

A SHIFT OVER FROM WATCHING TV SERIES TO WEB SERIES - POPULARITY AND PREFERENCE REGARDING VIEWING HABITS

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Abstract

Purpose– Digitalisation leads to the viewers changing attitude of entertainment. Social media has taken an active role for the viewers in shift over from TV series to Web series. All the viewers have different tastes for watching the series. The web series provides different kind of taste according to the demographic. Most of the viewers have mobile phone with internet facility. With these gadgets it's very easy to watch the series anywhere at any time. This research examines the relationships between the popularity and preferences with the shift from TV series to Web Series. This study mainly focused in the different districts in Kerala and selected the viewers like students, employees, retired persons and households. Design/methodology/approach - A survey was conducted to test how the popularity and preference will affect the shift over from TV series to web series in different categories of viewers. Data collected from 546 respondents were (25% each) from the viewers like students, employees, retired persons and households from different parts of Kerala. Findings: In this research, a substantial positive correlation was established between variables such as popularity ($r = 0.714$), preferences ($r = 0.623$), and shift over to Web series ($r = 0.698$) with reference to the different kinds of viewers in different districts from Kerala. The research demonstrates that there is a high impact of popularity which affects the viewers from shift over to the web series. The study has also given insights into the preference and its significant relationship with the shift over to the web series. On testing the hypothesis, ANOVA analysis table exhibits that significant value to be lower than 0.01, that shows the dependent study variable, namely Shift over to Web series, is substantially predicted by the independent study variables, Popularity and Preferences, has a confidence level of at 99%. Originality/value – This study explores the relationship of Popularity, Preference, and shift over to web series with reference to different kinds of viewers in different parts of Kerala, which has not been explored theoretically and tested empirically in context with COVID-19 pandemic

Keywords: Web series, Popularity, Preferences, Social media, OTT plat form, viewing habits, TV series, Digitalization.

Introduction

Television is a medium which has entertained for decades. The evolution of internet and social Media's existence has seen the up rise of web series, creating its place and taking over the digital space by storm, in a short span of time. Lack of good content on television has pushed the film makers to explore the episodic form called web series and create content which is fresh and happening. A web-series is a series of scripted or nonscripted online videos. It is extremely popular or go viral because youngsters more choose especially during this Covid 19 lockdown. Audience who choose their web-series their own preference. Audiences are not wish to see watching a single episode and not waiting another day. A series of 10 to 15 Episodes finish a day. Online web series has changed how people spend time today. They are drawn from their everyday household, college campus and even from work to finish watching the episodes as if the characters are running away. Web series are not the one to be blamed the entire application can be held responsible. Most of them select web series for their convenience. We can watch our favorite web series

and upload any time. It can reach the large audience. We can create and large new materials that helps our audience coming back and watching more. Fans will keep coming back to support and it lead to forward a bigger projects. If a person decided to make a web series he is the boss and no network limitation. And here is no any agreement overall control is safe by their own hand (<https://buddy manthra.com>) There is no any control of red tape. Suit Sayers have no any chance to say future. It can be making better faster, taking few days and feed it out audience one episode at a time over any time period we could like. Most of the selected video websites like YouTube, Amazon prime video, Hotstar etc. Web series are really gaining popularity. Youth attracted more emotional web series. Younger generation have no time to sit in front of television. It also offers platform to new and talented people along with a new contents. House wife often depend web series to escape his troublesome life. Web series contain some time more values rather than no content. (<https://brainly.in>)

While comparing the web series and television they have number of episodes for telling a story or any kind of information. The main difference of web series compared to TV series were less production costs, no need for celebrities, and no need for large media companies but just needed camera and an idea for show (Elise Moreau, September 10, 2020). Youth is one such target audience on which the television has failed miserably to impress. Web series is a breakthrough in many ways. It strikes the right chord to open up a conversation which the youth would like to take part in and relate them with the character they might associate with. Web series has an excellent writing content and cinematic touch which make its stand out from the rest. With the passage of time the mode and method of accessing virtual data has gone through a sea change. With the shift from traditional television media which is restricted by technology and lack of content. (Aditya Dhanuka, Abhilasha Bohra 2019). OTT platform is the main streaming for web series. Over The Top is the term which need with high internet connection and smart phones instead of cable , DTH services etc. (Deloitte, 2017)The cutting edge advanced technology has-been a boon for people across the globe to have access to the information available on platforms like internet. For example a person in US can have fun and enjoyment watching Japanese programs and a person in Italy can learn Hindi through web series programs. This phenomenal change is buying product of globalization and is a big feat in the contemporary history of entertainment industry. (Mansi Prabhakaran 2021). User-Generated Content (UGC) from - based as a virtual village - a video site with professionally produced content (PGC), especially aftermarket bought by Google. YouTube has influenced the traditional media environment, but it's new at the same time. The medium follows the rules of the old media, which included the legally regulated distribution of broadcast material and blurred link between content and commercial. YouTube is an evolution of the current media environment, instead of a revolution. On the other hand, the dominance of the mainstream media is still somewhat compromised. (Jin Kim 2012). The format of the web series has become a new favorite, especially among young people. Reliance Jio's record a big boost for social and digital media and changed the landscape of video consumption in one hand India. Big OTT players like Netflix India and Amazon Prime have also started building real web series referring to the Indian audience. (RavalDipamkumarMaheshkumar 2020). Now in India there is large number of OTT platforms like Netflix, Amazone prime, hot star etc.. Good internet bandwidth, digitalization, multi screen penetration etc., are the main factors for the growth of viewership in web series in India. (Pramit Gupta 2021). Young people are seen as interested in social media, so the web series runs smoothly and gains popularity among them. Web series are on the rise because people can choose and watch a series based on their interests - and when they have enough comfortable free time, especially during these epidemics of COVID-19. (Moumita De Das & Swati Chandak On June 27, 2020). Trend of people watching multiple content channels at the same time with many media companies and demand for new and more exclusive content partners will launch their own OTT platform. Although goods and business models the platform remains the same as a traditional TV channel, i.e. paid advertising, viability. This has been questioned on many forums. However, many platforms claim that traction generated by free content often helps it get paid better membership base (Dr. Sabyasachi Dasgupta and Dr. Priya Grover). Digital content will go a long way elimination of various problematic points in the content existing in today's highly dispersed

systems. It brings the entire content ecosystem application providers and provider's distribution channels on a single platform and uses multiple channels of content Internet distribution, application, text and IVR for perfect distribution - rethinking new digital content for the country. (Atul Madan 2017). The video industry in India is also seeing a shift towards digital interiors. Head Director of Youth Citizens demand for HD and UHD video products is expected to increase with better network speeds in India fixed with the usual online standard definition video rotation. Like digital music players, there are digital video players take both subscription and marketing monetization evenings and offer the best offers of high quality hosting (Deloitte 2015).

Popularity of web series

Television has been a medium that has been entertaining us for decades. But with the development of the internet and the growing presence of social media, we've seen the web chain appear for a while, supplanting it and taking the digital space like a storm, in no time. (Siddh Parekh-2019). Now a day's web series are becoming a substitute for television because it's reach on youth. Evaluation of internet and growth of social media we have seen a thing called web series emerging. In our community medias were important for to get the information. The media has performed well for giving such valuable information. (Patel 2017) . Consequently the rapid changing in the world media structure in the last 5 years, the technology has the main source behind the peoples living diversity. (Patel 2015). Web series are most popular because of many things. The lack of good and relatable content on television has pushed the envelope for few budding filmmaker's to explore the episodic form called Web-Series and create content which is fresh, relatable and remarkable. About 70 percent of India's population is young, and most of them are connected to the Internet. The Internet has been a new generation trend. Teens are seen as users of social media and web rankings

Drive easily and gain popularity among India. (RavalDipamkumarMaheshkumar 2020). Netflix, Amazon Prime, ALT Balaj, MKS Player, TVF and other website and application owner's online video streaming platforms, along with faster internet services, are becoming very popular in Indian entertainment industry. Although many recent views on YouTube are popular moviesThe streaming platform is owned by the search engine giant Google. With increasing popularity, online content has become an open space for content makers, and its a great end in sight. (Rahul Ahuja 2020). The growth will be significant in the transition from traditional to digital media. Consumption of Indian consumers choosing to watch more TV has dropped from 47% to 10% last year. (Accenture 2015). The average mobile web user in India uses 6.2 hours of daily news, which includes 102 minutes of moving average and 79 minutes of online usage. Go out and enjoy the music and video. 21% of young people spend all their time on audio and video entertainment (Deloitte 2017). The social media platforms have 47% and 42% of overall videos watched online through Facebook and Twitter, and the 11% through OTT platforms like Hotstar, Amazon prime, Voot and Jio TV. The advertisements through digital media will reach at 24% in the year 2020. (Dentsu Aegis Network, the Indian digital advertising industry). The usage of web series is grown from the nationwide lock down situation. Due to this lockdown period the content watching through smart phone was increased by 46%. The popularity of OTT and other platforms also increased during this pandemic situation (Financial Express April 06, 2020)

H1: there is a substantial positive effect between popularity and preferences to web series.

Preference to Webseries

Web series are pushing our boundaries of imagination and leaving the burden of virtue behind. This year Mini Indian web series came and they were like by huge number of people. Some web series released regional content. We choose the web series mainly by getting benefits as different service providers are providing than quality content. We can share this blog to our family and friends. Web series are the best things to refresh our mind from depression. Web series directly influence our thinking and our work. By being viewed online and across the end their word, a web series has the potential to become extremely

popular or go viral and cancel it to pick up contracted for distribution by major TV companies (<https://blogs.province.blogspot.com>) The youngsters depends web-series mainly on they have a definite number of episodes and story line and can be watched at their own convenience. It also created a dynamic change between traditional audience and mobile screen. Web series is influenced by the regional language also. It helps to mass audience. Audience who choose their web series their own preference especially action crime, drama, comedy, romance etc. (www.academia.edu). Others choose sacred stories such as stories of Tagore ghost stories etc. Most of you select love web series because of their age impression. Watches from all over the world who took their interest rooted in webseries. New movies especially the original that are least mostly the websites the web series include full series only. People are no longer watching a single episode, waiting for advertisement to end, and then getting back for the second episode the next today. A series of 10 to 15 episodes finish in a day of two some cases they were engaged in a deep discussion on that shows. (www.quora.com) Another main reason for choosing the web series is the availability of cheap internet. .OTT Platforms are streaming media platforms which reach the viewers through data usage via the Internet. OTT boycotts all conventional platforms like cable, broadcast and satellite platforms (www.investopedia.com) presently; there are around 40 OTT platforms in India. OTT market in India worth Rs 21.5 billion in the financial year 2018 and its value is growing day by day. OTT platforms offer personalised viewing at one's convenience through mobile phones and other digital devices. Since the Internet service providers are offering data at high speed and low cost, it has attracted nearly 40 crore smart phone users which led to speedy growth in the Entertainment sector especially of OTT platforms (Singh, P. 2019). OTT platforms has high reach and popularity among the people of India, as mentioned on a report by KPMG EROS which state that everyday Indians spend 70 minutes on video streaming (<https://indianfolk.com>). Television shows are time bounding if you missed it. Missed it but in web series we can watch it at any timetime and we can download and take it offline. Webseries have limited episodes (sometimes in seasons), many of the tv serials drag endlessly for years with no hiatus in between to allow the creative team to improve the story. Quality of the serials turns crap after a while (IJCRT 2009148 volume 8 issue 9 September 2020 ISSN 23202882) In a study of different universities In Pakistan (Oluwo&Seri 2012), Indicated that students in Pakistan are spending too much time on web series networking sites at the determining of other necessary things such as their studies.

H2: There is an extensive positive relationship between Preferences and shift over to web series

Preference and popularity to shift over to web series

The purpose of this research is to understand and analyze the reasons why youth are moving from traditional television series to web series. It will also explore India's real position on accepting web series as an alternative to television series. The era is going on Smartphone oriented. So the going rate of OTT plat forms is increasing day by day. (Laghate 2018) . On line forms of OTT, Social media etc. of these structures have entered to take over the market. As a service, its content and history publishing videos online is quite different from traditional television, it's a challenge to explore how far historical media can purchase research on changing audiences and their perceptions structure. (Livingston, 2003,2004,2005).The popularity of web series through social Medias is affected to the viewing habits of youth. Most of the web series advertisements like Amazone prime, Hot star etc.reach the youth through this kind of social media. All the reviews related to this platform were discussed and shows the reach of this platform to the youth also affected to the viewing habits of web series. The other way to choose the web series was the preference of the youth. Now everyone has good branded mobiles with good connectivity, so all are engaged with this digital world. Due their free time they are spending their busy time with web series. In traditional television series major problem is to the fixed programme time. While in web series there is no kind of any fixed time for programmes. Moreover we have to reach the programmes anywhere in the world. We required a good connectivity and a good gadget. Suppose if a person misses any episodes in traditional tv series he/she shall be lost the continuity in that series, while in web series there is no kind of lost in continuity. The recent rise in the popularity of web series around

the world is providing impressive content to viewers to explore online and digital platforms. There are web series for every taste and different population. The target audience can be global or local. If the web series produces quality and interesting content develop a level of intrigue, encourage the audience to act, and invite open dialogue. When viral Content reaches a wide audience and attracts, entertainment tries to go deep. According to Kureshi (2010) Research into placing products in traditional media such as television and film is declining as new media such as computers, videos, digital, online games and simulations appear to be placing products. Previous examples of product placement have previously been more focused on film and television media and now on global web platforms. The rise of Smartphone use in India has ushered in a new era of video use on personal media devices. The penetration of smart phones in India is expected to increase 520 million by 2020 and the increase of broad band penetration 14% currently and will expect in 40% in the year 2020(Ernst & Young, 2016). Netflix is a top-notch platform for web series, like most people who chose Netflix. The content and the topic they choose captivate their audience every time, they know what young people want or expect them. Amazon Prime Video is, by the way, the second most liked and preferred web series platform. It has captured the market, it's very interesting, and it has a very different line of products or web series provided by him to his audience. (A Study on Impact & Popularity of Web Series on Youth, RavalDipamkumarMaheshkumar, 9th Sep 2020). According to the cultivation theory composed by G.Gerbner and later altered by Gerber and Gross in 1976 the effect of people trying to destroy a variety of information as a non-bowing champion and created great images and images in their minds that were presented to them. Another theory of social tells that the social media acts as a tutor they are giving various traits to the consumers (Albert Bandura 1925)

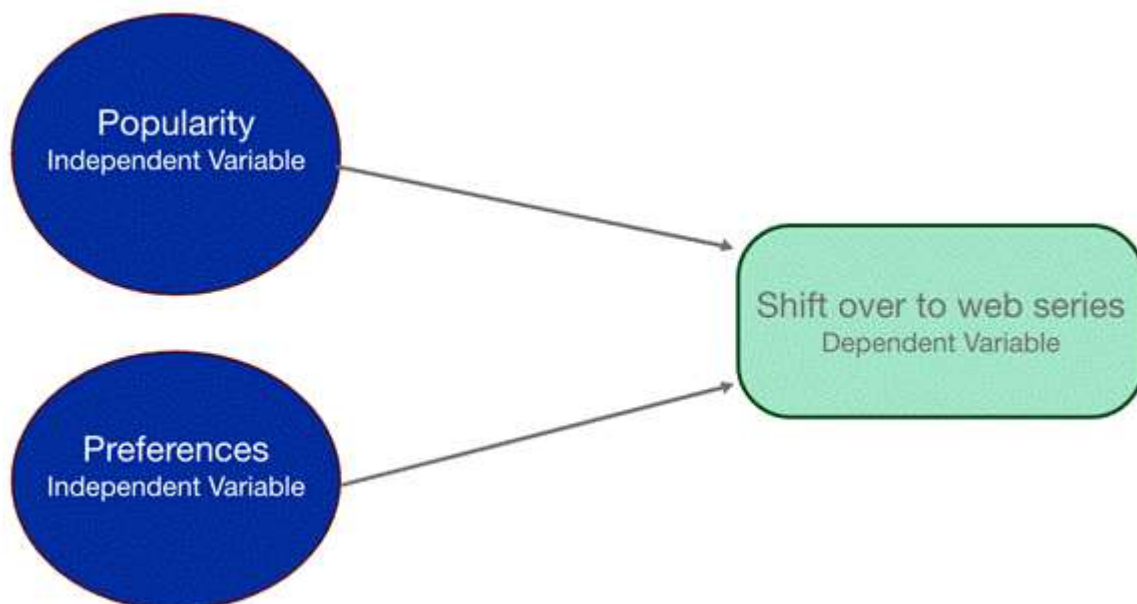
H3: there is a significant positive effect between shift over and Popularity to web series

Objective of the study

This research aims to assess the impact of Popularity and Preferences will affect the shift over from watching TV series to web series and to know the relationship between the popularity and preference will affect the viewing habits of different kinds of viewers of districts in Kerala during this pandemic COVID 19

Conceptual model

Figure 1: Conceptual model



Pilot study

A pilot study of the questionnaire was carried out with the different kinds of viewers small in Kerala before doing the core study. One hundred samples were chosen for the study, with 25nos from each districts in Kerala. The validity along with reliability of the measured scales were verified to ensure correction of any obscurities in the measurements. Based on the feedback suggested by the respondents, minor corrections were made to the questionnaire.

Population and Sample

The population of the present research comprises different kinds of viewers of our rural districts in Kerala. Stratified Random Sampling technique (Kothari C.R.(2004) was employed for this research. A total of 1000 questionnaires were circulated through google forms to the four districts in Kerala (250 in each), along with letter emphasizing the privacy and anonymity of the responses. A total of 644 questionnaires were collected back, representing a response percentage of 64.4%, which is treated as a reasonable response rate because of the nature of the research. Out of the 644 questionnaires received, 98 questionnaires were rejected because of missing data. 546 questionnaires were considered for the core study (54.6%).

The sample included 393 (72%) male and 153 (28%), female. Majority of the respondents are Under Graduates 202 (37%). 137 (25%) are Graduates, 82 (15%) Post graduates and 125 (23%) below higher secondary. The majority of the respondents were below 45 years 317(58%), and balance 229 (42%) belongs to above 45 years.

Measuring instruments**Popularity**

Popularity was measured adopting self-reported data, the reliability measured by using Alfa score of 0.82. and normality tested by using skewness and kurtosis it is in between -1.96 and $+1.96$. Here 5-point Likert scale was used; 1- not true and 5- definitely true.

Preferences

Preferences were measured adopting self-reported data, the reliability measured by using Alfa score of 0.76. and normality tested by using skewness and kurtosis it is in between -1.96 and $+1.96$. Here 5-point Likert scale was used; 1- not true and 5- definitely true.

Shift over to Web series

Shift over to Web Series was measured adopting self-reported data, the reliability measured by using Alfa score of 0.78. and normality tested by using skewness and kurtosis it is in between -1.96 and $+1.96$. Here 5-point Likert scale was used; 1- not true and 5- definitely true.

Normality

De Carlo (1997) stated that kurtosis and sketches are "the most important indicators to the extent the regularity in the analysis of instability is affected." Frequent data testing is a requirement for statistical tests since general statistics are a basic assumption in parametric tests. Skewness is explained as a measure of symmetry or the lack of symmetry of the normal distribution. Kurtosis is a measure of peak distribution. If the distribution center, or set of data, is synchronized, it seems to be similar to the left and right of the middle point. If the mean, median, and mode coincide, it is called a symmetric distribution: skewness = 0, kurtosis (excess) = 0. A distribution is called approximate normal if skewness or kurtosis (excess) of the data is between -1.96 and $+1.96$.

Descriptive Statistics

	Skewness	Kurtosis
	Statistic	Statistic
Popularity	.234	.789
Preferences	.552	.667
Shift over to Web series	.642	.668

Reliability

Cronbach Alpha was done to analyse the reliability of data, and that is seem to be similar to the literature. The scales used for measuring the three constructs, Popularity, Preferences, Shift over to Web series, were taken from the research. Cronbach’s alpha coefficient of the studied variables was more significant than 0.7, hence it can be concluded that the data is reliable.

Study variable	Cronbach’s Alpha
Popularity	.721
Preferences	.845
Shift over to Web Series	.722

Tools and software

The data were analyzed employing the statistical techniques with SPSS21; Correlation as well as Regression analysis were done to check the association within the variables.

