell, taste and touch. The pleasantness of the sense organs was reduced from 55.3% to 54.5% during lockdown with *indriya Prasannata* individual can completely involve in his works with full presence of mind, The concentration during their work was also reduced from 58.5% to 42.1%, this may be due to change in working atmosphere or due to disturbances in mind caused by pungent news of pandemic.

Ratri prabhava nidra (Nocturnal sleep) is the ideal sleep that prepares an individual for tomorrow [21], proper *Nidra* ignites *Kayagni* [22]. However *Acharya sushruta* opines *Nidra* as *Paapma* as *Nidra* kills the time which could have been used for good deeds [23], there is a strict indication in *Ayurveda* to wake up in *Bramhimohurtha* [24], 6-8 hours of sleep is proved to be a healthy sign for adults [25], There was a significant increase in sleep duration of a large part of the sample, it revealed an increase from 52.6% to 78.7% in the samples who slept more than 10 hours during the lockdown. It was also found reduction from 47.4% to 21.3% among samples who slept less than 8 hours; this may be because of increased food quantity. There was an increase from 50.7% to 63.9% in sleep satisfaction this may be because of the boundless sleep due to the absence of work schedule,

Divaswapna (Day sleep) is contraindicated for a healthy individual [26], however, one can have *Diwaswapna* during *Madyahna* of *Greeshma ritu* [27], and in the next day of *Ratri jagarana* can have half of the duration one was awake at night [28], There was an increase from 20.9% to 45% in the sample who slept regularly during day time during lockdown it was also found reduction from 79.2% to 55% among samples who slept rarely during day time, this was maybe because the *Ritu* was *Greeshma*, also infers the late night sleeps.

Dreams are considered sleep disturbers in *Ayurveda* more dreams in sleep indicated disturbed sleep, however, there are certain dream patterns attributed to each *Prakruthi* of individual [29], There was an increase in 21.7% to 28.7% in samples who got frequent dreams during sleep, There was a decrease

from 65.2% to 57.5% in being energetic throughout the day during the lockdown, as excessive sleep increases *Gurutva* and *Alasya* in the body^[30]. This might cause a lack of interest and energy in the work. [Fig.2 Changes in sleeping habits during lockdown] There was an increase in 36.5% to 74.3% in samples who spent more than 4 hours for their hobbies during the lockdown, free time in homemade people to involve in indoor recreations which are also mentioned in *Greeshma ritucharya*^[31]. it was found 49.6% samples increased completion, no change for 32% and diminished for 18.4%; Varna and *Ayusha labha* is also a sign of *Arogya* as per *Acharya kashyapa*. However, there is also a small portion of the sample whose complexion go diminished. There was an increase from 3.3% to 8.7% in the sample who were depressed, during the lockdown, 3.8% to 13.2% in the sample who were sad. A reduction from 32.3% to 23.5% was found in samples who were happy and a slight increase from 8.1% to 9.5% among people who were joyful during the lockdown. it clearly shows people suffered from mental disturbances though they were relieved from routine work stress, the pathetic news of pandemic through media, fear of losing a job, economic instability, and social insecurity might have caused mental disturbances among people. There was an increase from 27.2% to 44.6% in the sample who regularly practised immune boosting methods during the lockdown, maybe because of a lot of free time or due to the fear of pandemic people cared about their immunity more than usual. There was an increase from 78.7% to 86.2% who sought doctors or medicines less than 2 times during lockdown and a decrease from 18.6% to 10.4% who sought doctors or medicines more than 4 times in a month. there was a reduction in seeking medical help may be due to fear of going out or can also be due to

pollution-free environment and pure air around us causing less harm to our health. There was 15.2% of samples who were suffering from chronic illnesses among them 27.5% found improvement in their illnesses and there was no change for 63.9% and 8.6% worsened, definitely lifestyle during lockdown seemed like a boon for people with chronic illness, there were more than 150 samples who could improve their health in terms of their chronic illness like diabetes hypertension and CVDs etc.