Data Analysis

Samples for the present research were 546 numbers which covered 4 district in Kerala, around 25% each namely Palakkad (n1= 132, 24.17%), Thrissur (n2 = 139, 25.47%), Kozhikode (n3= 142, 26.01%) andKannur (n4= 133, 24.36%). To detect the relationship of the variables measured and to validate the significance of these variables were sufficient enough to describe the Watching Habits of different kinds of viewers in each district the statistical techniques Correlation with Regression were adopted.

Correlation

The statistical device correlation was adopted for finding the relationship between the variables and hypothesis.

H1: there is a positive relationship between Popularity and Preferences.

H2: there is a positive relationship between Popularity and Shift over to Web series.

H3: there is a positive relationship between Preferences and Shift over to Web Series.

Variable	Pearson Co efficient	Significance
Popularity	0.714	0.00
Preferences	0.623	0.00
Shift over to Web Series	0.698	0.00

Multiple Regression Model

By examining positive and robust association between Popularity, Preferences and Shift over to Web Series, a multiple regression was done to analyze the impact of Popularity with Preferences predicted on Shift over to Web series

H4: there is a substantial association between Popularity and Shift over to Web series

H5: there is a substantial association between Preferences and Shift over to Web series

Model Summary^b					
Model I	R	R Square	Adjusted R Square	Std. error	Estimated
1	.789 ^a	.623	.519	.319	
a. Predictors: (Constant), Popularity, Preferences					

Interpretation

The testing of the hypothesis on the correlation among the variables shows a very significant positive correlation between them. R is the correlation, its value is 0.789, and R square is the degree of determination, its value is 0.623. The degree of determination shows the extent to which Popularity and Preferences influence Shift over to Web series. Here the viewers watching habits is determined to the extent of 62.3% by Popularity and Preferences

ANOVA table:

ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.212	3	12.546	11.128	.000 ^b
	Residual	234.316	365	.729		
	Total	301.388	378			
a. Dependent Variable: Shift over to Web series						
b. Predictors: (Constant), Popularity, Preferences						

ANOVA analysis table exhibits that significant value to be lower than 0.01, that shows the dependent study variable, namely Shift over to Web series, is substantially predicted by the independent study variables, Popularity and Preferences, has a confidence level of at 99%.

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.507	.455		9.966	.000
	Popularity	0.706	.038	.343	7.417	.000
	Preferences	0.642	.038	.544	6.277	.000
a. Dependent Variable: Shift over to Web Series						

Work Adjustment = 1.507 + 0.706 (Popularity) + 0.642 (Preferences)

Among these above given two factors, Popularity has a substantial and maximum impact over shift over to Web series. Preferences significantly contribute to Shift over to Web series. The hypothesis [H4] is accepted and it displays a positive association between the variables Preferences and the shift over to the Web series. Hypothesis [H5] is accepted and it displays a positive association between Popularity and the Shift over to the Web series.

Suggestion for Future Research

While conducting the future research the researcher can collect data from other states in India which will

give more insights on Popularity and Preferences and its impact on Shift over to web series. Since the data was collected from the viewers in different districts in Kerala, the study finds difficulty in generalizing the viewers of other states in India.

Implications of the study

The technological advancements in the recent times will lead to the changes of attitudes to the viewers for watching the series and moreover the popularity and preferences also affected the shift over from TV series to Web series. The findings of our study have its implications on the changing pattern of viewing habits.

Most of the respondents agree that the web series were changing the television watching habits in Kerala. The study reveals that in future there is a great increasing in the viewing habits of web series. The main reason for this is the penetration of smart phones and cheap internet facility. The result of analysis by means of Pearson correlation has an overall coefficient of (0.789) and the popularity have highest beta of (0.706) towards shift over to Web series and Preference have a beta coefficient of (0.642).

The research is carried on COVID 19 period and hence mostly the viewers are isolated from friends and relatives. So it creates boring and stressful life. For avoiding that the viewers has an option to watch the web series. The usage of social media also increased and the advertisements through social media will influence the viewers to watch web series.

Discussions with Conclusion

Now the era for digitalisation. So technology has taken an important role in the field of entertainment. The viewers were entertained through the popularity and the choice of preference while selecting the medium. In olden days viewers were entertained with the help of television. Now everything within our hand like internet, mobile phones etc. So the viewers were switched to the Web series. The Web series have different tastes for different kind of viewers. In this research it shows that more than the viewers were watching web series in below 45 years. Most of the people were happy to watch the web series because they were getting the series according to their tastes. Now this pandemic period of COVID 19 most of the viewers were sitting the home and there is a huge time to spend on watching web series. Most of the viewers' opinion that watching web series will reduce the stress and avoid boring. In addition to this, the survey brings to notice that the social media publicity will affected the influence of viewership of web series.

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AN ANALYSIS OF CUSTOMER PERCEPTION AND GOVERNMENT POLICY TO ENSURE FOOD SECURITY THROUGH PUBLIC DISTRIBUTION SYSTEM

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Abstract

Purpose—This study is descriptive and analytical in nature focusing to make apparent the relationship of Government policies, consumer perception and consumer satisfaction on Public distribution system in Kerala. **Design/methodology/approach** – Descriptive and Analytical approach is followed in this study . It is based on variables namely Government policy, consumer perception and consumer satisfaction which are derived from theory related to PDS. The data for the study was collected through structured questionnaire. Sample for the present study was collected from the PDS beneficiaries in Kerala. A total number of 600 questionnaires were returned by the respondent , this representing response rate of 75%. The questionnaire uses five point Likert scale response format for all the measures ranging from highly satisfied to highly dissatisfied , from highly effective to highly ineffective and from highly agreed to highly disagreed .SPSS and Microsoft excel are the statistical packages and correlation and regression are the tools used in this study. **Findings:** Here, this study establishes a positive correlation between variables namely Government Policy (0.664), Consumer perception (0.612) and Satisfaction of PDS beneficiaries that is consumers (0.751) with reference to households of 4 districts in Kerala (Palakkad, Ernakulam, Thrissur and Malappuram). The study indicates that households provide great preference to the PDS and and they are satisfied with the working of PDS upto a particular extent. It was found that all sections of people have used PDS articles and the lower price was the motivating factor. Majority of the respondents are satisfied with quality and quantity of goods supplied by PDS. The study also highlights the policies taken during COVID 19 pandemic. On testing the hypothesis, ANOVA table exhibit that the dependent variable is substantially predicted by independent variables at a 99% level of significance. **Originality/value** – This study provides insightful findings in understanding the role of Public Distribution System(PDS) in ensuring food security within Kerala by considering the four districts namely Palakkad, Thrissur, Ernakulam and Malappuram. This study also shows the importance of Government policies and consumer perception in satisfying the PDS beneficiaries' needs.

Keywords: Consumer perception, Effectiveness of Govt policy, Public distribution system, Customer satisfaction.

Introduction

Food security as the physical and economical accessibility of basic food among all people (FAO)

India is an agrarian and a developing economy. Most of the people have been depending on agricultural sector. Agriculture plays an important role in supplying adequate food to the masses. Indian population is health conscious and for this reason , the consumer perception is to get the quality food in sufficient quantity. This could be one of the reason why recently most of the population has turned towards organic farming which is another sustainable source of income and quality food. In spite of the fact that India is a developing , UN still consider it under the middle income countries and the per capita income if considered

would reveal that the majority is destitute and in need of food security. Public Distribution System is an important step adopted by the Government of India to ensure food security among the poor by providing food grains and essential commodities (wheat, rice, sugar kerosene etc) at affordable price through Fair Price Shops. (Datt and Sundharam -Indian Economy). Public Distribution System is operated by the joint responsibility of state government and central government. Several studies found that the poor people are not satisfied due to irregular and inadequate supply of commodities. A study shows that the beneficiaries indicated irregular supply, insufficient quantity, bad quality and dishonesty to be the major problems in the PDS operation (Nidhi Arora, P.D Singh Prof. V A Bourai – 2018) and (Dr.Ruth Kattumuri, 2011). Nevertheless, it has the power to act as a remedy to the food security in India. To remove the loopholes in Public Distribution System, Government of India launched Targeted Public Distribution System (TPDS) with a focus on the poor by supplying 10 kg food grains at highly subsidised price. The allocation was increased from 10 kg to 20 kg with an aim to aid the poor families. Further it was implemented as a universal system in Tamil Nadu to eradicate poverty and improve the standard of living of the people living below the poverty line as reported by a study. (Bhagyasree P G 2017) This same study provides details regarding PDS, its working, network accessibility, utilization and satisfaction of cardholders. National Sample Survey points out that 5% of the total population in the country sleeps without two square meals a day. So under TPDS, various schemes were introduced, card holders divided into APL and BPL, Antyodaya Anna Yojana was started in 2000 for one crore poorest of the poor families covered under TPDS within the state with supply foodgrains at Rs 2/ per kg for wheat and Rs 3/ per kg for rice. To increase the support towards poor families, the allocation was increased from 10 kg to 20 kg. (Datt and Sundharam). ICDS and Mid day meal programme was introduced in 1976 and 1995 respectively to improve nutritional status of children in primary classes. According to the 2019 Global Hunger Index, India's rank was 94 out of 107 countries. According to the National Family Health Survey, more than half of the country's children are reported to be anaemic. (Hindustan times. October 06th 2020) The number of consumers depending on PDS are reported to be satisfied in the quality, level of nutrition, availability etc after the implementation of NFSA(National Food Security Act) in 2013. (P H Neethu, Abey George Fiona H Mckay – 2019) The state GOVT (Kerala, Tamil Nadu etc) also implemented technology based policies like e.pose system, smart cards etc as it is more reliable than traditional methods. In spite of these policies taken by the govt, still the beneficiaries are not fully satisfied due to improper quantity, quality, and smuggling.(P H Neethu, Abey George Fiona H Mckay – 2019). A study on the perception of beneficiaries of Colachel municipality found that 37.5% of the beneficiaries were not satisfied with the supply of commodities. Some of the respondents strongly agree to the problem of improper working hours. According to this study 65.6% of respondents agreed with the overall performance of PDS and 34.3% do not agree with the same. (Bhagyasree P G –2017). The perception of beneficiaries in Arunachalpradesh towards working hours, timely supply, adequate supply, proper weight etc do not complete satisfaction according to another study. (Dr. Tame Ramya, Tame Ranjuk – June 24 2018). The same study found certain irregularities in management such as leakages and existence of large number of bogus ration cards. Only negligible percentage of the respondents expressed their dissatisfaction towards reasonability of price under PDS. Another study found that the quality of the products distributed through PDS was poor and there is no proper grading and standardisation of commodities. (Ms; Ramandeep Kour – research scholar – 2014)

Kerala government took further step to provide free food kits to support APL and BPL card holders during the pandemic situation. Each kit worth amount Rs 1000 / in the initial month was provided. It covered four categories of cardholders (yellow card, pink card, blue card and white card). A sample online survey conducted between April 28th and May 6th in Kochi based centre for socio-economic and environmental studies, revealed that, 91% blue card holders, 98% priority category card holders and 85% of the white card holders made purchases used their ration card to make purchases during lock down. There are studies that report the consumer satisfaction regarding the quality of the products in these free kits and that the same reason persuaded many to buy the same in this ration card scheme without any

hesitation. The entire scheme would cover 87 lakh ration card holders and 3.66 crores beneficiaries (Press report of India April -2020).

Government Policies to ensure food Security through PDS.

Public Distribution System (PDS) in India is an important food security policy through which basic food and non-food commodities are distributed to the needy people at affordable price. The system is often criticized for not achieving the objectives and corruption and black marketing were associated with PDS. The National Food Security Act, 2013 was passed by the parliament of India which aims to provide subsidised food grain to approximately 2/3rd of India's 1.2 billion people. The Act came into force in Kerala on March 2018 [Economic Review 2017]. Major products of PDS include rice, wheat, kerosene, sugar etc. PDS is one of the most important policy of Government of India (GOI). Central and State Government share the responsibility of smooth running of PDS and it includes fair price shops or ration shops through which food grains are available at affordable prices. Central Government procures food grains from farmers at a Minimum Support Price (MSP), through Food Corporation of India (FCI) and ration cards and items are distributed to the needy people. [Deepa Ravi and Ambili S Nair, June 2019]. Priority households are entitled to 5kg food grains per month and Antyodaya households entitled 35kg per household per month. Ration cards are issued to the eldest woman of the household of age 18 years or above. For transparency, electronic point of sale devices is used by the government. Civil supplies department is entrusted with the implementation of schemes connected with distribution of rice, wheat, sugar and kerosene. Central Government allot stock to PDS and on the basis of ration cards, families are divided into Above Poverty Line (APL) & Below Poverty Line (BPL). Cards are in different colours.

1. Pink Cards – Priority or BPL – 4kg rice and 1kg wheat per head per month @ Rs.2/- per kg and 500ml kerosene @ Rs.33/- per litre.
2. Yellow Cards – most economically backward section – 35kg food grains per month free of cost, 1kg sugar @ Rs.21/- and 500ml kerosene @ Rs.33/- per litre.
3. Blue Cards – Non priority subsidy or APL – 2kg rice per head per month @ Rs.4/- per kg, 3kg wheat flour per month @ Rs.17/- per kg.
4. White Cards – Non priority – 4kg rice per card @ Rs.11/- per kg, 3kg wheat flour per card @ Rs.17/- per kg.
5. Annapurna Scheme – Citizen above the age 65 who does not have any source of income – 10kg food grains per month free of cost.

The total number of consumers depending totally on the PDS for their food need increased and they are satisfied in the quality of food grains after the implementation of NFSA. They are also satisfied with the quantity. In order to serve the BPL people and to overcome the failure of universal PDS, Targeted PDS was introduced. It is implemented through 3 tier system – APL, BPL and Antyodaya [T. Jayan, 2015]. To a large extent, PDS attained its objectives through eradication of poverty among poorest people and in providing food and non-food items at below market price [Dr.Deepa K Thomas and Dr.V Basil Hans, November 2019]. Public distribution of food in Kerala is undertaken at 2 levels: subsidised food grains to households through ration cards; food to primary school children. The PDS system had an impact on consumption level of low income people. Subsidised PDS is more useful in raising the consumption level of low income people. [P. S George, March 1979]. 92% of card holders purchased from ration shops, Keralites relied heavily upon PDS during lockdown days. (The Hindu May 23, 2020). Government has introduced free ration, essential food kits and economic stimulus plans to aid the people to survive the current emergency. Government announced free ration for all for one month, meaning that the government will provide 35kg rice for BPL families and 15kg of rice for others through PDS and Supply Co. Government distributed food kits consisting of 17 items starting on April 08, 2020 irrespective of income status distributed through ration shops under PDS. It includes Sugar-1kg, Tea—250gms, Beans-1kg, Coconut Oil-500ml, Sunflower Oil-1l, Atta-1kg, Cornflour-1kg, Chilly powder-100gms, Coriander powder-100gms, Dal-250gms, Turmeric powder-100gms, Fenugreek seed-100gms, Mustard-100gms,

Urad Dal-1kg, Chickpeas-1kg, Soaps-2. Setting up of community kitchen is another policy in which cooked food is distributed for the needy people. Anganwadies are entrusted with the duty of providing nutritious meals for children under the age of 6 whose name is registered under Integrated Child Development Services (ICDS). Food kit by the Government of Kerala is a great helping hand to meet their basic food needs (Pramitha Elizabeth Pothan et. al). In a meeting, Kerala Chief Minister Sri.Pinarayi Vijayan along with representatives of other departments, it was decided that an action plan to maximise the food production including poultry, fish farming, milk production to become self sufficient and to meet the needs and satisfy the customers. (Gireesh Babu, April 22, 2020). The rate of Satisfaction Index of BPL is little more than APL, indicates BPL cardholders are relatively more satisfied. Overall satisfaction index shows that the delivery system has to be improved. Customers to a large extent have no complaints, but the quality of the functioning of the ration shops have to be improved and care should be given while including in priority cards. Quality cannot be 100% satisfactory and quantity is 100-200 gms lesser from the marked weight (Jaya S. Anand).

H1: there is a positive relationship between government policies and consumer perception

Consumer perception on public distribution system.

Public Distribution System (PDS) is viewed as the most important food security network in India in terms of its coverage and public expenditure. The government spends around `750 billion per year on food grains. the PDS has become a popular food security system in the country which is managed jointly by the central government and district governments. It has been distributing subsidized food and non-food to the targeted beneficiaries including the poor. Major commodities distributed include staple food grains such as wheat, rice, sugar and kerosene through a network of public distribution shops, Public Distribution System (PDS) has been an important food security measure meant for vulnerable sections of the society, especially in underdeveloped district. The consumers of the two districts were satisfied with the performance of PDS although significant differences exist in their perception in respect of some issues. The study also highlights the need to eliminate the bogus ration cards to avoid the wastage of resources and to strengthen the existing system.. The overall analysis indicates that the vast majority of the respondents in the select districts were satisfied with the functioning of PDS in their respective district. They were particularly satisfied with the reasonable prices of the goods distributed through the PDS, and the role being played by PDS in their well-being. Almost all the respondents in both the districts still prefer PDS over cash transfer which would imply the need to support and strengthen the existing policy of supplying the commodities at subsidized prices through PDS. A few studies have been reviewed in brief relating to the functioning, performance and impact of PDS in the country. Study on district response to food security in Anantapur district of Andhra Pradesh observed that the main weakness found out in the PDS has been its inability to reach the poor effectively (Ananda 2008). Cardholders face problems of irregular and inadequate supplies and lack of information about when the ration would be available. The villagers were poorly informed, and certainly not in advance. No respondent was happy with quantity of rice supplied. There is an analysis between the performance and inefficiencies of Targeted Public Distribution System in the states of Assam, Mizoram, Rajasthan, Chhattisgarh, Bihar, and UP during 2006-2007(Kumar 2010). Majority of the households in the six districts opined that the shop owners were indulging in delivering food items to the open market or they were involved in black marketing of PDS food items. Around 35% to 40% households were not happy with PDS quality of rice. But among the two states of Assam and Mizoram, majority did not prefer local variety over the PDS variety. PDS is working quite successfully in Tamil Nadu (Alamu 2011). Tamil Nadu has a universal PDS where all households are entitled to food rations, including up to 20 kg of rice per month. People are aware of their entitlements. At least one person in every household is aware of the details of PDS ration shops and prices. The dissemination of information is impressive. Awareness amongst the masses reduces corruption. Moreover, it is not just awareness amongst people but also politics that makes the PDS perform. Between 2004-05 and 2007-08, the proportion of households getting any grains from the PDS has progressively risen, from

about a quarter of rural households (27%) to just over one third (35%) (Khera 2011). In different states the proportion of households that the government is willing to subsidize i.e. BPL households has increased by more than 10% points i.e. 6% to 18% in UP, 22% to 36% in Orissa, 25% to 47% in Chhattisgarh, and 40% to 59% in Kerala. In addition, in states such as Andhra Pradesh, Himachal Pradesh, and Tamil Nadu access was high to start with 81%, 69%, and 88% respectively. There is a significant increase in the contribution of in-kind food transfers to both poverty reduction and nutrition (Himanshu & Sen 2013). The authors also highlight that a 12 district NCAER study reports high satisfaction level except in Bihar (Kumar 2010). Various reports have similar results from a nine-state study, noting further that 80% of respondents considered PDS “very important” in their lives and 98% at least “quite important” and that a large majority prefer in-kind food to cash transfers, again except in Bihar (Khera 2011). The impact of PDS in poverty reduction in the district of Papum Pare district where PDS was successfully implemented (Dreze & Khera 2013). In Papum Pare district (2009-10), 73% households purchased PDS and the poverty gap index was reduced by 39%. In Bihar, only 18% of the BPL households did not get their full PDS entitlement while 97% BPL households in Papum Pare district got their full entitlement under PDS. The authors concluded that India’s PDS has a significant impact on rural poverty. The impact is particularly large in districts with a well-functioning PDS. The study attempts initially to bring out the overall consumer perception of cardholders and later, brings out the overall satisfaction of the customers on the prevailing PDS system. The customer perception is looking on quality of products, timely distribution, availability of products, proper measurement etc..

H2: there is positive effect between consumer perception and consumer satisfaction on PDS

Consumer Satisfaction

Customer satisfaction is related to consumer perception and effectiveness of Govt policy in PDS. Many studies are entered in this area. Many people’s are do not awareness in the Govt. policy. But the main motto of establishing fair price shops have not been fulfilled, as essential commodities are liberally diverted in open market than distributing to the beneficiaries. The Targeted PDS was begun in 1996. In March 2000, the prices of grain for Above Poverty Line (APL) cardholders were hiked and the gap between prices for below-poverty-line (BPL) and APL households widened. In many States, APL prices of grain were close to market prices and, as a result, households with APL cards stopped buying grain from the PDS. The Antyodaya programme introduced a new category, the “poorest of the poor” for which rice and wheat are available at even lower prices than for BPL households. In the present situation, a person who belongs to a household that has neither a BPL nor an Antyodaya card is effectively excluded from the PDS. The recent report of the National Sample Survey gives us an insight into the magnitude and nature of this exclusion from the PDS. At the all-India level, 70.5 per cent of rural households either possessed no card or held an APL card. Since households with APL cards are effectively excluded from the PDS, the majority of rural households in India are excluded from the PDS. The customer satisfaction on the food delivery mechanism of universal PDS in Tamil Nadu (Mahendren 2013). The study shows that more than three-fifths of poor families are satisfied with the effective delivery mechanism of universal PDS. Only a few people were satisfied with the current PDS in Mysore District and most of the people were not purchasing anything from the PDS due to the poor quality of commodities supplied by PDS (Ashok and Naveena 2014). Also to get their limited quota people have to wait in long queues. More than half of the beneficiaries were not satisfied with the quality of the food grains supplied through PDS (Chandanshiv and Narwade 2013). But still, they purchase food grains at the Fair Price shop as they don’t have enough money to purchase it from the open market. In Chhattisgarh revealed that the majority of the households were satisfied with the functioning of their ration shops and were getting their food grains regularly at current prices (Puri 2012). In their study noted that The PDS customers would be satisfied only if they could obtain goods from the PDS regularly or if it should be inaccurate quantity, if the shops have adequate staff members, if these shops are located at an easily accessible place, if the commodities were distributed in time, if the distributed goods were fitted for their consumption and so

on(Lavanya and Velumurugan 2017). Barada and Mahalik 2016 in their study applied Kano model by chosen ten factors for the identification of customer satisfaction. The study perceived that when the early PDS system is compared to the current system, the current PDS has improved a lot in the fields of minimally delivery days, better customer grievance system, e-ration card and SMS system that enhanced customer satisfaction. But the same study identified some of the dissatisfactory elements too. BPL card holders are not at all satisfied with the quality of food grains which are distributed through ration shops (Sheetal and et.al 2017). The main reasons for the non-consuming PDS for its fuller levels (Iyer and et al. 2011). It depended upon the non-availability of goods in ration shops, lack of qualitative food grains, under-weighting of the commodities, non-availability of the ration cards, etc. These negative factors had badly affected the efficiency of the PDS system and satisfaction level of customers. A technology-based reform of the targeted public distribution system has also been implemented by states. Even though measures taken, still the beneficiaries are not fully satisfied due to the difficulties encountered to obtained the family cards, improper quantity and quality allocation of PDS goods, frequent smuggling of large quantities of PDS commodities, irregular shop functioning, inability of the poorest to access PDS commodities, lack of community monitoring and rampant corruption at various levels by the implementing agencies. Thus, an attempt has been made to ascertain the level of satisfaction of card holders and factors influencing their satisfaction.

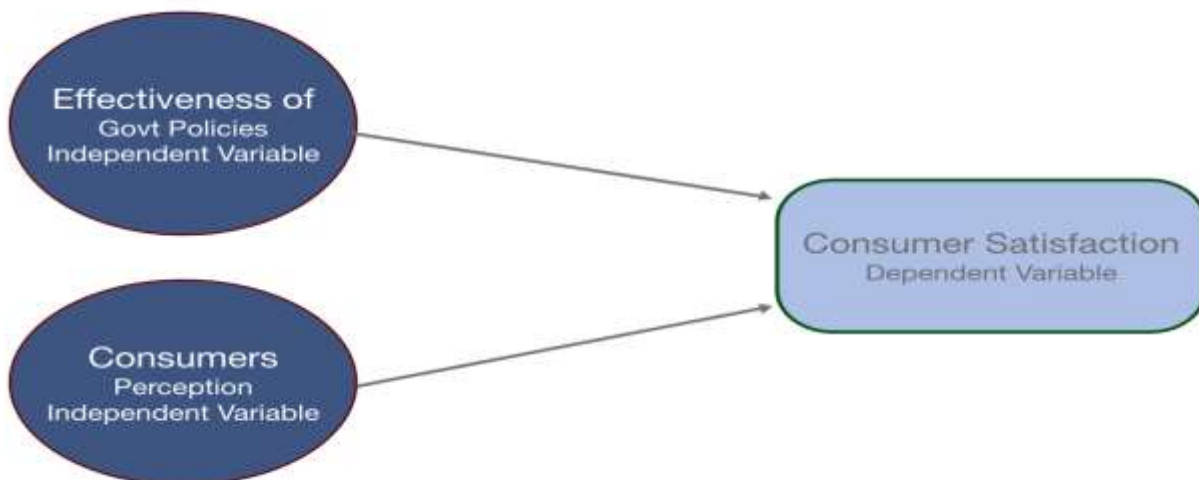
H3: there is a positive relationship between government policies and consumer satisfaction.

Objective of the study

This research aims to assess the level of satisfaction through the relationship between government policy and consumer perception towards PDS to ensure food security and to know the relationship between Effectiveness of Govt Policies, Consumers Perception , and Consumer Satisfaction, thereby studying whether Effectiveness of Govt Policies with Consumers Perception impacts the Consumer Satisfaction of households of Palakkad, Thrissur, Ernakulam and Malappuram districts in Kerala .

Conceptual model

Figure 1: Conceptual model



Pilot study

A pilot study of the questionnaire was carried out to ensure food security through public distribution system in Kerala before doing the core study. One hundred samples were chosen for the study, with 25 nos from each rural districts in Kerala. The validity along with reliability of the measured scales were verified to ensure correction of any obscurities in the measurements. Based on the feedback suggested by

the respondents, minor corrections were made to the questionnaire.

Population and Sample

The population of the present research comprises of ensure food security through public distribution system of four districts in Kerala. Stratified Random Sampling technique (Kothari C.R. (2004) was employed for this research. A total of 800 questionnaires were circulated through google forms to the four district in Kerala (200 in each), along with letter emphasizing the privacy and anonymity of the responses. A total of 693 questionnaires were collected back, representing a response percentage of 86%, which is treated as a reasonable response rate because of the nature of the research. Out of the 693 questionnaires received, 93 questionnaires were rejected because of missing data. 600 questionnaires were considered for the core study (75%).

The sample included 432 (72%) male and 168 (28%), female employees. Majority of the respondents that is 222 (37%) are Under Graduates and 150 (25%) are Graduates, 90 (15%) are Post Graduates and 138 (23%) below higher secondary. The majority of the respondents were below 45 years 348 (58%), and balance 252 (42%) belongs to above 45 years.

Measuring instruments

Effectiveness of Govt Policies

Effectiveness of Govt Policies was measured adopting self-reported data, the reliability measured by using Alfa score of 0.82. and normality tested by using skewness and kurtosis it is in between – 1.96 and + 1.96. Here 5-point Likert scale was used; 1- highly ineffective and 5- highly effective .

Consumers Perception

Consumers Perception was measured adopting self-reported data, the reliability measured by using Alfa score of 0.76. and normality tested by using skewness and kurtosis it is in between – 1.96 and + 1.96. Here 5-point Likert scale was used; 1- highly disagreed and 5- highly agreed .

Consumer Satisfaction

Effectiveness of Govt Policies was measured adopting self-reported data, the reliability measured by using Alfa score of 0.78. and normality tested by using skewness and kurtosis it is in between – 1.96 and + 1.96. Here 5-point Likert scale was used; 1-highly dissatisfied and 5- highly satisfied .

Normality

De Carlo (1997) stated that kurtosis and sketches are "the most important indicators to the extent the regularity in the analysis of instability is affected." Frequent data testing is a requirement for statistical tests since general statistics are a basic assumption in parametric tests. Skewness is explained as a measure of symmetry or the lack of symmetry of the normal distribution. Kurtosis is a measure of peak distribution. If the distribution center, or set of data, is synchronized, it seems to be similar to the left and right of the middle point. If the mean, median, and mode coincide, it is called a symmetric distribution: skewness = 0, kurtosis (excess) = 0. A distribution is called approximate normal if skewness or kurtosis (excess) of the data is between – 1.96 and + 1.96.

Descriptive Statistics				
	Skewness		Kurtosis	
	Statistic		Statistic	
Effectiveness of Govt Policies	.220		.789	

Consumers Perception	.732		.892	
Consumer Satisfaction	.632		.668	

Reliability

Cronbach Alpha was done to analyse the reliability of data, and that is seem to be similar to the literature. The scales used for measuring the three constructs, effectiveness of government policy, consumer perception, consumer satisfaction, were taken from the research. Cronbach's alpha coefficient of the studied variables was more significant than 0.7, hence it can be concluded that the data is reliable.

Study variable	Cronbach's Alpha
Effectiveness of Govt Policies	.901
Consumers Perception Satisfaction	.855
Consumer Satisfaction	.732

Tools and software

The data were analyzed employing the statistical techniques with SPSS21; Correlation as well as Regression analysis were done to check the association within the variables.

Data Analysis

Samples for the present research were 600 numbers which covered 4 rural district in Kerala, around 20% each namely Palakkad (n1= 146, 24.34%), Thrissur (n2 = 150, 25.11%), Eranamkulam (n3= 159, 26.50%) and Malappuram (n4= 144, 24.04%). The statistical techniques correlation with regression were adopted to describe the consumer satisfaction towards PDS in each district , to detect the relationship between variables measured and to validate the significance of these variables.

Correlation

The statistical device correlation was adopted for finding the relationship between the variables and hypothesis.

H1: there is a positive relationship between Effectiveness of Govt Policies and Consumers Perception .

H2: there is a positive relationship between Effectiveness of Govt Policies and Consumer Satisfaction.

H3: there is a positive relationship between Consumers Perception and Consumer Satisfaction.

Variable	Pearson Co efficient	Significance
Effectiveness of Govt Policies	0.664	0.00
Consumers Perception	0.612	0.00
Consumer Satisfaction	0.751	0.00

Multiple Regression Model

By examining positive and robust association between Effectiveness of Govt Policies, Consumers Perception and Consumer Satisfaction, a multiple regression was done to analyze the impact of Effectiveness of Govt Policies with Consumers Perception predicted on Consumer Satisfaction

H4: there is a substantial association between Effectiveness of Govt Policies and Consumer Satisfaction

H5: there is a substantial association between Consumers Perception and Consumer Satisfaction

Model Summary ^b				
Model I	R	R Square	Adjusted R Square	Std. Estimated error

1	.792 ^a	.627	.623	.319
a. Predictors: (Constant), Effectiveness of Govt Policies, Consumers Perception				

Interpretation

The testing of the hypothesis on the correlation among the variables shows a very significant positive correlation between them. R is the correlation, its value is 0.792, and R square is the degree of determination, its value is 0.627. The degree of determination shows the extent to which Effectiveness of Govt Policies and Consumers Perception influence Consumer Satisfaction. Here the employee productivity is determined to the extent of 62.7% by Effectiveness of Govt Policies and Consumers Perception

ANOVA table:

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.012	4	11.506	13.288	.000 ^b
	Residual	234.246	473	.782		
	Total	298.478	446			
a. Dependent Variable: Consumer Satisfaction						
b. Predictors: (Constant), Effectiveness of Govt Policies, Consumers Perception						

ANOVA analysis table exhibits that significant value to be lower than 0.01, that shows the dependent study variable, namely Consumer Satisfaction, is substantially predicted by the independent study variables, Effectiveness of Govt Policies and Consumers Perception, has a confidence level of at 99%.

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.342	.245		78.866	.000
	Effectiveness of Govt Policies	0.556	.58	.453	12.564	.000
	Consumers Perception	0.642	.58	.234	5.743	.000
a. Dependent Variable: consumer satisfaction						

Consumer Satisfaction = 1.342 + 0.556 (Effectiveness of Govt Policies) + 0.642 (Consumers Perception)
 Among these above given two factors, Consumers Perception has a substantial and maximum negative impact over Consumer Satisfaction. Effectiveness of Govt Policies has significant negative impact on Consumer Satisfaction. The hypothesis [H4] is accepted and it displays a positive association between the variables Effectiveness of Govt Policies and the Consumer Satisfaction. Hypothesis [H5] is accepted and it displays a positive association between Consumers Perception and the Consumer Satisfaction.

Suggestion for Future Research

Upcoming researches can be done by accumulating data from other areas in India which will provide a deep understanding on Government policy and consumer perception on public distribution system and the

satisfaction of consumers on it. Because of the data was collected from Palakkad, Thrissur, Ernakulam and Malappuram, the study shows difficulty in generalizing consumers of other areas in India.

Implications of the study

This study reveals that the two variables viz, the Government policy to ensure food security through PDS(0.664) and consumer perception towards PDS(0.612) are positively correlated with consumer satisfaction(0.751). The findings of our study have its implications primarily on policies to increase the level of satisfaction and to meet the basic needs during Covid 19 pandemic. Prior studies display that the state government takes all efforts in order to make the PDS more effective by ensuring availability, affordability and accessibility of PDS articles to the poor (Dr. S. Nakkiran, 2004). Introduction of Electronic Point of Scale(E PoS) machines are another satisfying factor (Swapna Shaji and Annie John 2018). This study found that the beneficiaries of four districts in Kerala were satisfied with the various policies like MDMP, AAY, ICDS etc. launched by the govt to ensure food security through PDS (Velmurugan Ramaswamy & Mrs.D. Lavanya D. Lavanya. 2017). This study found that the beneficiaries were satisfied with the food items (rice, wheat, sugar etc.) and non-food items received at fair prices through Fair Price Shops (C. Muhammed Kasim & S. Hari Kumar 2018). Our study covers both normal situation and Covid 19 situation.

Discussions with Conclusion

PDS is an important food and nutrition security measure meant for vulnerable sections of the society. Over the years PDS has managed to survive the innumerable challenges but still, it is intensively scrutinized. At Government level all efforts are taken to make the system more effective and ensure the availability, affordability and accessibility of PDS articles to the poor. This study presented the information about the PDS, details of its working, utilization and satisfaction of consumers towards PDS in 4 Districts. The prime aim of PDS is to ensure adequate supply of essential commodities of adequate quality at affordable price to general public. The customers of the 4 districts were satisfied with the performance of the PDS although significant differences exist in their perception. Variables namely effectiveness of govt policy and consumer perception helps to evaluate the satisfaction of customers. The study shows the policies and measures taken during Covid 19 pandemic in order to cope up with the situation. Respondents gave the positive feedback about functioning of fair price shop in terms of timing, location, opening and attitude of distributors. The study reveals that the general public will be satisfied when they could get the products regularly in all months with adequate quantity and quality.

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CASHLESS ECONOMY: THE IMPACT OF DEMONETIZATION AND INADEQUATE CURRENCY CIRCULATION ON PURCHASING POWER OF SMALL AND MEDIUM INDUSTRIES IN RURAL KERALA DURING COVID-19 PANDEMIC

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Abstract

Purpose: Demonetization is the act taken by the government for stripping the currency unit of its status as legal tender. It was declared on 8th November 2016. The policy declared by the prime minister create drastic changes in the economic activation of each and every small scale traders. Nearly 86% of the currency in circulation was demonetized. This paper studies cashless economy: The impact of demonetization and inadequate currency circulation effect on the purchasing power of small and medium scale industries especially in rural districts of Kerala. It also details various crisis faced by the small scale traders in rural area during the period of demonetization. The study focused on the small scale traders of Pathanamthitta, wayanad, Palakkad, and kasarkode districts. **Design/Methodology/Approach:** A survey was conducted to study the impact of demonetization on purchasing power of small scale industries in rural areas in Kerala. Data collected from 4 rural district in Kerala namely Palakkad, Pathanamthitta, wayanad, and kasarkode. **Findings:** In this research a negative correlation was established between variable such as demonetization, inadequate currency circulation and purchasing power with reference to small scale traders in rural districts of Kerala. The research demonstrate that, the negative impact on demonetization on the MSMEs of rural districts in Kerala. The study also given insight in to purchasing power and its significant relationship with demonetization and inadequate currency circulation on testing the hypothesis ANOVA shows that the dependent variable namely Purchasing power is substantially predicted by independent variables like Demonetization and inadequate currency circulation at confidence level of 99%. **Originality/Value:** The study explores the relationship of Demonetization, inadequate currency circulation and purchasing power of people with reference to small scale Industries in rural districts of Kerala.

Keywords: Demonetization, Currency circulation, Purchasing power, Small scale industries.

Introduction

The publication focused on the impact on demonetization and currency circulation effect on the purchasing power of small and medium scale industries in Kerala. Demonetization means the withdrawal of a currency, coins, and precious metals from the use as legal tender; often to be replaced with new currency / coins. In India, recently 8th November 2016, government announced demonetization of Rs 500 and Rs 1000, and announced the new 500 and 2000 rupee notes issuance for exchange. Demonetization was happening in India 2 times before 2016, which was in 1946, 1978. In 1946, Rs 1000 and Rs 10000 were removed. In 1978, PM Morarji Desai announced ban the currency of Rs 1000, Rs 5000 and Rs 10000 out of circulation (The Free Press Journal). The main impact of 2016 Demonetization was some positive effect, on the widening of the tax base, promote digital transactions, reduce terrorist activities in J&K. The negative impacts are Cash crunch among the peoples, worst conditions in small and medium industries, mostly affected in BPL families, slowdown in GDP rate (Neha Dubey 2017). The main objective of this was, to stop black money circulation in the market, it also helps to reduce interest rate, reducing cost of

banking, also helps to create

Cashless Economy

The policy of cashless economy helps to reduce the risk of handling cash. Cashless economy means, economic system with digital transactions, like, digital banking, digital wallet, mobile banking etc. Major advantages of cashless economy was it helps to reduce cost of printing money. Digital payments are more transparent in nature. Less tax evasion, quicker cash transactions are the some advantages of cashless economy. At present the world was moved from cash transaction to cashless transactions. Now buyers and sellers are accept cashless system. In short run there is some problems but in the long run, there is positive impact in using cashless system on India's Economic growth. The Economic impact of no cash system is, the risk of the crimes like; account takeovers, identity theft and fraudulent transactions will increase. Some benefits are also there; low crime rate, less money laundering, less time and cost with handling and storing money, easier currency exchange. Some sectors of Indian economy struggling with the scarcity of readily available cash, small scale business units are still being revolutionized with digital payment system. Demonetization will cause as a liquidity shock that will leads to disturbs all economic activities. The term liquidity shock is also known as liquidity crisis, which means that simultaneous increase in demand and decrease in supply of liquidity in so many financial institutions and all. Liquidity crisis leads to large negative economic shocks as well as disturbing business cycle of the economy.

Demonetization cause shortage of cash all over the country, so people face difficulty to exchange their currency. The first demonetization process in the world was treated as, United States banned their silver standard, for adopting the gold standard. After that, so many countries are practiced demonetization for the attainment of different objectives. Because of the sudden replacement of currency, many peoples lost lives; they face severe problems in day to day life especially in business operations. Peoples are suffered for replacing old currency with new one. Long queues in banks and ATMs were very common picture during that period. The RBI released the report on 30th August 2017. According to RBI report, 99% of illegal tenders had returned on that period (RBI 2017). RBI encourage citizens to use internet banking and mobile banking at least in the short run. Still now also some peoples from BPL category banking is considered as a luxury process.

Currency circulation of a country is the value of currency that has ever been issued by the country's monetary authority less the amount that has been removed. In monetary Economics, the currency in circulation in a country is the value of currency or cash that has ever been issued by the country's monetary authority less the amount that has been removed. In India, after the declaration of demonetization in 2016 the currency circulation had dropped to 13.35 trillion rupees in 2017. The four important types of money are, commodity money, Fiat money, Fiduciary money, and commercial bank money. The characteristics of money are Durability, portability, divisibility, uniformity, limited supply, and acceptability. The amount of cash, including both currency and coins are physically used for transactions between consumers and businesses.