It was found 44.5% of samples felt a bad impact on social life. no change for 23.8% and good for 31.7%, maybe due to distance from friends and other companies' lockdown was bad for a larger group of samples however there is also a significant group of samples to whom social life was good indicating a quality time spent with family and friends. It was also found 49.2% of samples felt a bad impact on economic status. no change for 41.8% and good for 9%, due to lockdown may daily wage labours, street vendors, shop keepers, many IT professionals lost their economic stability. It was found 49.5% of samples felt a good impact on their overall health. no change for 34.8% and bad for 15.7%, There was an increase from 37.3% to 41.9% in samples who felt pleasantness of mind during the lockdown, overall health of the majority of individuals were improved during the lockdown. It was found 17.6% of samples got a reduction in their weight. no change for 30.6% and increased for 51.8% [Table 02], also It was found 83.9% of samples stayed in their home with family. and 16.1% stayed away from home for most of the days during the lockdown, it was found 51.1% of samples who could utilize the lockdown days for best of their possible and 48.9% couldn't utilize, [Fig.3 Changes in Routine activities during lockdown]

Figures

Fig.1: Changes in food habits during lockdown

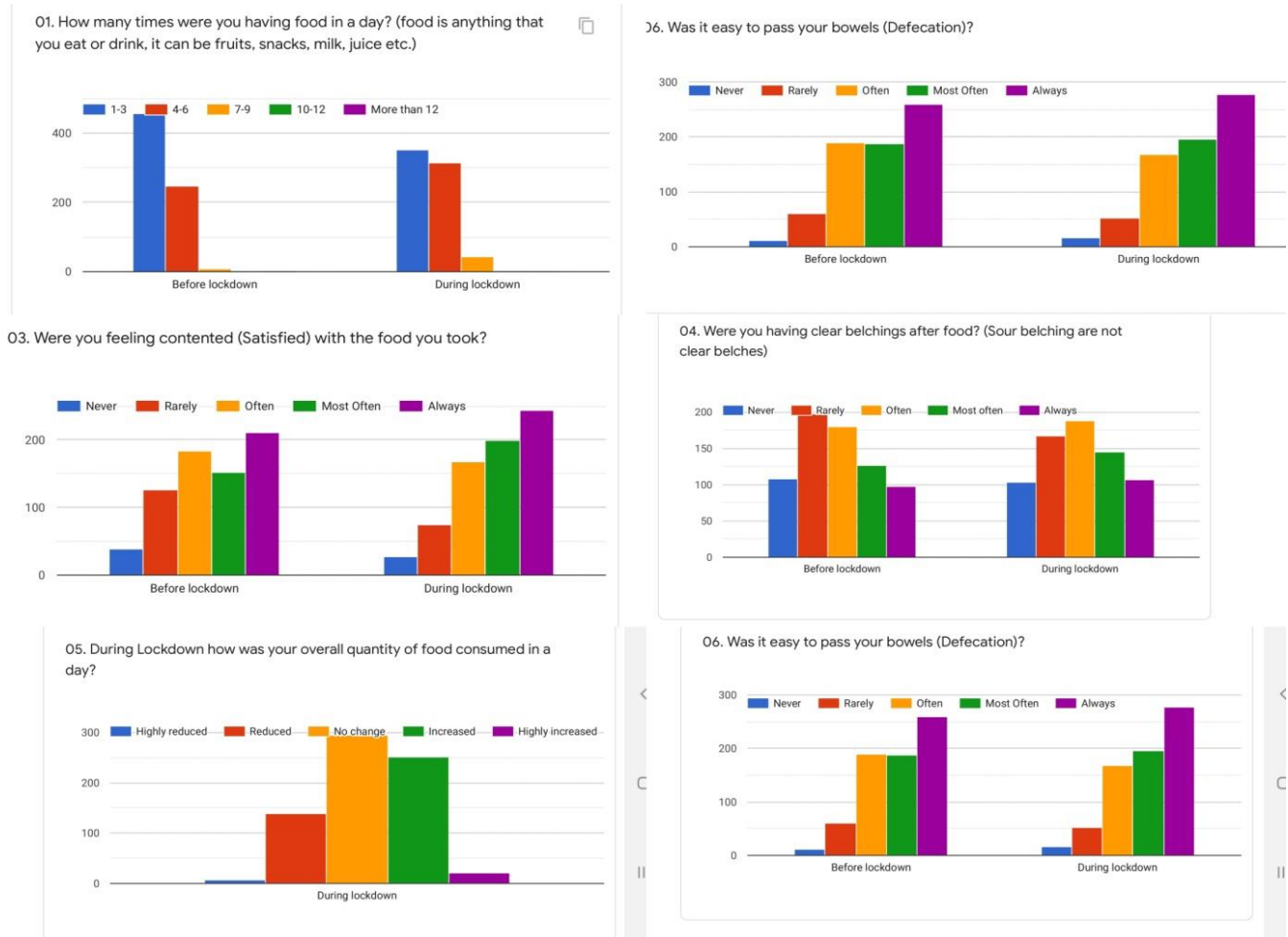


Fig.2: Changes in Sleep pattern during lockdown

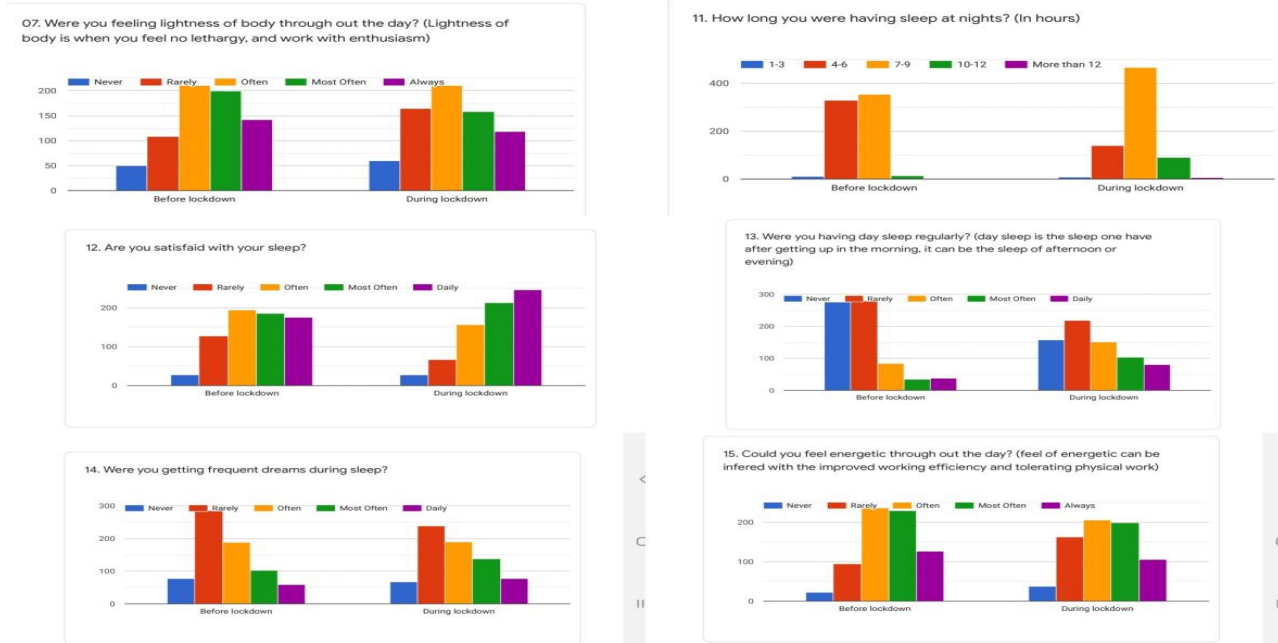


Fig.3: Changes in Routine activities during lockdown

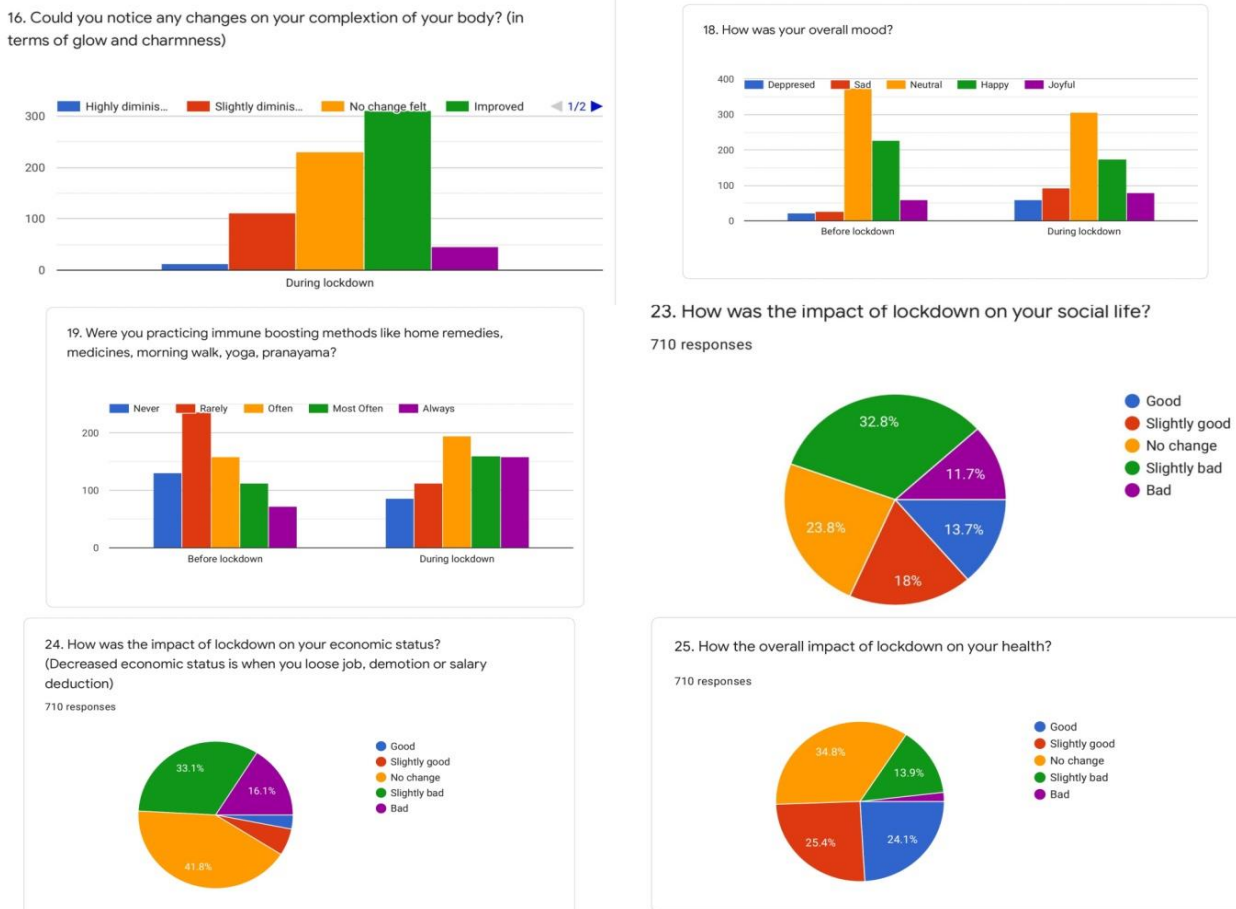


Table 1: Age groups of participants

Age group	No. Of Participants	Percentage %
18-25	390	55
26-45	214	30
46-55	52	7
56-65	28	4
66 and above	26	4

Age wise participants list

Table 2: Change in bodyweight during lockdown

Change	No. of Participants	Percentage %
Decreased more than 2. kgs	57	8
Decreased less than 2. kgs	68	10
No changes	217	31
Increased less than 2. kgs	221	31
Increased more than 2. kgs	147	21

CONCLUSION

The outcome of the survey depicted both positive and negative impacts of lockdown on health, though all parameters of assessment were subjective, it revealed a similar kind of response and understanding from all samples. the extended time spent with family members, free of the stress of normal working schedule and school days, may well have strengthened family bonds and restored balance in life leading to an actual improvement in the quality of life during the lockdown, However, on the other hand, the impact of the lockdown is likely to be heaviest on those who were alone, stayed away from family and dependents, who were poor, already psychologically burdened, or out of the mainstream at baseline. the overall lockdown came as a blessing to some and a curse to few too, there is a strong need to retrospect the effects of lockdown on mankind to restore the needs. These outcomes can be utilized to serve our upcoming patients in a better way.

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