Purchasing power of currency is the quantity of goods and services that can be bought with a monetary unit. Purchasing power is also known as currency's buying power. Inflation reduces the purchasing power of a currency that result increase in prices (Adam Hayes and Michael Boyle 2021). In traditional way, purchasing power will measure by using Consumer Price Index. The consumer price index examines the weighted average of prices of a basket of consumer goods and services, which includes transportation, medical care, food etc. The CPI have a base of 1982-84=100, unless otherwise noted. This means that the average of the monthly index values is 100 over the 36 months in 1982 through 1984. Purchasing power affects every aspect of economics.

Most small-scale industries affected by demonetization. Demonetization declines the credit growth of MSME sector and have negative impact on the whole economy. It occurs negative effect on small scale industries, it reviles manufacturing industry lost 30% jobs and 55% revenue. Other negative impacts are, currency crises, low GDP rate, MSMEs transactions mostly in cash form; so shortage of currency

adversely affected their business (Dr. Shweta Chaudhary, Ms. Aditi). The Kerala state planning board committee was study short run as well as long run impact on Demonetization on different area; i.e. employment, income, lively hoods of different sections, cooperative sectors, banking sector, general credit provision, government revenue, state GDP (general as well as sector wise study) etc. (R Mohan ,VoL 52,Issue no. 18, 06 May, 2017).

In modern economy money is the backbone of all transactions. It plays various vital roles like medium of exchange, unit of account and store of value. Nations monetary policy determines demand and supply for money and any change in monetary policy will bring impact on the functioning of the day to day movement of the economy. As a medium of exchange it is used to pay for goods and services. That means current purchasing power of the people. According to D.H Robertson” money is anything which is widely accepted in payment for goods or in discharge of other kinds of business obligations”. The purchasing power of money can be transferred to the future from the current period indicated by store of value of money. People prefer to hold currency due to its high liquidity.

Government of India introduced a major monetary policy on 8th November 2016,ie the demonetization of all 500 and 1000 rupee notes in the name of fighting corruption, combating inflation, eradicate counterfeit currency, tax evasion and to promote a cashless economy . It is considered as a major monetary policy because through this declaration nearly 86% of currency in circulation (MOF) suddenly terminated from the economy. It hit the purchasing power of the people and made complete disorder and confusion among the people, especially in rural areas. Rural areas constitutes 2/3 of the Country population and most of their dealings (95%) were in cash . The most powerful weapon for financial inclusion is liquid cash (Dr. Ramanchi Radhika.A 2017). As Adamsmith noted that having money gives ones the ability to command others labor so purchasing power to some extent that they were willing to trade. A preliminary study of Bisen etal (2017) shows that demonetization made impact on various stakeholders such as traders, farmers, manufactures etc. Tech driven payment system is very poor in rural areas. Many people do not have active bank accounts. . 93% of the rural people have not experienced any digital transactions (Kumar 2017). Most of the rural population having no idea about the internet banking which adversely affect their purchasing power (Chand and Singh2017). Purchasing power is the amount of goods and services that can be purchased with a unit of currency. Man Mohan Singh, Former prime minister and a great economist pointed out that sudden withdrawal of currency in circulation create demand side problems. Ahram and Karwowski (2018)states that before understanding the term demonetization , we have to know what is meant by money .It is a mode of payment and lubricant that serving medium of exchange. People prefer to hold money mainly for three purposes. Transaction motive, pre-cautionary and speculative motive(General theory of J.M Keynes). Among them transaction motive is the driving force behind holding cash in hand. Sunil Kumar Sinha an economist and director at India Rating and Research says that demonetization curtailed not only the purchasing power of the consumers but also contracted industrial production by 0.4%. Most of the small and medium industries in rural areas purchase their procurements by using liquid cash. Cash crunch due to demonetization hinders them to purchase needy inputs and affects sale of their commodities. Demonetization made sharp decline in demand for products in textile industry (Yadhav and Singh 2017) Textile industry become an important small scale industry in rural area.

According to the MSME annual report 2018-19 Kerala is the 12th largest number of medium and small scale industries. The three basic factors essential for small and medium industries is credit availability, connectivity and power. RAJE (2000) reveals that credit is the essential factor for the running of their day to day dealings. Demonetization really detrimental to the easy access of credit to these industries. Anil Bhardwaj, secretary general of federation of Indian MSME says that demonetization crucially affected on it, due to a huge figure as approximately 32% of population were employed in small and medium scale industries. Chand and Sing (2017) reported that most of the small farmers belongs to lower income groups , absence of low denomination notes hindered them to procure inputs which is necessary for the production. Note ban not only affected production side but also affected consumers .Virendra B Shahare (2017) stated that workers plunged in to distress with wage payments delayed. Gabriel Chodorow Reich

(2018) study reveals that wage rigidity leads to decline in input, employment and cash shortages. It is supported by the purchasing power theory of wages. It shows the relationship between wages and purchasing power. Decline in wages reduces consumption and thus in turn decrease the demand for goods and services causing reduction in purchasing power of the people. Consider the consumer spending Neelam (2017) identified that producers were unable to sell their products. The sudden implementation of demonetization create constraints to the small and medium scale industries to procure finance. Rithika Mankar and Sunith Shekar (2017) studied the demonetization impact on MSME. They evaluated that most of the small and medium industries were under pressure, because they depend liquid cash more than 50% in their dealings. Due to the non-availability of finance, various small and medium scale industries and construction sites temporarily went to shut down. The people who engaged in these work lost their employment. Their daily earnings reduced and the demand of goods and services from their part declined. Demonetization brings two major changes they are: cash being extinguished to the extent it was being used as medium of exchange, would result in a compression in income, employment, and consumption in the economy. And secondly cash being partially replaced in the system would have opposite effects of expansion in potential credit creation and it would finally reflect in actual credit creation have most worse impact on manufacturing, small and medium scale industries.

Inadequate currency circulation to purchasing power

Currency, the word come from current. Current is realised that flow of something. Currency is related to flow of something. Without currency people can express human consciousness into the physical word and people get interact with a conscious basic way. Currency enable people to by food, rent, or by houses... Etc. easier to use money or currency (Currency, by Jake frankenfield). Money is not static. Its value keep changing with socieity and its economic conditions. One rupee in 1947 is not the same as one rupee today, both in terms of appearence and purchsing power value's currency. Every countries to conduct independent monietary policy. Currency in a circulation in a country is the value of currency notes or coins. The circulation of money in the first instance real circulation consist of amass of random purchases and sales taking place simultaneously. (currency power and purchasing power, by Jamal ibrahim haridhar)

The government has decided to replace the existing set of Rs 500 currency notes and completely abolish the Rs 1000 denomination. PM Modi announced that the RBI will introduce Rs 2,000 as a new denomination in India. The high-denomination notes that were annulled amounted to Rs 15.44 lakh crore, about 99% (Rs. 15.28 lakh crore) of which had been returned Currency notes of Rs 2,000 denomination were not printed in 2019-20 and the circulation of these notes have declined over the years, according to RBI's annual report. The number of Rs 2,000 currency notes in circulation has come down from 33,632 lakh pieces at end-March 2018 to 32,910 lakh pieces at end-March 2019 and further to 27,398 lakh pieces at end-March 2020, the RBI Annual Report said. to the central bank by June 30, 2017. (Currency in circulation hits pre-demonetisation levels by E. T Bureau)

Demonietaisation was to discourage the use of purchasing power of currency has come down as rate of inflation persists. Demonietaisation order invalidated 86% of india currency. The currency in circulation before demonetisation was 12% of the G DP and now below 10% GDP. It affected the small traders in retail sector grocery shops resturants, homes, jewellery, and small dealers. Most of the people of india transact cash. 90% of shops accept only cash. Rare shops are take credit. Labours and suppliers paid in cash. The purchasing power of the people is dicresses and the economic activities of agricultural handloom, coir and other small scale industries in the state as wages went unpaid and jobs and incomes were lost in the kerala construction industry (kerala: Migrant labour faces worst effects of postdemonietaisation, By Jeff joseph, 2019 march).

As the demonetisation initiative encourages the use of plastic and electronic money, cash transactions will become less and less common. This, analysts reckon, will have its share of benefi ts for the economy, apart from boosting tax coffers. The transition to a cashless economy will also improve savings in financial assets which will benefit intermediaries such as banks, NBFCs, microfinance and digital money

operators. Demand of two-wheelers high but passenger vehicles and tractors will be less impacted. In the two-wheeler industry, around 35-45% purchases are made via financing, while the rest are through banked cash, or are simply unaccounted. But in the passenger vehicles segment, close to 75%-80% of sales are either through financing, or even down payments are made mostly by cheques -so this segment could face less heat. As for tractors, close to 65% of the purchases are financed, therefore the impact of cash squeeze could be minimal. Re-stated demand (which is 55-60% of overall demand), especially in tier 2 and 3 cities, may get affected in the interim. Demand in tier-1 cities in capital goods the impact won't be big largely due to the B2B nature of business. However, payment to sub-vendors may face some liquidity issues. (How demonitisation will impact top ten sectors of economy, by E.T Bureau).

Money theory and monetary policy described the inflation leads to an increase the velocity of circulation money and it increase purchasing power quickly reflected the monetary policy of the country. Demonetisation badly affected by the, agricultural and manufacture sectors, micro, small and medium industries. These industries maximum transaction with cash due to demonitisation faced the shortage of cash. Small business, farmers. The middle income earners save cash for security of life. So cashless transaction is to be a big challenge of them (A study of economic and social impact due to demonitisation, by Sanjeev Kumar Singh). Depreciation of domestic currency will usually lead to a higher cost of imported consumer good, which reduces workers purchasing power. (Inflation and hyper in Venezuela, by M. Kuleza)

In Kerala more than 200,000 SSI units exist (Ministry of small scale industries, 2002). It includes various units like agro based business including ready made garments, food processing, information technology etc. Yadhav and Singh (2017). Stated that due to demonetization demand in textile industry reduced and the level of demand for their products. It is affected mainly due to the reduction in currency circulation. Lack of availability of cash people's spending habits reduced. Because agrarian economy is cash based economy (Sabnavis 2016). Micro and medium scale industries has been considered as the driving force or engine of the economic growth. It plays a crucial role in providing large scale employment opportunities in rural areas with low cost of capital. It also acts as ancillary units for large scale industries. The primary factor for the existence of small and medium scale industries were credit availability. Most of the units conducting their activities based on hard cash. A survey conducted by Dollar Business Bureau states that demonetization make the small and medium scale industries in a worst situation. Government introduced note ban with the objective of curbing black money in the economy. But the sudden withdrawal of rupees 500 and 1000 creates negative impact on these industries. Micro and medium scale industries is one of the most important segment of the economy which is credit constrained. Purchasing power of the small and medium scale industries declined sharply due to demonetization. Purchasing power of the people directly related to the availability of liquid cash in hand. KENTON (2019). Noted that sudden losses in currency circulation and the introduction of high denominated currency notes create adverse impact on these industries. Almost 86% currency legally banned. Sudden decrease in the currency circulation, some of the small and medium scale industries fails to meet their day today requirements. KOHLI (2016). Stated that cash crunch due to demonetization farmers and manufactures were not able to purchase raw materials necessary for their production activities. In addition to procuring inputs, they faced cash shortage for paying salaries to their employees. Lack of wages leads to reduce their demand to purchase goods and services. Automatically it will reduce the demand for goods and services. CD EQUISEARCH PRIVATE LIMITED (2017). Pointed that demonetization is a dark shadow on small scale industries. Sudden liquidity crisis create dilemma on their dealings. BONEY BOSE (2018). Stated that small scale industries need free flow of liquid cash and adequate funds to run their business operations smoothly and to achieve their daily target.

Purchasing power is the value of a currency expressed in terms of the number of goods and services that one unit of money can buy. This affect all aspects of economics. This concept related to purchasing power parity theory. This theory was propounded by Professor Gustav Cassel (Swedish Economist). Purchasing power parity is a measurement of prices in different countries that uses the prices of specific goods to

compare the absolute purchasing power of the countries' currencies (Wikipedia). This theory is very popular metric in Macroeconomic analysis. The theory was classified into two. 1. Absolute purchasing power parity and 2. Relative purchasing power parity. Absolute PPP indicate that exchange rate has to reflect the ratio of two countries price levels...relative PPP indicates changes in exchange rate equal the changes in the ratio of the price levels. Purchasing power means the financial ability to buy goods and services. So many factors are influencing the purchasing power, they are, changes in price because of inflation and deflation, employment & real income, supply and demand, Tax rate, availability of credit and rate of interest, prices of the product, etc. (Joseph Brady sep 9,2019). Demonetization cause deficiency in currency circulation in an economy and that affect the purchasing power of the people. Shortage of currency circulation was happening due to digitalization. Most of the MSME units are not accessible to digital transaction, so demonetization affects more in MSME sectors also. Because of demonetization-> deficiency of currency -> level of consumption will decrease -> over production was happening -> negatively affected on current year production -> reduce employment opportunity -> reduce purchasing power of the people. Fluctuations of PCI and exchange rate are the important factors to explain the fluctuation of PPP. The value of Money is not static it was changing with society and its economic conditions. It was changing both in terms of appearance and purchasing power of currency's value. Due to shortage of currency, agricultural sector, industrial sector, construction sector, microfinance, MSME etc were struck. So here is clear that purchasing power definitely effect shortage of currency.

In Kerala more than 200,000 SSI units exists (Ministry of small scale industries, 2002). It includes various units like agro based business including ready made garments , food processing, information technology etc. Yadhav and Sing(2017). Stated that due to demonetization demand in textile industry reduced and the level of demand for their products. It is affected mainly due to the reduction in currency circulation. Lack of availability of cash peoples spending habits reduced .Because agrarian economy is cash based economy(Sabnavis 2016). Micro and medium scale industries has been considered as the driving force or engine of the economic growth.it plays a crucial role in providing large scale employment opportunities in rural areas with low cost of capital. It also acts as ancillary units for large scale industries. The primary factor for the existence of small and medium scale industries were credit availability. Most of the units conducting their activities based on hard cash. A survey conducted by Dollar Business Bureau states that demonetization make the small and medium scale industries in a worst situation. Government introduced note ban with the objective of curbing black money in the economy. But the sudden withdrawal of rupees 500 and 1000 creates negative impact on these industries . micro and medium scale industries is one of the most important segment of the economy which is credit constrained .purchasing power of the small and medium scale industries declined sharply due to demonetization. Purchasing power of the people directly related to the availability of liquid cash in hand. KENTON(2019). Noted that sudden losses in currency circulation and the introduction of high denominated currency notes create adverse impact on these industries .Almost 86% currency legally banned. Sudden decrease in the currency circulation , some of the small and medium scale industries fails to meet their day today requirements. KOHLI(2016). Stated that cash crunch due to demonetization farmers and manufactures were not able to purchase raw materials necessary for their production activities. In addition to procuring inputs, they faced cash shortage for paying salaries to their employees. Lack of wages leads to reduce their demand to purchase goods and services. Automatically it will reduced the demand for goods and services. CD EQUISEARCH PRIVATE LIMITED (2017). Pointed that demonetization is a dark shadow on small scale industries .Sudden liquidity crisis create dilemma on their dealings. BONEY BOSE(2018). Stated that small scale industries need free flow of liquid cash and adequate funds to run their business operations smoothly and to achieve their daily target.

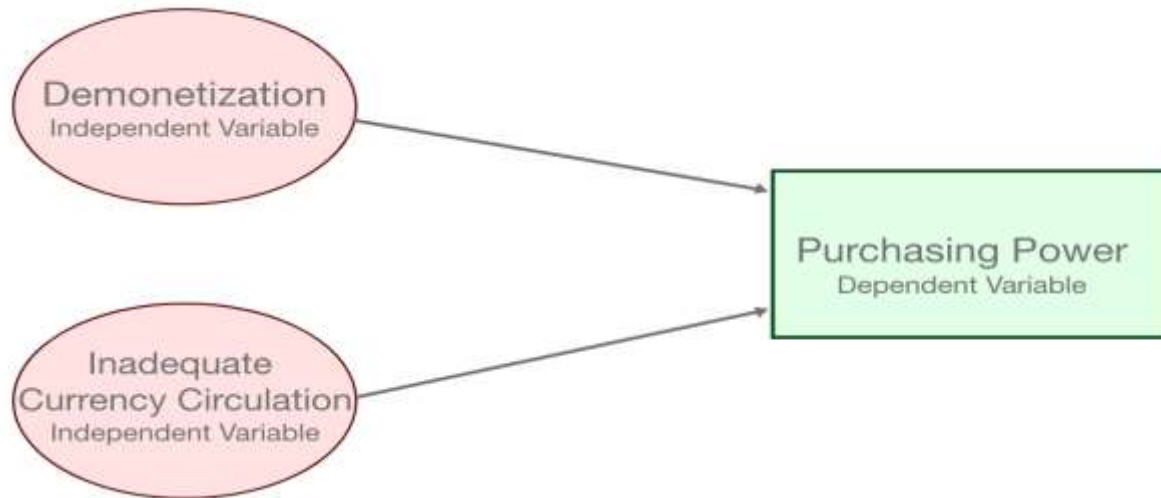
Objective of the study

This research aims to assess the respondents' inclination towards the cashless economy during the COVID-19 pandemic and to know the relationship between demonetization, inadequate currency

circulation, and purchasing power, thereby studying whether demonetization with inadequate currency circulation impacts the purchasing power of small and medium scale industrialists of rural districts in Kerala during pandemic COVID-19.

Conceptual model

Figure 1: Conceptual model



Pilot study

A pilot study of the questionnaire was carried out with small and medium scale industries in Kerala before doing the core study. One hundred samples were chosen for the study, with 25 nos from each rural districts in Kerala. The validity along with reliability of the measured scales were verified to ensure correction of any obscurities in the measurements. Based on the feedback suggested by the respondents, minor corrections were made to the questionnaire.

Population and Sample

The population of the present research comprises of small and medium scale industries of four rural districts in Kerala. Stratified Random Sampling technique (Kothari C.R. (2004) was employed for this research. A total of 1200 questionnaires were circulated through google forms to the four rural district in Kerala (300 in each), along with letter emphasizing the privacy and anonymity of the responses. A total of 744 questionnaires were collected back, representing a response percentage of 62%, which is treated as a reasonable response rate because of the nature of the research. Out of the 744 questionnaires received, 95 questionnaires were rejected because of missing data. 649 questionnaires were considered for the core study (54.1%).

The sample included 467 (72%) male and 182 (28%), female employees. Majority of the respondents are Under Graduates 240 (37%). 162 (25%) are Graduates, 97 (15%) Post graduates and 149 (23%) below higher secondary. The majority of the respondents were below 45 years 376 (58%), and balance 273 (42%) belongs to above 45 years.

Measuring instruments

Demonetization

Demonetization was measured adopting self-reported data, the reliability measured by using Alfa score of 0.82. and normality tested by using skewness and kurtosis it is in between -1.96 and $+1.96$. Here 5-point Likert scale was used; 1- not true and 5- definitely true.

Inadequate Currency Circulation

Inadequate Currency Circulation was measured adopting self-reported data, the reliability measured by using Alfa score of 0.76. and normality tested by using skewness and kurtosis it is in between – 1.96 and + 1.96. Here 5-point Likert scale was used; 1- not true and 5- definitely true.

Purchasing Power

Demonetization was measured adopting self-reported data, the reliability measured by using Alfa score of 0.78. and normality tested by using skewness and kurtosis it is in between – 1.96 and + 1.96. Here 5-point Likert scale was used; 1- not true and 5- definitely true.

Normality

De Carlo (1997) stated that kurtosis and sketches are "the most important indicators to the extent the regularity in the analysis of instability is affected." Frequent data testing is a requirement for statistical tests since general statistics are a basic assumption in parametric tests. Skewness is explained as a measure of symmetry or the lack of symmetry of the normal distribution. Kurtosis is a measure of peak distribution. If the distribution center, or set of data, is synchronized, it seems to be similar to the left and right of the middle point. If the mean, median, and mode coincide, it is called a symmetric distribution: skewness = 0, kurtosis (excess) = 0. A distribution is called approximate normal if skewness or kurtosis (excess) of the data is between – 1.96 and + 1.96.

Descriptive Statistics				
	Skewness		Kurtosis	
	Statistic		Statistic	
Demonetization	.020		.889	
Inadequate Currency Circulation	-.632		-.392	
Purchasing Power	.132		.768	

Reliability

Cronbach Alpha was done to analyse the reliability of data, and that is seem to be similar to the literature. The scales used for measuring the three constructs, Teleworking, Work autonomy, Employee productivity, were taken from the research. Cronbach's alpha coefficient of the studied variables was more significant than 0.7, hence it can be concluded that the data is reliable.

Study variable	Cronbach's Alpha
Demonetization	.821
Inadequate Currency Circulation	.765
Purchasing Power	.782

Tools and software

The data were analyzed employing the statistical techniques with SPSS21; Correlation as well as Regression analysis were done to check the association within the variables.

Data Analysis

Samples for the present research were 649 numbers which covered 4 rural district in Kerala, around 20% each namely Palakkad (n1= 158, 24.34%), Pathanamthitta (n2 = 163, 25.11%), Wayanad (n3= 172, 26.50%) and Kaserkode (n4= 156, 24.04%). To detect the relationship of the variables measured and to

validate the significance of these variables were sufficient enough to describe the purchasing power of small and medium scale industrialist in each district the statistical techniques Correlation with Regression were adopted.

Correlation

The statistical device correlation was adopted for finding the relationship between the variables and hypothesis.

H1: there is a positive relationship between demonetisation and inadequate currency circulation.

H2: there is an extensive negative relationship between demonetisation and purchasing power.

H3: there is a substantial negative relationship between inadequate currency circulation and purchasing power.

Variable	Pearson Co efficient	Significance
Demonetisation	0.674	0.00
Inadequate Currency Circulation	-0.585	0.00
Purchasing Power	-0.701	0.00

Multiple Regression Model

By examining positive and robust association between Demonetisation, Inadequate Currency Circulation and Purchasing Power, a multiple regression was done to analyze the impact of Demonetisation with Inadequate Currency Circulation predicted on Purchasing Power

H4: there is a substantial association between Demonetisation and Purchasing Power

H5: there is a substantial association between Inadequate Currency Circulation and Purchasing Power

Model Summary ^b				
Model I	R	R Square	Adjusted R Square	Std. Estimated error
1	-.762 ^a	.581	.579	.339
a. Predictors: (Constant), Demonetisation, Inadequate Currency Circulation				

Interpretation

The testing of the hypothesis on the correlation among the variables shows a very significant positive correlation between them. R is the correlation, its value is -0.762, and R square is the degree of determination, its value is 0.581. The degree of determination shows the extent to which Demonetisation and Inadequate Currency Circulation influence purchasing power. Here the employee productivity is determined to the extent of 58.1% by Demonetisation and Inadequate Currency Circulation

ANOVA table:

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.012	2	10.506	15.238	.000 ^b
	Residual	283.366	411	.689		
	Total	304.378	413			
a. Dependent Variable: purchasing power						
b. Predictors: (Constant), Demonetisation, Inadequate Currency Circulation						

ANOVA analysis table exhibits that significant value to be lower than 0.01, that shows the dependent study variable, namely purchasing power, is substantially predicted by the independent study variables, Demonetisation and Inadequate Currency Circulation, has a confidence level of at 99%.

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.107	.245		7.966	.000
	Demonetisation	-0.506	.048	.443	10.417	.000
	Inadequate Currency Circulation	-0.742	.048	-.224	-5.277	.000
a. Dependent Variable: employee productivity						

Work Adjustment = -1.107 + -0.506 (Demonetisation) + -0.742 (Inadequate Currency Circulation)

Among these above given two factors, Inadequate Currency Circulation has a substantial and maximum negative impact over purchasing power. Demonetisation has significant negative impact on purchasing power. The hypothesis [H4] is accepted and it displays a substantial negative association between the variables Demonetisation and the purchasing power. Hypothesis [H5] is accepted and it displays a substantial negative association between Inadequate Currency Circulation and the purchasing power.

Implications of the study

While studying on this COVID –19 pandemic scenario, the impact of cashless economy and working conditions of small, medium scale industries, our focus was on variables like demonetization, inadequate currency circulation and purchasing power. The findings of our study have its implications basically on small and medium scale industries in rural Kerala. Prior studies display that, traders in MSME are exceedingly dissatisfied with the policy of demonetization. Our studies contribute to this literature of MSME industries productivity under critical pandemic period of COVID- 19 in Indian context. It shows the mechanism to change the current situation though digitalization and providing awareness regarding the digital operation to MSME sector. Majority of small scale traders are not aware about the future impact of demonetization. Many of them lost their relationship with their existing customers, most of the goods were sold in credit during this period. Almost all companies are closed due to demonetization. The study shows that respondents was unhappy. The government initiative to encourage the digitalization (Demonetization: its implementation on small scale industries by Priyanka Thripathis, published on 18/10/2018, www.alresearchjournal.com). in this situation traders faced a big liquidity crisis and suffered huge loss in sales due to lack of cashless payment system.(Demonetization: impacts and effect on small scale merchants, a study with special reference to Pala Municipality by Boney Bose, volume5, issue3, july-September 2018, <http://ijrar.com>). All India Manufactures Association(AIMO) reported that demonetization creates drop in employment and loss in revenue. Another studies of Indian Development Foundation (IDF) assessed the negative impact of demonetization.

Discussion with Conclusion

On the basis of analysis of primary data and hypothesis of testing the research concluded that the following findings. Demonetization and inadequate currency circulation made considerable impact on medium and small scale industries purchasing power especially in rural districts of Kerala. Demonetization 2016 aims at curbing corruption, tax erosion and fighting against the duplicate currency in circulation. Government

of India introduced this policy with a good intention but it creates negative impact on small scale industries to an extent especially in rural districts of Kerala. The most affected traders were in MSME, because they were engaged in cash based transactions and they were not been set with new mode of cash payments. Our study reveals that the policy implemented by the Government made huge difficulties to the merchants and it had made massive loss in their sales. The research shows the preference for MSME industries during pandemic situation . Furthermore MSME sector with high degree of job opportunities to local rural people in Kerala. The study conclude that Kerala MSME industries prefer adequate currency circulation and highest purchasing power during this pandemic situation.

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IMPACT OF E-LEARNING AND E-RESOURCES ON STUDENT ENGAGEMENT AMONG HIGHER EDUCATION STUDENTS – A STUDY

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Abstract

Student engagement is a coined term in the pattern of higher education learning. Students will be considered being engaged in their learning if they actively participate in lessons and take a real interest in their own education. Hence this concept is applied to E-learning and E-Resources, these independent factors give an atmosphere to participate in learning. Researches have established a strong relationship between student engagement and performance especially in curriculum outcome. Purpose of Study: In this pandemic situation a shift over has happened from traditional teaching to digital teaching platforms. Hence this article analyzes the impact of e-learning and e-resources in student engagement among higher education students. The study was done using a structured questionnaire to evaluate the correlation of both e-learning and e-resources on student engagement. The association between the dependent variables and independent variables are evaluated by regression model. The study was conducted among higher education students who are at present undergoing their learning pattern through online mode in the state of Kerala. Design / Methodology / Approach: This study employs empirical inferences, starting with explicit variables that are theoretical and based on these variables a structured questionnaire was used for data collection. The sample for the current study was collected from higher education students of four districts of Kerala, i.e. Palakkad, Thrissur, Ernakulam and Malappuram. A total of 1134 questionnaires were collected, representing a response percentage of 70.88%, which is treated as a reasonable response rate because of the nature of the research. Out of the 934 questionnaires received, 145 questionnaires were rejected because of missing data. 789 questionnaires were considered for the core study indicating 55.36% response rate, which is considered as a good response rate for the study. Research tools are used to analyze data and arrive at significant inferences. SPSS 21 and Microsoft Excel are statistical and regression package tools used in current research. Findings: A substantial positive correlation relationship was found between e-learning and e-resources towards student engagement. Both independent variables are positively correlated to each other. Analysis shows a positive relationship between E-resources and Student Engagement. There is a substantial association between E-Learning and Student Engagement, as well as between E-Resources and Student Engagement. The pandemic period in its beginning stage gave a lot of uncertainty in the field of academic delivery, but, the digital technology slowly started to wipe off the uncertainties by imparting online teaching. Then there arose whether this e-learning and resources are engaging the students. The study clears that self-initiation is too high in e-learning packages rather than in traditional teaching. Self-note making has also increased the usage of e-resources.

Keywords: Student engagement, e-learning, e-resources, blended learning.

Introduction

NEP 2020 is a student-centered doctrine that reaffirms that the student is the primary stakeholder and it is an inescapable duty of teachers to create an ecosystem that responds to students' dreams and aspirations. NIU International Journal of Human Rights ISSN: 2394 – 0298 Volume 9 (I), 2022

NEP promotes multimodal approaches to learning, including face-to-face, online and distance or virtual mode combined with multidisciplinary, vocational, value-added and skills development courses (NEP 2020, MHRD). Blended learning (combination of face-to-face learning and e-learning) is an instructional methodology that enhances student engagement in learning. E-learning is one of the fastest growing areas of education in the world because it flexibly provides access to educational opportunities to students of diverse backgrounds and geographic regions who are often unable to access higher education by other means (Delaney and Fox, 2013; Roll, Russell Y Gaelic, 2018). Electronic resources such as video lectures, podcasts, recordings, and articles are provided to students to create free time for teachers to support students in activities, to lead discussions, and facilitate participation to transform passive classrooms into active learning spaces. (Hindustan Times, by Raghavendra P. Tiwari published May 31, 2021 at 08:02 PM IST). Student engagement is related to the time and physical energy that students put into activities in their academic understanding (Jacobi, Astin, Ayala, 1987; Kuh, 2003).

Commitment affects the student's efforts to study a subject, prepare, get answers, analyze and solve problems (Kuh, 2003). The traditional, board and chalk method does not promote high order thinking skills, global competencies and creativity in students, resulting in a skill gap and lack of employability. The situation of pandemic forces us to look for other available alternatives, such as e-learning and electronic resources, as a measure to take advantage of student Engagement. The emergence of new digital technologies requires the use of effective teaching-learning processes among higher education students. Technology is evolving rapidly and there is a need of specialists to deliver high-quality learning materials and electronic resources to create a vibrant ecosystem that encourages the creation of solutions that not only solve the challenges of employability, diversity and equity, but also evolve in accordance with the speed. changes in technology, the half-life of which decreases with each passing year (NEP2020).

Learning may be a complicated method of collection of information or skills involving many physiological temperament traits like attention, emotion, motivation and curiosity (impact aspect). It also involves scientific discipline designs like logical analysis or gut emotions (cognitive dimension). Moreover, e-learning outcomes are the results of dynamic interactions among e-learners, instructors and e-learning resources (Tanzila Saba, 2012). Today's students are on a journey to become self-managed and self-guided learners and they wish the programme they ought to study facilitate them acquire them to acquire both internal external exposure in the subject. (Nelson, Kift, Humphreys & player, 2006).

The introduction of e-learning and on line resources permits for larger flexibility in providing support for the varied demands of upper education students (Ginns and Ellis ,2007). The employment of technology in instructional settings helps to realize learning outcomes (Wells, Diamond State Dorothea Lange and Fieger (2008). Students' attitudes to technology influence the tutorial advantages of determinant of on-line learning resources and experiences (Buzzetto-More,2008 and Sanders & Morrison-Shetlar,2002). The actual time spent in on-line learning influence the educational outcomes (Perera and Richardson (2010).

E learning and student engagement

E-learning is a learning setting that uses information and communication technologies (ICT's) as a platform for teaching and learning activities. It is outlined as pedagogy authorised by 'digital technology' (wiki referee.Nichols,2017). E-learning meaning electronic learning generally suggests employing a personal computer to deliver half or entire course module by departments or colleges. E-Learning is learning utilizing electronic technologies to access instructional programme outside of a standard. classroom. In most cases, it refers to a course, program or degree delivered utterly (Arun Gaikwad,Vrishali Surndra Randhir,2015). Student engagement is disposition and often participation and collaboration and interaction among participants by expressions, concepts and opinion. The frequent interactions among others and enriching instructional experiences through thinking, talking among the learners, content providers and educators are common.

Engagement is a result of frequent participation in numerous activities like learning a

topic, getting feedback, active participating and cooperative learning. It includes interaction with educators and co-students. Student engagement is taken into account to be one of the most important part in effective e-learning teaching methodology. Student engagement is seen as important factor for retention and enhances the standard of the student experience (Haryani Haron, Noor Hida Natrah Aziz, Afdallyana Harun, 2017).

E-learning platforms face variety of challenges, like thought of personalizing the e-learning expertise and keeping students driven and engaged. From an instructional perspective, it's of great interest to see whether or not raised performance and also the accessibility of on-line teaching resources have a positive impact on students' educational performance and whether or not this can be mirrored in improved learning outcomes (Fredricks et al. 2004). E-learning is very important for building a technologically literate force in addition as meeting society's current words like fast womb-to-tomb (Nycz and Cohen (2007).

E-learning has created technologically fit generation. The primary generation occurred from 1994-1999 and was marked by passive use of the web wherever ancient materials were merely placed in a web format. The second generation occurred from 2000-2003 and was marked by the move to higher information measure, made streaming media, raised resources, and also the move to form virtual learning environments that enclosed access to course materials, communications, and student services. The third generation is presently current and is marked by the incorporation of larger collaboration, socialization, project-based learning, and reflective practices, through tools like e-portfolios, wikis, blogs, social bookmarking and networking, and on-line simulations. Additionally, advances in mobile computing are more and more impacting the third generation (Connolly and Stansfield (2007). An important goal of e-learning systems is to deliver directions which will deliver identical or higher results provision is matched learning systems (Tanzila Saba, 2012). Hence there is a need to study the relationship and association between E-Learning and student engagement which will help to endorse the future move towards adoption of blended learning in curriculum design.

H2: there is no significant relationship between E-Learning and Student Engagement.

H4: there is no association between E-Learning and Student Engagement

E-resources and student engagement

E-resources has given several blessings to students of upper Education by giving resolution to several skilled issues like resolution to area drawback, providing remote access, convenience in use, magnified audience with improved services, resulting in a lot of opportunities for productive analysis output and educational excellence among short time. Recent studies have additionally established that, improved access to e-resources have completely influenced research analysis activities by serving to them to stay up-to-date and by saving time (Anjana, 2014). Higher education systems is widely using e-contents to satisfy the strain of quality education for all. There has been commendable quantitative growth in terms of students' engagement. No doubt e-resources has widened the library resources of each and every institution. E-resources has become an indivisible part of the academic system. Electronic resources are materials (data and/or program(s)) encoded for manipulation by a computerized device. These materials might need the employment of a peripheral directly connected to a computerized device or an affiliation to an electronic network (e.g., the Internet)." IFLA defines Electronic Resources as those materials that need computer or hand-held mobile device. they will either be accessed remotely via the web or locally" (IFLA). The most normally used E-resources by students are: E-journals, E-books, PPTs (aggregated) databases, classification and abstracting databases, Reference information (biographies, dictionaries, directories, encyclopedias, etc.), Numeric and applied math databases, E-images, E-audio/visual resources, Podcasts etc (IFLA, 2012).

Online learning resources are helpful for supporting student learning and supply steorage for additional up the planning and delivery of e-learning content during subject delivery (Fredricks et al. 2004). Podcasts are an efficient manner of delivering learning materials, with students

responding completely to the standard resources they supply. Researchers found that the net course materials were helpful to their overall learning expertise (Wernet, Olliges, and Delicath, 2000). Students' perceptions of the Web-enabled learning element of a general biology shows that a positive result among girls response is high in problem-solving skills, and important thinking skills (Sanders and Morrison-Shetlar (2002). This study highlights the relationship and association between E-resources and student engagement which will ensure more inclusion of e-resources in curriculum delivery and planning

H3: there is no significant relationship between E-Resources and Student Engagement.

H5: To test the association between E-Resources and Student Engagement.

Student engagement through e learning and e resources

Student engagement (Glossary of Education Reform) is “the degree of attention, curiosity, interest, optimism, and keenness that students show.” it's often aforesaid that students will solely be considered being engaged in their learning if they actively participate in lessons and take a real interest in their own education. When this concept is applied to E-learning and E-books, it suggests that making An atmosphere during which students need to require half within the sessions, wherever they really contribute to the sessions and take one thing far away from them, and wherever they become showing emotion endowed within the instructional material, still as their learning outcomes.

E- Learning atmosphere can boost student engagement by holding tiny cluster of discussions and encourage students to move and have faith in what they're learning. What is more, the faculty should be able to host demonstrations and different similar activities as a part of a virtual lessons. However, there's some broad-level agreement on student engagement, and these characteristics offer an important framework for understanding student engagement. Student participation generally is concerning students 'willingness and want to contribute and achieve success in a very learning method that provides them high-level thinking and long understanding (Bowen, 2005, p. 3). Student involvement is concerning the psychological state of students' learning, that shows wherever they meet feeling and thinking (Barkley and Major (2020) .Student involvement needs psychological investment from learner perspective still as persistence in enterprise the training task (Major), 2015, p. 208). Engagement initiatives are often supported by variety of interconnected factors like motivation, attention, engagement, and intellectual effort. Student participation is high in courses wherever college used a lot of emoticons / figure language, color, integration, visuals, and sound in course style, response latency, duration, time of day, and message frequency in forums; and also the sort and prompt of feedback via grading and email), student engagement was higher (Rogers-Stacy, 2017). so as to use on-line students, schools ought to have a selected understanding of student engagement in an internet website. schools ought to perceive the conception from the angle of these World Health Organization ar, or are not, attractive: the scholars. and that we ought to perceive common options and components of on-line course style and delivery that may promote student engagement (Bowen, 2005, p. 3). It has been prompt that interaction in on-line learning programs promotes student-centered learning, encourages wider student participation, and produces a lot of in-depth and reasoned discussions than ancient face-to-face programs (eg, Karayan & Crowe, 1997; Smith & Hardaker, 2000). Additional studies additionally offer proof to support the advantages of on-line cooperative environments. For instance, on-line materials promote a lot of students to participate to a larger extent (Citera, 1988). what is more, Warschauer (1997) advocates interaction in on-line environments; as here, there's less chance for intimidation between people and additionally less time pressure on them than in face-to-face settings. Conversely, lack of shut interaction between learners might have adverse consequences, probably as a result of learner's expertise feelings of isolation. Indeed, such a finding was according by Haythornthwaite, Kazmer, Jerome Robbins and cobbler (2000), World Health Organization prompt that the participants in their study World

Health Organization didn't create on-line connections with different learners in their cluster according feeling isolated and a lot of stressed than people who created such connections. One reason for the importance of online interaction is because learners experience a 'sense of community' (Rovai, 2002), enjoying mutual interdependence and a sense of trust and interaction among community members, which means that the members of the community have shared goals and values. There is therefore much research that reports on the beneficial effects of online participation in terms of widening student involvement, improving the quality of discussions compared with traditional face-to-face interactions, as well as research on the beneficial effects of online interaction in terms of fostering an online community.

Many experts have chosen the concept of interactivity between Educational and human-computer and its real relationship with student engagement in learning (see Jonassen, 1988; Plowman, 1996; Cordova & Lepper, 1996; Kennedy 2004; Domagk, Schwartz & Plass, 2010). A fundamental distinction arises between behavioural engagement in online learning environments (reflected in manipulation of the interface through actions such as clicking, navigating, submitting, scrolling) and cognitive engagement in E-learning environments (reflected by students thinking about and working through the E- material at a deeper level). In a face to face lecture hall it is easy to know whether the lecturer has engaged the students. In the process of e-learning through an LMS knowing the student engagement is a tricky one. His/her interactions visiting and revisiting attempts and participation are the pointers of engagement. The regular feedbacks will also help to know the student engagement.

E-resources are truly a great gift to faculty and students, they get access to digital libraries, working papers, research papers, podcasts from experts and even assess to number of previous question papers of the relevant subjects, which will help them to score good marks and grades in the examinations. The study focus to study the relationship between two variables e-learning and e-resources. H1: there is no significant relationship between E-Learning and E-Resources.

Conceptual Framework and measurement

An analysis on impact of e learning and e resources on student engagement framework helps the various concepts and themes derived from the review of literature and knowledge analysis. Reeve and Tseng's (2011) study delineate varied levels of student engagement. Specifically, the researchers argued that student engagement is a four component construct: **ability engagement, emotional engagement, interaction engagement, and performance engagement.**

E-learning and E-Resources whether or not makes the student engagement higher, a structured form under Likert scaling is adopted. Emotional factors can jointly play a task, as continuous sitting before gadgets, network problems could cause declining within the student engagement. The normal print reading to e reading may have bright changes within the memory acceptance. Thus structured questionnaire adjusted with the situation of Indian students perspective is being adopted for the study. Student engagement, the variable quantity is studied within the aspects of ability engagement, emotional engagement, participative engagement and performance engagement. These four dimensions measure the robust pillars to live the dependent and independent variable. The freelance variables E-Learning and e-resources square measure studied beneath this four dimensions on identical dimension pattern (table one.1).

Skill Engagement

Skill engagement are some set of skills that students develop through their engagement activities and their competencies rests at the center of the Engagement initiative. These skills facilitate students translate their expertise and apply it in an exceedingly significant tutorial & non-Academic involvement. Questions like whether or not a student study frequently, stay up on reading, look over category notes, be organized, whether or not they listen or scan rigorously and take smart notes after going through pdf's, power points and video lectures helps to study skill engagement.. Adolescence may

be a “window of opportunity” for building skills which will offer support in future.

Emotional engagement

It involves interest, boredom, happiness, anxiety, and different states, and other factors which have an effect on learners’ involvement with learning or their sustained effort in taking part in games, like within the context of taking part in a game. Emotional engagement also involves the sense of happiness and values. It’s connected to the positive and negative reactions to the people and physical structures that frame a faculty setting. Students’ emotional responses (e.g. attitudes, relationships) to people and content within the learning setting notice ways that to form materials relevant , Apply to real life, notice ways to form material attention-grabbing etc.

Participative Engagement

PE is achieved by questioning students or difficult them to suppose or to try to to one thing that needs thought. Students move with one another, with the trainer as a teacher or guide, or with target-hunting materials created by the trainer (on paper or computer). A key ingredient is frequent and thoughtful interaction. (Hake (2002) and1998)defines:(a) "Interactive Engagement" (IE) strategies as those designed a minimum of partly to push abstract understanding through interactive engagement of scholars in heads-on (always) and active (usually)activities that yield immediate feedback through discussion with peers and/or instructors. make merry in on-line chats, Participate actively in forums, facilitate fellow students, have interaction in on-line conversations , Post frequently in forum, Get recognize to understand to grasp} different students may be wont to know the interactive engagement.

Performance engagement

The theory of Student Involvement stressed , “ bigger the student’s involvement in school, the bigger are going to be the quantity of student performance in grades”, (Astin, 1984). The productive engagement is a very important means that by that students develop feelings regarding their peers, professors, and establishments that provide them a way of connectedness, affiliation, and happiness, whereas at the same time providing wealthy opportunities for learning and development, which will increase his performance score. (Bensimon, 2009). The time and energy students devote to educationally purposeful activities is that the single best predictor of their learning and skilled development helps him to perform well in external examinations. Those establishments that a lot of absolutely have interaction their students within the kind of activities that contribute to valued outcomes of faculty will claim to be of upper quality compared with different schools and universities wherever students square measure less engaged (Kuh, 2001). The dimensions for every variable taken for study is portrayed within the table below:

Table 1: Dimensions for Each Variable Under Study

Student engagement	Skill engagement	Emotional engagement	Participative engagement	Performance engagement
E-Learning	<ul style="list-style-type: none"> • Studying • Listening • Reading • organising 	<ul style="list-style-type: none"> • Own effort • Making materials • Using hobbies in creative note making 	<ul style="list-style-type: none"> • Fun during learning • Participation in clubs/cells • Chat with class mates • Interaction with tutor s and others 	<ul style="list-style-type: none"> • Marks in exams • Grades in activities

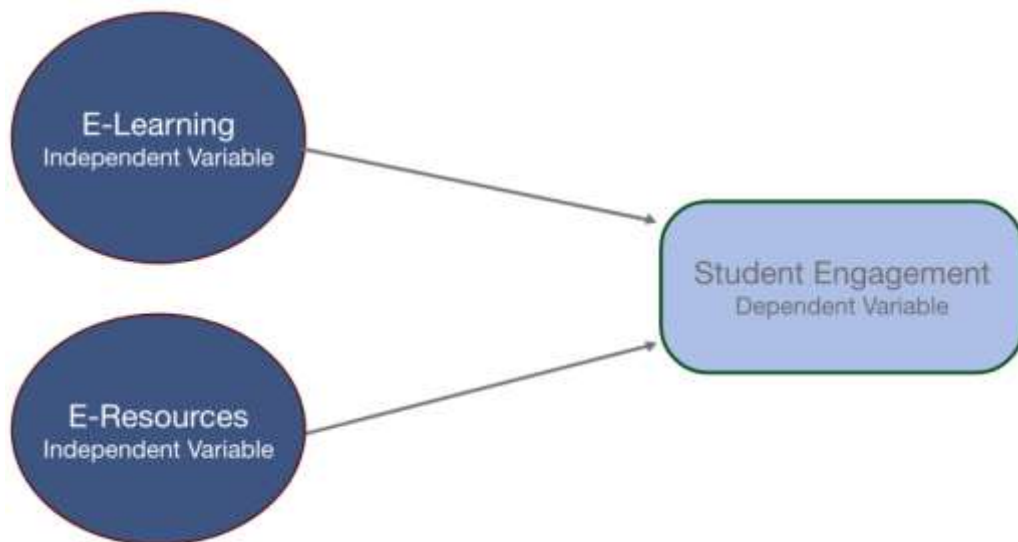
E-Resources	<ul style="list-style-type: none"> • Studying • Listening • Reading • organising 	<ul style="list-style-type: none"> • Own effort • Making materials • Using hobbies in making own resources 	<ul style="list-style-type: none"> • Fun during learning • Participation in clubs/cells • Chat with class mates • Interaction with tutors and others 	<ul style="list-style-type: none"> • Marks in exams • Grades in activities
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Objective of the study

This research aims to measure the impact of E- learning and E –resources towards student engagement among higher education students and analyses the significant relationship between E-Learning and E-Resources towards Student Engagement. The study assess whether E-Learning and E-Resources has enhanced Student Engagement in higher education system within Kerala region.

Conceptual model

Figure 1: Conceptual model



Pilot study

A pilot study of the questionnaire was carried among students of higher education institutions in Kerala, before conducting the core study. One hundred samples were chosen for the study, with 25 samples from each districts in Kerala. The validity along with reliability of the measured scales were verified to ensure correction of any insignificances in the measurements. Based on the feedback suggested by the respondents, minor corrections were made to the questionnaire.

Population and Sample

The population of the present research comprises of students of higher education institutions of four districts in Kerala. Multistage Random Sampling technique (Kothari C.R. (2004) was employed for this research. A total of 1400 questionnaires were circulated through Google forms in four districts in Kerala (350 in each), along with letter emphasizing the privacy and anonymity of the responses. A total of 1134 questionnaires were collected back, representing a response percentage of 70.88%, which is treated as a reasonable response rate because of the nature of the research. Out of the 934 questionnaires received, 145 questionnaires were rejected because of missing data. 789 questionnaires were considered for the core

study (55.36%).

The sample included 489 (62%) male and 308 (38%), female of the students. Majority of the respondents are Under Graduates 513 (65%) and the balance to other category. The mean age of the respondents were 18 years, 82% of the students resides in rural area and balance 18% belong to urban area.

Measuring instruments

Normality

De Carlo (1997) stated that kurtosis and skewness are "the most important indicators to the extent the regularity in the analysis of instability is affected." Frequent data testing is a requirement for statistical tests since general statistics are a basic assumption in parametric tests. Skewness is explained as a measure of symmetry or the lack of symmetry of the normal distribution. Kurtosis is a measure of peak distribution. If the distribution center, or set of data, is synchronized, it seems to be similar to the left and right of the middle point. If the mean, median, and mode coincide, it is called a symmetric distribution: skewness = 0, kurtosis (excess) = 0. A distribution is called approximate normal if skewness or kurtosis (excess) of the data is between -1.96 and $+1.96$.

Reliability

Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of items are as a group. It is considered to be a measure of scale reliability. Cronbach Alpha was done to analyze the reliability of data, and that is seem to be similar to the literature. The scales used for measuring the three constructs, E-Learning, E-Resources and Student Engagement were taken from the research. Cronbach's alpha coefficient of the studied variables was more significant than 0.7, hence it can be concluded that the data is reliable.

Study variable	Cronbach's Alpha
E-Learning	.791
E-Resources	.845
Student Engagement	.862

Tools and software

The data were analyzed employing the statistical techniques with SPSS21. IBM® SPSS® Statistics 21 is a comprehensive system for analyzing data. SPSS Statistics can take data from almost any type of file and use them to generate tabulated reports, charts, and plots of distributions and trends, descriptive statistics, and complex statistical analyses. Correlation as well as Regression analysis are done to check the association and relationship within the variables.

E-Learning

E-Learning was measured adopting self-reported data, the reliability measured by using Alfa score of 0.82. Normality testing is done by using statistical tools skewness and kurtosis .the measurement stands in between -1.96 and $+1.96$ (Table 1). Here 5-point Likert scale was used; 1- Highly dis agree 2- disagree, 3- neutral ,4- agree ,5-highly agree.

E-Resources

E-Resources was measured adopting self-reported data, the reliability measured by using Alfa score of 0.76. And normality tested by using skewness and kurtosis it is in between -1.96 and $+1.96$ (table 1). Five point Likert scale was used; 1- Highly dis agree 2- disagree ,3- neutral ,4- agree ,5-highly agree.

Student Engagement

E-Learning was measured adopting self-reported data, the reliability measured by using Alfa score of 0.78.

and normality tested by using skewness and kurtosis it is in between – 1.96 and + 1.96 (table1). Here five-point Likert scale was used; 1- Highly disagree 2- disagree ,3- neutral ,4- agree ,5-highly agree.

Table 2: Table showing Descriptive Statistics

	Skewness	Kurtosis
	Statistic	Statistic
E-Learning	.520	.789
E-Resources	.432	.492
Student Engagement	.392	.868

Data Analysis

Sample size of 789 taken from 4 districts of Kerala, (around 25% each). From Palakkad (n1= 197, 24.96%), Thrissur (n2 = 203, 25.73 %), Kozhikode (n3= 221, 28 %) and Ernakulam (n4= 168, 21.29%). To detect the relationship of the variables measured and to validate the significance of these variables the statistical techniques correlation with regression analysis were adopted. These statistical tools were found to be sufficient enough to describe the Student Engagement among higher education students in each district.

Correlation

The statistical device correlation was adopted to find out the relationship between the variables.

H1: there is a positive relationship between E-Learning and E-Resources.

H2: there is a positive relationship between E-Learning and Student Engagement.

H3: there is a positive relationship between E-Resources and Student Engagement.

Variable	Pearson Co efficient	Significance
E-Learning	0.692	0.00
E-Resources	0.625	0.00
Student Engagement	0.732	0.00

Multiple Regression Model

By examining positive and robust association between E-Learning, E-Resources and Student Engagement, a multiple regression was done to analyze the impact of E-Learning with E-Resources predicted on Student Engagement

H4: there is a substantial association between E-Learning and Student Engagement

H5: there is a substantial association between E-Resources and Student Engagement

Model Summary^b				
Model I	R	R Square	Adjusted R Square	Std. Estimated error
1	.782 ^a	.611	.597	.279
a. Predictors: (Constant), E-Learning, E-Resources				

Interpretation

The testing of the hypothesis on the correlation among the variables shows a very significant positive correlation between e-learning and e-resources towards student engagement. R is the correlation, its value is 0.782, and R square is the degree of determination, its value is 0.611. The degree of determination shows the extent to which E-Learning and E-Resources influence Student Engagement. Here the student

engagement is determined to the extent of 61.1% by E-Learning and E-Resources

ANOVA: The two-way ANOVA compares the mean differences between groups that have been split on two independent variables (called factors). The primary purpose of a two-way ANOVA is to understand if there is an interaction between the two independent variables on the dependent variable.

Table 3: Anova Table Descriptives

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.012	2	12.506	14.238	.000 ^b
	Residual	273.366	431	.709		
	Total	394.378	423			
a. Dependent Variable: Student Engagement						
b. Predictors: (Constant), E-Learning, E-Resources						

ANOVA analysis table exhibits that significant value to be lower than 0.01, that shows the dependent study variable, namely Student Engagement, is substantially predicted by the independent study variables, E-Learning and E-Resources, at 99% confidence level.

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.207	.145		8.166	.000
	E-Learning	0.406	.088	.433	12.617	.000
	E-Resources	0.642	.078	.254	5.577	.000
a. Dependent Variable: student engagement						

$$\text{Work Adjustment} = 1.207 + 0.406 (\text{E-Learning}) + 0.642 (\text{E-Resources})$$

Among these above given two factors, E-Resources has a substantial and maximum positive impact over Student Engagement. E-Learning too has significant positive impact on Student Engagement. The hypothesis [H4] is accepted and it displays a positive association between the variables E-Learning and the Student Engagement. Hypothesis [H5] is accepted and it displays a positive association between E-Resources and the Student Engagement.

Suggestion for Future Research

With the Digital India programme's vision to transform India into a digitally empowered society and knowledge economy, the education sector in India is poised to witness major growth in the years to come. Technology-led reach and easy access will bring about a socio-economic difference in the lives of Indian learners (zahoor Ahmed Lone).

Implications of the study

The study proved that student engagement is highly positive in e-learning and e-resource references. Skill engagement, emotional engagement, participative engagement and performance engagement are high in both e learning and e-resources. The study boosts the confidence of the stakeholders who currently pursue their career and studies through online learning. The covid pandemic has elevated the education sector in India, it is no longer bound to just classrooms there will be shift over to blended learning.

Discussions with Conclusion

Lack of Infrastructure and hardware facilities which hamper reliability of E- learning . ICT training to faculties is need of the hour. A teacher who lacks to interaction skill in online teaching make student engagement negative. Tailor made e-resources enhances student engagement. Student participation is truly high in e-learning than in traditional learning. students of higher education take self initiative in making e –resources and they share it with their peer team. Faculties also get wide range of references to make the concept clear among students.

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IMPACT OF GREEN PROMOTION AND GREEN PRODUCT ON CONSUMER BUYING BEHAVIOUR

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Abstract

Purpose: This study focus to give details regarding the influence of green promotion and green product on consumer buying behaviour of four rural districts in Kerala state during this COVID_19 period. This study aims to examines the relationship between green promotion, green products and consumer buying behaviour and found green promotion and green product having a positive impact on consumer buying behaviour. **Design/Methodology/Approach:** A survey was conducted among 589 through a structured questionnaire via Google form and SPSS software was used for analysis purpose. **Findings:** In this research a considerable positive correlation was confirmed betwixt variables such as dependent variable of green promotion ($r=0.774$), green product ($r=0.585$) and independent variable of consumer buying behaviour ($r=0.661$). ANOVA analysis table exhibits that significant value to be lower than 0.01, that shows the dependent study variable namely Consumer Buyng Behaviour is substantially predicted by the independent study variables, Green Promotion and Green Product has a confidence level of at 99%. **Originality /Value:** This study inspect the relationship of Green Promotion, Green Product and Consumer Buying Behaviour with reference to four rural districts of Kerala namely Palakkad, Pathanamthitta, Wayanad, and Kasarkode, which had not been explored theoretically and tested empirically in context with COVID -19 pandemic.

Keywords: Green Product, Green promotion, Consumer buying behaviour, eco friendly, COVID-19 Pandemic., environmental advertisement.

Introduction

As society becomes more focused on sustainable development with the natural environment, the business have begun to adapt their department to abide with the novel social fixture (Haroon Basha I, April 2015). The populace confide that the green life is prominent for a healthier lifestyle, thus burgoen the significance of green design in each and every segment. "Be green" implies acquire knowledge and practices that can move with environmentally friendly, responsible decisions and lifestyles to protect and sustain the natural resources for ourselves and the posterity .' Lead the scene and keep it green' is the slogan of business for capturing their competitive advantage in modern arena (Renfro LA, 2010). Universal perturb for the nature extends boyond industrial pollution, hazardous waste disposition and uncontrolled deforestation to comprise the affairs that pivot on consumer products. Green marketing assimilate substantial range of activities including revamping of product, process and promotion which stands with environment (Shulov Shresta). The entire ideology of a business move with verdant design to become environmentally sound From the beginning of the product development processes ,the business might have an aim to wins the minds of consumers by delivering eminent satisfaction.

A green product is a sustainable product map out to keep down its environmental impacts during its wheel of life and even after its of no use (Chen, 2001). The products manufactured using toxic free innards and the procedures followed are eco friendly and are certified by recognised organization ,entitled for the green label. Developing green products impels to an all new market of green consumers, who has impulse to buy green products and even pay more for the same.The products which are energy efficient , recyclable,

biodegradable and low emittent both in use and in its production will contribute immensely in the ecological development(Bhatia,MayankJain&Amit). The business and the economies proceed briskly towards the sustainability through the green product development. While the focus on green products, advanced the strategy of green promotion techniques emerged to an extend in stabile positioning of the product. The pollution free advertising , reusable , recyclable and biodegradable packaging , eco labeling and the adaption of similar distribution channels promoting the sustainable policies , environmentally friendly operations are the terms combined in green promotion.

Consumers are ready to follow themselves with organisations that are eco centric . The desire of eco centric communicate through their promotion policies and corporate social responsibilities , they are surely accepted in the positioning point and it opens the wall of marketing with the competitive spirit of eco branding with the loyal consumers (Peattie&Charter,2003).

The American Marketing Association suggests that Go-Green incorporates several activities commencing from the modification of products , product development, changes to production process, ,eco friendly packaging ,advertising and distribution and also enhances the awareness on compliance marketing among industries and it as corporate social responsibility (AMA).

The Green design has the focus to influence consumers buying behaviour by encouraging them to buy products that do not harm to environment and to direct their attitude towards the positive aftermath of their buying behaviour for themselves as well as the environment (Moisander,2009). The green value of the firms can fill the intention behaviour gap of consumers (Yatish Joshi &Zillur Rahman). Consumers , pattern of buying attitude displays that they have the desire for brand that are ecological and they are inclined to ' go green ' decisions that cause very less or no pollution. Most buyers influenced by green strategy of manufacturers that reflect companies responsibility towards the environment. The firms can draw an image of social commitment in the minds of consumers and can encourage the behaviour of buying and the decisions on purchase intention Human consumption of goods and services increased tremendously in the world wide thus leading to depletion of resources (Prinona Das). After realising the negative impact on environment because of the buying attitude, the next step is to enhance the green purchase intentions to motivate the consumers to the world of plentiful (Yew Kar Yan &Yazdaniford). The consumers perceptions and preferences with the product functional attributes by considering the environmental element determines the consumer buying behaviour.

Thus the study encompasses the formulation of green design ie . Green product and Green promotion and their impact on consumers buying behaviour with in a sustainable background.

Literature review

Green promotion and Green product on consumer buying behavior

Study of impact of green promotion and green product on consumer buying behaviour aims to give information about the effects of green product and promotion on consumer buying behaviour. Green product and green promotion are very important for every organisation for survive and environmental change

Green products are normally identified with having two objectives that is reducing waste and optimising resource efficiency . Nowadays people are more concerned about environment and they prefer products which are capable of being recycled and posses healthy disposal. So they are more prefer green products. Green products has minimum negative efforts on the environment (Diglel and yazdaniford 2014) . Cherian and Jacob (2012) studied consumers attitude towards green products. Inthe words of Kardast,,1974, some green products have high price than the normal. But the consumers are more aware about health and environment,they wish to purchase green product. This study reveals there is need for green products and change in the attitude of consumers towards green products. Baker, 2003 consider that certain attributes which must be influences consumer buying behavior by consumers awareness about green products and it's impact on environment. Chen and Chai (2010) compared gender with the attitude towards green products and consumer buying behaviour . Findings of the study reveals that there is no difference in

attitude towards environment and green product on the basis of gender. Sheikh Mirza, Aftab and Asghar(2014) studied consumer buying behaviour towards green products and how will make their green buying decision. Levit, 1960 states that Green product characteristics also influences consumer buying behavior. Howard, 2005, states that customers are looking for special feature which go long The environmental requiring more appealing to the consumers. Aakar ,1996, quality is one of the important factor which Influencing conumer buying behavior. Williamson and Zing Zoo, 2009, customers believe that quality on eco products than other products. Menck and Oliveira, 2014 state that products performance and attributes also influences consumer buying behavior. The findings suggested that green products and buying behaviour have a strong and positive relationship .

Elham Rabhar, 2011, consider the effect of green marketing promotional tools like branding, packaging and labelling on consumer purchase decision. He states that consumers have trust in eco- label and eco-brandi and it have significant influence on consumers buying patterns. Pavan ,2010 and Agyeman,2014 believes that consumer choice f green product is greatly influenced by green promotional activities like packaging. Davis, 2014 points to his research that green promotional activities more likely to influence consumer buying behaviour in an positive manner. In the study of Ahern 2013 suggest that green promotional tools like green advertising is a powerful tool to influence the beviour of consumers at the time of purchasing and buying decision. Baldwin ,1993 reveals in his study that Green promotional create a positive attitude in the mind of consumers and it create some value in the minds of consumers to purchase green products. Boztepe 2012 studied about green promotion and green products and it's impact on consumer buying behaviour. According to this study, consumers are more awared about environment and their purchase decisions are affected by environmental awareness, green product features and green promotional activities like green advertising, packaging and labelling in a strong and positive manner. In the studies of Manjunath 2013 , green promotion allows consumers to get information about green products. Williams 2007 ,consider that branding is a powerful tool which create an image in customer's mind. Davis, 2014, noted that packaging is likely to influences consumer buying behavior positively. Ahern, 2013, suggested that emotional advertising is the powerful promotional tool used to infuence consumer buying behavior. Green advertisement hepls the consumers to make information about product which have a impact on the environment. Monser 2003, states that different colours affecting customers perception of brand differently. Hartmann and Ibaniz reveals that Green marketing tools influences on consumer buying behavior. Sammer and Wostenhagen identify eco- label as an important tool to influences purchase behavior. Companies have wide range of promotional tools like offers, coupons, premium and schemes which create a favourable and positive response on the part of consumers at the time of buying. If green promotional policy is executed, it will create a good and effective impact on consumer buying behaviour .

From this study, the concern for environment has been found to be increasing among the consumers. Consumers regard the features of green products and green promotional activities while making buying decision. They are even willing to pay more for the green products to protect the environment. They are not only concern for the environment but also these can be health option to them. Green promotion create a consciousness and a positive change in the buying behaviour of consumers.. This study aims to give information about the effects of green products and promotion on consumer buying behaviour and the results are environmental awareness, green product features, and green promotional activities affect purchasing behaviour of the consumers in a positive way.

H1: There is a positive relationship between Green Promotion and Green Product.

Green promotion and consumer buying behavior

It refers to the specified kind of advertising that hub on the promotion of sustainable plans, eco friendly functions or performance and nature amiable measure adopted by a business.

An effective dispensing of products make consumers to know whether the business is committed to environment. Hence an effective way to show this commitment is only through their green promotion

policy, which determine the buying behaviour of consumers (Uydac1, 2002). There is a great influence of green promotion on consumer buying behaviour and there is a positive attitude towards green promotion (Aysel Boztepe, 2012). Green promotional activities help the business to market their product easily, these efforts convince the buyers to purchase that particular green product. Most female consumers prone to buy ecologically congruent product influenced by green promotion (Jeevarathnam P Govender, Tushya L Govender South Africa). The development of green promotions will make view point uncomplicated and increase consciousness of green products. The out-run of this will escort consumers into procure environmentally friendly products (Narges et-al). Promotion policy will assist consumers to make their decision easier to select eco cordial products (Rex and Baumann). Almost 70 percent of the consumers are affected by green promotion policy of the company's and make concrete decisions based on the promotion policy (Chase and Smith). And consumers are more attentive about the green promotions because they realised the importance of green promotion which is having a straight forward smash on their buying decisions (Aman Diglel and Dr. Rashad yasanifard). Business should give an expository notion prior to their green promotion in order to avoid any ambiguity (N. Hashem, 2011). Designing the tools of green promotion is definitely have a constructive sway on consumers buying behaviour (Duo, 2012). Green promotion aim is to convince consumers buying behaviour by inspiring them to buy the products that are safe to the environment and make immediate attention as regards the green products. At present the company's are operating towards the new idea of green promotion, thus green promotion is appearing as an indispensable for consumers to make their best choices (Anupreet Kaur Mokha). Many studies have revealed the inter-connection between green promotion and consumer buying behaviour (Dr. Meghna Sharma, Prachi Trivedi). A conclusive correlation is established between green promotion and the decision of consumers to purchase green products (Nik Abdul Rashid).

Green promotion concretely establish a consciousness and motivate positive change in consumption behaviour and it also help to create consumers values which in turn express their motivation to buy green product (Baldwin, 1993). Consumers get knowledge about green products when they glimpse several promotional activities, these promotional tools help the business to reach their consumers and proved a constructive effect on consumers buying behaviour (Manjunath, 2013). It also helps the business to satisfy their stakeholders and the business could promote their products and able to prove the relation with environment thereby effect the buying decision of the consumers (Dahlstrom, 2011). Green promotion plays a vital role which tells about the consumers regarding the green product and the environment and boost them to make purchase decisions (Ansar, 2013). The promotional stratagem if executed properly no doubt business can captivate consumers and also it shown an emotional impact on consumers buying decision (Ahern, 2013). Like wise female consumers are most affected by green promotional tactics of marketers and they make faster purchasing decision (Davis, 2014). Green promotion maneuvering has proved positive correlation with consumers, through this marketers can give basic knowledge about green product to the consumers, who are not having foreknowledge about the product, green promotion helps to have a superficial grip on the product and motivate them to take positive decision towards green product (Thanika devi et al). The studies demonstrated green promotions have remarkable footprint on consumers purchase decision (Gratia F Mantiaha). It mainly aims at granting authentic details to the consumers regarding the products and virtuous consumers heed (Hashem and Al-Rifai, 2011).

The marketer's green promotion master plan keeps people, planet and profit in mind and notable bang on customers desire (Ankit and Mayur, 2013). The principal aim of green promotion is to stimulate the behaviour of consumers and immediate response towards their purchase resolution (Rahbar and Abdul Wahid). And also enhance image of environment friendly and likeness in the eyes of consumers and import consciousness among consumers (Shrum et al -1993) Studies shown that green promotional strategies of marketers have solid impact on consumers and successfully turning their thoughts towards the purchase of green product (Delafrooz et al, 2014). Green promotional strategies of marketers should meet requirements of consumers and the environment however various green promotional strategies should be adopted by different marketers according to the nature of their green product (Ginsberg and Bloom).

Whenever company's form their promotion strategies they should give more importance for consumers, the promotion policy should not delude their consumers because consumers are mostly affected by these green strategies (D.Yazdanifard, 2014). There is a definite relationship between green promotion and green buying behaviour (Morel and Kwakye). And elements of green promotions also have a tremendous influence on consumers buying behaviour (Haroon Basha). The outcome of study proved that constructive frame of mind of consumers as regards to green promotion and its pragmatic outcome on buying behaviour. Majority of the consumers prepared towards green promotion and the end result of green promotion on consumer is high, and the study concluded that the upshot of green promotion on consumer buying is positive (Ashoorvan, 2014).

H2: There is a positive relationship between Green Promotion and Consumer Buying Behaviour.

Green product and consumer buying behaviour

For the time being the consumers are more gradient to "go green". They always try to make eco-friendly decisions and use products which are sustainable and Ecologically sound. A green product is a sustainable product with less ecological impact during its whole wheel of life. purchase of products that are advantageous to environment, conservable, recyclable, sensitive or subtle to ecological apprehension is known as green product (Mostafa, 2007). To bring sustainable environment for future, the value of green product should be enhanced (Rahman et al, 2007). The awareness about environment protection may enhance the green product purchases. Positive environmental benefits and conditions are the end result of green product consumption (oyewole, 2001).

The green buying behavior is the preference made by the consumers whether to buy ecologically sound product or not. A wide nuances of green products are available in market. The buying behavior of the consumers rely on responsiveness and the notion towards environmental concern. A consumers decision to buy a green product results in personal benefits and also abiding environmental prosperity. Consumers are more conservative of ecological issues which has resulted in the upsurge demand for green product. Consumers with supportive perspective towards green environment are more predisposed to buy green product. (Clem, 2008). The customers choice to select a green product is highly influenced to green features of products, price benefits, its operating benefits etc (Boztepe, 2012; Thongersen et al, 2012).

The consumers buying behaviour towards green products are highly influenced by the environmental concerns. But environmental concern is not only factor which impress them to purchase eco friendly products. There are alternative factors which leverage their decision. The green products performance should be competitive pursuant to environmental facet, and also on the basis of other extensive product attributes for instance amenity, durability, price etc. (Diamanto polyps et al, 2003). To make customer more attract towards green product, it should integrate more green aspects features and quality which helps to maintain eco sustainability (Kotler et al, 2008). To determine a product as a green product, the consumer give importance to certain green product traits (Roozen and De pelsmacker, 1998). For a consumer it feels very difficult to judge green product attributes as to other product attributes (Wessells et al, 1999). Identifying and to pin point a green product is a barricade for a green product purchase (Report of Massachusetts Department of environment protection, 2002).

A high price of green product is an gauge of environmental performance (Mahence, 2008). Green consumers are inclined to pay a higher price for eco friendly products. The price of green products may be costlier but the wheel of life cost will be lower (Strength, 2005). The quality of green product is also a relevant factor which affects the consumer buying behavior. The quality and legitimacy of green product and to ensure the reliability is a major concern for the consumers while making green purchase decisions (Darby and learning, 1973). To reinforce and to strengthen the trust of consumers in green product, the quality approval of agencies of government helps to a great extent (Wiser, 1998; Mishra and Sharna, 2011). Green consumers generally shows an assurance on eco friendly brands but coetaneous not to compromise on products quality. There is a notion on the part of consumers that all products should be environmentally safe without any penance on quality. The business should augment the quality As well as concentrate on

products environment benefits and to disseminate these aspects with customers to gain appreciation in market. The consumer buying behavior is also influenced by the awareness level of consumers regarding green products, it's availability, it's usage, environmental concern etc. Higher awareness among the consumer always results in higher dependence on green products (jesmin,2012).So to speed up green product purchase we have to make the unaware consumers aware about the need of saving earth for the coming generations(Roud Ahamed Rather et al,2014)

Consumers buying behaviour is also determined by product packaging and labelling too. Product package and label must be fetching which creates a flash impact on consumers mind while making buying decision (Dantas et al ,2004),Introducing eco labels helps to identify green products to an extent (Blend and van Ravenswaay, 1999). However producers may shows an over assertion on ecological obligations or performance through these eco labels and packing (Cary et al 2004).

The brand name, price, quality etc Of a products are still Prime attributes which affects the consumer buying behavior while making purchase decisions (Gan et al 2005)This research empirically examines the green products attributes impact on consumer buying behavior.

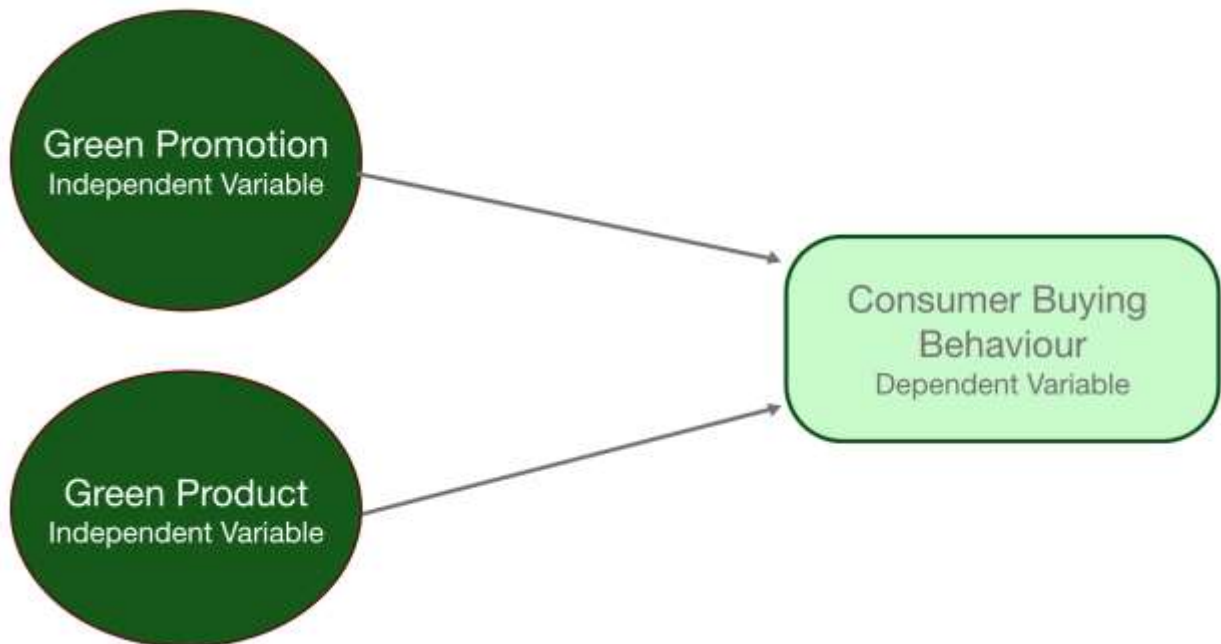
H3: there is a positive relationship between Green Product and Consumer Buying Behaviour.

Objective of the study

This research aims to assess the impact of green promotion and green product on consumer buying behavior and to know the relationship between Green Promotion, Green Product and Consumer Buying Behaviour, thereby studying whether Green Promotion, Green Product impacts the Consumer Buying Behaviour of small and medium scale industrialists of rural districts in Kerala during pandemic COVID-19.

Conceptual model

Figure 1: Conceptual model



Pilot study

A pilot study of the questionnaire was carried out with small and medium scale industries in Kerala before doing the core study. One hundred samples were chosen for the study, with 25 no's from each rural districts in Kerala. The validity along with reliability of the measured scales were verified to ensure correction of

any obscurities in the measurements. Based on the feedback suggested by the respondents, minor corrections were made to the questionnaire.

Population and Sample

The population of the present research comprises of consumer buying behavior of four rural districts in Kerala. Stratified Random Sampling technique (Kothari C.R. (2004) was employed for this research. A total of 1080 questionnaires were circulated through google forms to the four rural district in Kerala (270 in each), along with letter emphasizing the privacy and anonymity of the responses. A total of 678 questionnaires were collected back, representing a response percentage of 62.77%, which is treated as a reasonable response rate because of the nature of the research. Out of the 678 questionnaires received, 89 questionnaires were rejected because of missing data. 589 questionnaires were considered for the core study (54.45%).

The sample included 467 (72%) male and 182 (28%), female employees. Majority of the respondents are Under Graduates 240 (37%). 162 (25%) are Graduates, 97 (15%) Post graduates and 149 (23%) below higher secondary. The majority of the respondents were below 45 years 376 (58%), and balance 273 (42%) belongs to above 45 years.

Measuring instruments

Green Promotion was measured adopting self-reported data, the reliability measured by using Alfa score of 0.82. and normality tested by using skewness and kurtosis it is in between – 1.96 and + 1.96. Here 5-point Likert scale was used; 1- not true and 5- definitely true.

Green Product

Green Product was measured adopting self-reported data, the reliability measured by using Alfa score of 0.76. and normality tested by using skewness and kurtosis it is in between – 1.96 and + 1.96. Here 5-point Likert scale was used; 1- not true and 5- definitely true.

Consumer Buying Behaviour

Green Promotion was measured adopting self-reported data, the reliability measured by using Alfa score of 0.78. and normality tested by using skewness and kurtosis it is in between – 1.96 and + 1.96. Here 5-point Likert scale was used; 1- not true and 5- definitely true.

Normality

De Carlo (1997) stated that kurtosis and sketches are "the most important indicators to the extent the regularity in the analysis of instability is affected." Frequent data testing is a requirement for statistical tests since general statistics are a basic assumption in parametric tests. Skewness is explained as a measure of symmetry or the lack of symmetry of the normal distribution. Kurtosis is a measure of peak distribution. If the distribution center, or set of data, is synchronized, it seems to be similar to the left and right of the middle point. If the mean, median, and mode coincide, it is called a symmetric distribution: skewness = 0, kurtosis (excess) = 0. A distribution is called approximate normal if skewness or kurtosis (excess) of the data is between – 1.96 and + 1.96.

Descriptive Statistics				
	Skewness		Kurtosis	
	Statistic		Statistic	
Green Promotion	.520		.721	
Green Product	.732		.342	

Consumer Buying Behaviour	.432	.637
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Reliability

Cronbach Alpha was done to analyse the reliability of data, and that is seem to be similar to the literature. The scales used for measuring the three constructs, Green Promotion, Green Product, Consumer Buying Behaviour taken from the research. Cronbach’s alpha coefficient of the studied variables was more significant than 0.7, hence it can be concluded that the data is reliable.

Study variable	Cronbach’s Alpha
Green Promotion	.751
Green Product	.865
Consumer Buying Behaviour	.902

Tools and software

The data were analyzed employing the statistical techniques with SPSS21; Correlation as well as Regression analysis were done to check the association within the variables.

Data Analysis

Samples for the present research were 589 numbers which covered 4 district in Kerala, around 25% each namely Palakkad (n1= 148, 25.12%), Pathanamthitta (n2 = 153, 25.97%), Wayanad (n3= 142, 4.11%) and kasarkode (n4= 146, 24.79%). To detect the relationship of the variables measured and to validate the significance of these variables were sufficient enough to describe the Consumer Buying Behaviour of small and medium scale industrialist in each district the statistical techniques Correlation with Regression were adopted.

Correlation

The statistical device correlation was adopted for finding the relationship between the variables and hypothesis.

H1: there is a positive relationship between Green Promotion and Green Product.

H2: there is a positive relationship between Green Promotion and Consumer Buying Behaviour.

H3: there is a positive relationship between Green Product and Consumer Buying Behaviour.

Variable	Pearson Co efficient	Significance
Green Promotion	0.774	0.00
Green Product	0.585	0.00
Consumer Buying Behaviour	0.661	0.00

Multiple Regression Model

By examining positive and robust association between Green Promotion, Green Product and Consumer Buying Behaviour, a multiple regression was done to analyze the impact of Green Promotion with Green Product predicted on Consumer Buying Behaviour

H4: there is a substantial association between Green Promotion and Consumer Buying Behaviour

H5: there is a substantial association between Green Product and Consumer Buying Behaviour

Model Summary^b

Model I	R	R Square	Adjusted R Square	Std. Estimated error
1	.752 ^a	.566	.562	.319
a. Predictors: (Constant), Green Promotion, Green Product				

Interpretation

The testing of the hypothesis on the correlation among the variables shows a very significant positive correlation between them. R is the correlation, its value is 0.752, and R square is the degree of determination, its value is 0.566. The degree of determination shows the extent to which Green Promotion and Green Product influence Consumer Buying Behaviour. Here the employee productivity is determined to the extent of 56.6% by Green Promotion and Green Product

ANOVA table:

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.012	3	11.506	15.288	.000 ^b
	Residual	265.366	432	.649		
	Total	321.378	421			
a. Dependent Variable: Consumer Buying Behavior						
b. Predictors: (Constant), Green Promotion, Green Product						

ANOVA analysis table exhibits that significant value to be lower than 0.01, that shows the dependent study variable, namely Consumer Buying Behaviour, is substantially predicted by the independent study variables, Green Promotion and Green Product, has a confidence level of at 99%.

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.317	.345		8.166	.000
	Green Promotion	0.623	.038	.473	13.417	.000
	Green Product	0.613	.038	.224	4.277	.000
a. Dependent Variable: employee productivity						

Work Adjustment = 1.317 + 0.623 (Green Promotion) + 0.613 (Green Product)

Among these above given two factors, Green Product has a substantial and maximum negative impact over Consumer Buying Behaviour. Green Promotion has significant negative impact on Consumer Buying Behaviour. The hypothesis [H4] is accepted and it displays a positive association between the variables Green Promotion and the Consumer Buying Behaviour. Hypothesis [H5] is accepted and it displays a positive association between Green Product and the Consumer Buying Behaviour.

Suggestion for Future Research:

There are few suggestions for future study in this area, that is in future research more tools and variables can be used at the same time sample size can also be increased. In this research green consumers as a

whole is taken into account, in future, discussion of gender based preference and behaviour can also be considered.

Implications

The research of this paper aims to study the concession of green product and green promotion influencing the buying behaviour of consumers. This research paper is important because the earth is now confront with environmental desolation and pollution level are getting worse constantly which will ultimately lead to degradation of human life. Green product and promotion is the best way to lead the business. Furthermore the firms Should present preminent efforts to its customers in a manner that shows the firm is actively trying to decrease the environmental risks. Studies shows that the green product attributes and green promotion has a great impact on consumer buying behaviour . The result of analysis by means of Pearson correlation have an overall co-efficient of (752) and green promotion have highest beta of (0.623) towards consumer behavior and green product have a beta co-efficient of (0.613).

Our research also contributes to the literature that focusing on green aspects is one of the best ways for the business to survive and to protect environment for our next generation.

Discussion with conclusion

The purpose of the research was to identify the impact of green product and green promotion on consumer buying behaviour. The study suggests that the green product and green promotion strategies reflects a positive alteration in the pattern of consumer buying behaviour. The findings and the previous research reviews are moving consistently and approved the positive impact. The consumers are primed to splash out on green products, even pay more for it, as it enhanced their satisfaction towards a healthier green life for themselves and for the posterity. The analysis report show the picture that provide a positive backscattering on consumer buying behaviour by the green design on products and services and the efforts in green promotion aimed at minimizing environmental impact. By analysing the consumer buying motivation, intention of purchase, the environmental concerns, brand positioning, and the reliability of the green products and promotion etc concentrated towards the urgue needs of green pattern in all aspects. The variables are complimented and moved together with the attitude change in buying pattern. The various dimensions arrived at the conclusion that the eco friendly goals only survive in the upcoming years. The customers are ready to be part with companies and ready to pay more for the quality provided , when they have the focus towards eco friendly policies. Now a days the companies have to be more focused to the eco centric behavior in all aspects to protect the environment. The variables , under study support the fact that the green life will be the choosen lifestyle for the next generation. In conclusion we can say that green marketing instruments and the green products creates a high value in the environment protection. Due to emerging concern on environment, green products and green promotion need to implement on priority basis . Going Green is the specific strategy to win the minds of consumers and also to the protection of our green earth.

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IMPACT OF SOCIAL DISTANCING AND SOCIAL MEDIAS ON MENTAL HEALTH OF STUDENTS DURING COVID19 PANDEMIC PERIOD

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Abstract

Purpose: This descriptive and analytical study is aiming to assess the impact of the relationship between social distancing, social media and mental health and to study the impact of social distancing and social media on mental health of students of Calicut University during COVID 19 pandemic period. **Design/methodology/approach:** The nature of the current study was descriptive and analytical. The methodology starts with variables extracted from theories. Structured questionnaire was used for collecting data. The sample was collected from students studying under University of Calicut. A total of 771 questionnaires were collected back. This indicate a response rate of 77.1%. 7 points Likert format was used in the questionnaire. SPSS 21 and Microsoft Excel are the statistical packages and correlation and regression are the tools used in the study. **Findings:** Significant relation was found between social distancing and social media with mental health of student studying in University of Calicut during COVID 19 pandemic period. The students would have better mental health if there were less social distancing and appropriate usage of social media. **Originality/value:** The study reveals an in-depth understanding of the influence of social distancing and social media on mental health of students. The study threw light on major causes of mental health issues during COVID 19 pandemic. The study indicated social distancing and social media is correlated with mental health of students.

Keywords: Social distancing, pandemic, COVID 19, mental health, social media, social interaction, isolation and anxiety.

Introduction

Corona viruses are large family of viruses that causes illness ranging from common cold to more severe diseases including acute respiratory problems. COVID 19 is an unprecedented epidemic which affected almost all people of the world in multi-dimensions. The first human cases of COVID 19 were reported in Wuhan city, China, in 2019. Public health emergency and international concern (PHEIC) has been declared after the outbreak of COVID 19 by World Health Organization on January 30, 2020 and later declared as a pandemic on March 11, 2020 (Coronavirus disease 2019 (COVID-19) Situation Report 51). Researchers studied the genomic features of SARS-CoV-2 and found that it is not a laboratory construct as its genomic sequence did not show a mix of known elements (Coronavirus disease 2019 (COVID-19) Situation Report 94). The pace of the spread of epidemic has been so high that safety measures has become inevitable. One can hardly exaggerate the disruptive effect of Covid 19 pandemic to everyday life. Since the potentiality of spread is very high among college students, most of the universities of India preferred online teaching to offline teaching.

As per the WHO medical instruction, social distancing is considered as an essential pre-requisite to arrest any further spread of the diseases. Social distancing or physical distancing is a set of non-pharmaceutical measures that prevent the spread of contagious disease by maintaining a physical distance between people and reducing the number of times people come into close contact with each other. Social distancing, isolation, routine changes and reduced social interactions caused some negative impacts on mental health of people (Matias Carvalho Aguiar Melo Et al). Students of higher education interact more with peers as

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it reduces their psychological stress to a great extent. Government declaration of lockdown and social distancing has mounted psychological pressure on adults (Salma Majeed Et al 2021).

Face masking is the second safety measure to suppress transmission of disease and save lives of people. It reduced the effective spread of virus and death toll while the cost of the intervention is low. Therefore, Indian states and Union Territories considered taking strict administrative actions including imposition of fine on persons not wearing face masks in public and work places (GO No. 40-3/2020-DM-IA). Hence, even during the relaxation period people of all age group including the students of higher education throughout India have been forced to wear mask for public interest. A study by Yu-Wen Hung about the barriers to the wearing of face masks in US reveal that barrier to social interaction is a significant factor. Internal barrier to masking include lack of knowledge about the nature of epidemic and benefit of using mask. The external factors consist of government policies, laws and attitude of the people of society. In Japan mask wearing is common for the ill people and it is regarded as concern for the other people and social responsibility (Burgess & Horii 2012). Hence, in a society where individuals value the social responsibility more, the safety measures of social distancing and face masking can hardly lead to high psychological stress and the vice versa.

Studies across the globe suggest that excess use of social media affect the psychological well-being adversely. Comparison factor in social media triggers feeling of jealousy. More friends on social media does not correlate with being more social (Alice G Walton Et al 2017). The influence of social media has strengthened during the pandemic period as more people started preferring virtual platform to off-line interactions. All higher educational institutions like government colleges, aided colleges, affiliated colleges and other private educational institutions conduct classes through online platforms like google meet, zoom, Microsoft teams etc. However, students prefer active learning environment to passive learning environment since they participate in highly interactive world. Thus, as a measure of substitute to physical classes, the students of higher education need more collaborative online learning environment accommodating variety of instructional models provided anytime anyplace (Charles Dziuban Et al). In this, the extent to which the government and universities can improve the quality of online platform is a matter of concern. As per the evaluation index of the education activities of different states prepared by Ministry of Education, the Government of India, Kerala Education sector achieved A++ rank (. However, the report says quality of integration of ICT in higher education needs to be improved. Excellent quality ICT enabled classes on social media eases the learning stress of students. The study aims to measure the extent of impact of social media on the psychological stress of students of higher education.

Psychological stress is a particular relation between person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being. Lack of sufficient measures to address the psychological stress of college students during COVID 19 pandemic could cause long term consequences on their health and education (Mathew H.E.M. Browning Et al, 2021). The knowledge about the level of impact of the above-mentioned safety measures and social media on mental stress of students of higher education is of crucial importance. The research findings reveal that students' community have fundamental knowledge of Covid 19 transmissions. They believe the health recommendations of safety measures (Aleksandar Kecogevic Et al).

On examination, very limited studies were carried out in the impact of safety measures and social media on mental stress of students of higher education in Kerala. This research study investigates safety measures' impact on level of mental stress of students studying under Calicut University along with social media.

H1: There is a positive relationship between Social Distancing and Social Media

As the global pandemic COVID-19 continues to rapidly spread, we are hearing the term social distancing. Social distancing is staying away from crowds with the intent of minimizing transmission of infectious disease outbreaks. Otherwise it is a public health practice that aims to prevent infected people from coming in close contact with healthy people in order to reduce opportunities for disease transmission. And it is deliberately increasing the physical space between people to avoid spreading illness by reducing groups

of people and crowded spaces. It can include large scale measures like cancelling group events or closing public spaces, as well as individual decisions such as avoiding crowds. Studies on outbreaks of infectious diseases, such as the flu, suggest that when social distancing is continued for a long period of time, it will be one of the effective way to reduce the number of people infected (Maharaj S et al., 2012). Studies on the 1918 influenza epidemic, comparing different states in the USA, recognised the benefits of applying social distancing (Hatchett et al., 2007). So it shows the inevitable importance of the social distancing. And a study investigates more than 10 million Google searches and identified the drastic changes in mental health search queries during COVID 19 pandemic period (Jacobson et al., 2020)

We believe that social distancing will probably increase the rate of fear, anxiety, loneliness and depression. Humans are social beings, independent of different backgrounds, and social distancing for a long period might create stress on people both mentally and psychologically. The economic is slowing down, poverty is increasing and lakhs of people lost their jobs, all of these strengthen these feelings. In light of growing concerns related to the COVID on mental health of people, there is a significant need to address the impact of social distancing on mental health burden on students. The students have a basic knowledge of COVID transmission and common symptoms and they are following the social distancing or COVID protocols. However they are facing a number of academic and other difficulties and high level mental health distress during the COVID 19 pandemic period. The researchers have realised and identified that the social distancing might have adverse psychological effects on the mental health of students. For children who are quarantined at home with their parents or relatives, the stress caused by such a drastic change in their life style might be eased to some degree (Wang G et al., 2020). Most recently, the National Health Commission of China issued guidelines and listed specific intervention strategies for children who are quarantined in collective medical observation centres. For example, these measures seek to increase time of communication of students with their parents; increase children's access to disease information through various sources; guide children to establish a regular schedule of activity; and provide timely referrals to psychiatrists when children feel mental distress, such as fear, loneliness, worry, anxiety, difficulty sleeping, and loss of appetite (national health commission of the people's republic of china, 2020).

College students' mental health has been rising concern with a significant number of students experiencing psychological and mental distress (American College Health Association, 2020).

Mental health issues can significantly influence students' academic success and social interactions affecting their future career and personal opportunities. The rapid spread of COVID-19 and social distancing measures imposed across the country are expected to further affect the mental health of the population, including college students.

Mental health issues are one of the leading impediment to academic success. Mental problems can affect students' motivation, concentration, and social interactions. These are the crucial factors for students to succeed in higher education.

So the pandemic has the potential to affect college students physically, academically, financially and psychologically. So here we focused on how the social distancing impact the mental health of students of the University of Calicut during the COVID 19 pandemic period.

H2: There is a positive relationship between Social Distancing and Mental Health

Social Medias are online platform which provides information about what's happening around our daily life and the whole world. It helps in sharing ideas and thought on virtual platform. It is mainly developed for communicating with families and friends. Mental health is a state of wellbeing in which the people understand his or her own capabilities can cope with the normal stresses of life. Good mental health will help you to lead a healthy and happy life. The word mental health is also termed as absence of mind. From the last few years, studies have been conducted, which implies that mental health is influenced by the social media.

Thus, the impact of social media on mental health is arguable. This leads to mood swings, it decreases their communication skills, emotions, talents etc. (Ted Eytan, 2010). During the last 5 years, the quantity of preadolescents and youths utilizing social networking sites has expanded rapidly As per WHO report about 300 million people addicted social media and leads to depression. Over use of social media has influence the metal health of students. (Barrense -Dias, et al., 2019). mentioned that social media is the most extremely worse phase for youth where the younger's use for cyber bullying and trolling which is a hazard for youngster's mental health. (Miller, et al., 2016). Depict that internet in our life changes the method for correspondence, socialization additionally it keeps companionship.

During the period of COVID 19 students are not able go to the colleges, meet their friends, and play outside. The major impact among students was from the problematic usage social media, which refers to being addicted with social media, having a strong determination to use social media, and spending more time on social media. Which leads to destroy their social, personal, and professional life, as well as psychological health and the well-being. (Andreassen and Pallesen, 2014). Over use of social media have been lead to poor psychological well-being (Huang, 2017). Are the common problems that the students will face? Therefore, changes in the learning style and lifestyle, social media usage have become a major risk factors for university students' anxiety.

The overuse of social media have dangerous effects for students. Because they are facing lots of problems related to mental health which gets developed during young period can act as a silent pandemic for any individual throughout the life. Social media has influencing the students mental health in different manners .It has a major role in destroying our self-esteem. In several situation we are not taking advises from a second person we ourselves makes decision it decreases their communication skills. Students used to spent lot of time in social media it decreases their sleeping hours and causes several health issues. (Pater & Mynatt, 2017). Pictured that social media causes for averse and unsafe conduct in this manner it is harmful to the emotional well-being of a person, especially for students. Mainly mental issues changes our behavior and emotion. Dangerous use of online in our life was flatly and freely connected with strength and depression side effects (Shensa et al., 2017). While using social media students are completely absent minded and do not try to know what's happening in our surroundings they will be completely devoted to social media. (Patel, et al., 2016). Peaked out that online networking is creating a problem like uneasiness, sorrow, and dietary issues. Students also reported that social media has a major role on spreading fearful, fake and panic information related to the Covid-19 outbreak throughout the country, with a potential negative influence on people's mental health and psychological well-being, when they are trying to know more about the current pandemic situation.

According to a research conducted by (Strickland, 2014). Children, teenagers and adults all are the mostly active users of social media and chiefly are at risk of developing mental health issue at a high rate of concern. So there is a significant need to study the impact of social media on mental health of students in university of Calicut during the COVID 19 pandemic period.

H3: There is a positive relationship between Social Media and Mental Health

Mental health is nothing but the feeling of being very healthy and full of energy. Mental Health is explained as a state of well-being in which every individual realizes their own potential and is capable to cope with the stresses of life and have the ability to work productively and fruitfully and can contribute positively to society. (WHO). Mental health affects how we think, feel or act. It includes all emotional social and psychological well-being and happiness of a person. Lack of sleep, low energy, being confused, forgetful, anger, upset, scared, yelling with others, mood swings, harming oneself and others etc. are some of the aftermaths of being in a poor mental health stage.

The impact of COVID 19 on mental health is a serious issues globally. Government of various countries took initiative measures like , Specustawa to encourage and practice social distancing, gathering prohibition, implementing online platform for schools and colleges, work from home(Specustawa act of March) COVID 19 bought self-isolation and social distancing which turned to be the root causes to increase the loneliness and mental stress to a highest level. In order to stop spread of corona virus along

with social distancing, masking is used to cover your nose and mouth which also creates a feeling of claustrophobic or a mental feeling of being trapped as it creates symptoms like panicky or dizziness. Many found it very difficult to cope with and which negatively impacted the mental well-being.

The transition period from late adolescence to emerging adulthood is very critical and pivotal (Arnett 2000) it is very critical to have good and positive companionship for psychological well-being. Many Researchers related epidemiology have stressed that 12-50% of university students meet one or more criteria of mental stress (Blanco et.al 2008). Academic success is highly affected by the mental health of students. High level of mental health will result in increased learning and creativity. Many studies emphasis that the effect of current pandemic is high on college students being the vulnerable population. The main leading impediment to academic success is mental health of students. Social distancing affects the mental health of student community in many ways. Mental health needs are related to academic success (The American College health association)

Isolation and social distancing creates many mental health issues especially in students like frustration, boredom, stigma, financial issues, tension due to inadequate information, multiple tensions related to fear and worry about their own health and family, difficulty in concentrating, sleep disruptions, low energy, feeling hopeless, scared, angry, mood swings etc. Thus, the period of COVID 19 is upheaval for students mainly due to abandonment and frustration due to lock down and social distancing. Losing everyday social connections has psychological cost and which affect the student community acutely.

Social Media Exposure (SME) related to cognitive and negative news of pandemic leads to ruminative thoughts and this has been calculated as a high risk factor for psychological distress (McLaughlin 2019). When information related to pandemic such as confirmed cases, death rates, total positive to test rates (TPR) it is perceived as a mental threat and lead to subsequent anxiety, tension, and much more mental health imbalances.

Social media has high impact on young adult students as they are the frequent and repetitive users (China internet network information centre 2013)

Health Belief Model mentions that information on social media gives signals that effect our perception related to mental threats.(Janz Becker 2018).when information related to pandemic such as confirmed cases, death rates, total positive to test rates (TPR) it is perceived as a mental threat and lead to subsequent anxiety, tension, and much more mental health imbalances.

Thus, the impact of social distancing is severe on student's mental health along the pressure from social media. Health department and Universities should try to take precautionary measures like counseling sessions and many virtual platform games and competitions to keep them mentally and physically healthy as they are the future citizens of every country.

H4: There is a substantial association between Social Distancing and Mental Health

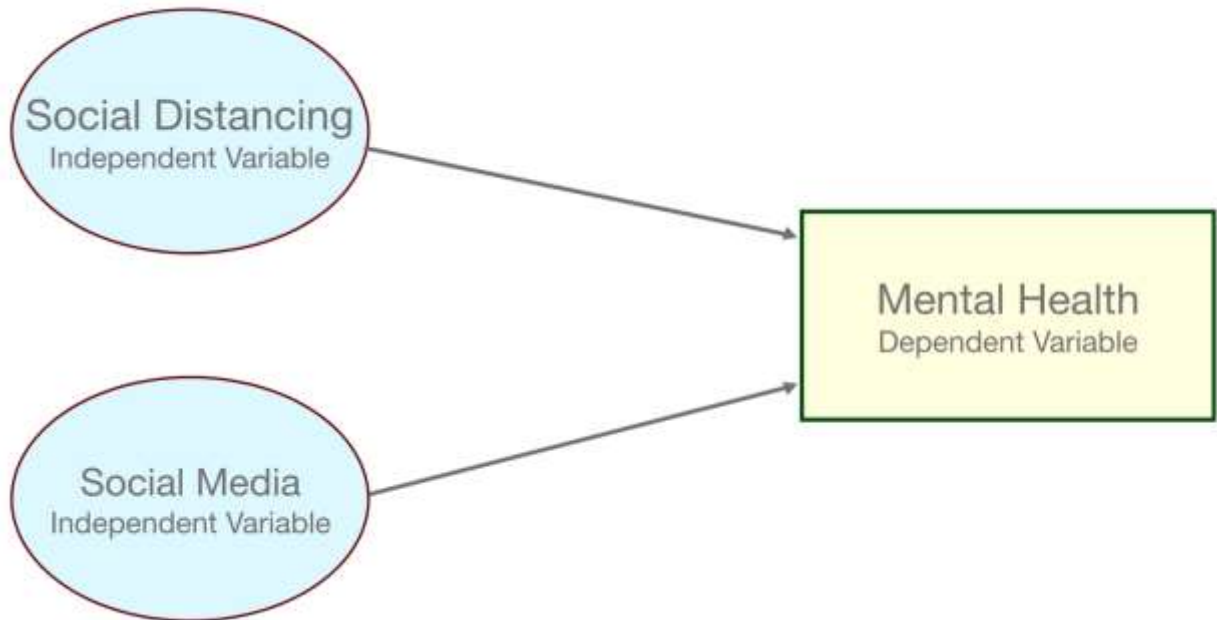
H5: There is a substantial association between Social Media and Mental Health

Objective of the study

This research aims to assess the mental health of students during COVID 19 pandemic period and to understand the relationship between Social distancing, Social media and mental health, thereby studying whether Social distancing, Social media impacts the mental health of students of University of Calicut during COVID 19 pandemic.

Conceptual model

Figure 1: Conceptual model



Pilot study

Before doing the core study, a pilot study of the questionnaire was carried out with students during COVID 19 pandemic in Kerala. One hundred samples were chosen for the study, with 25 numbers from each rural district in Kerala. In order to ensure correction of obscurities, if any, in the measurements, the validity and reliability of the measured scales were verified. Feedbacks were collected from the respondents and based on these, minor corrections were made to the questionnaire.

Population and Sample

The population of the present research comprises of students studying under Calicut University during COVID 19 pandemic spread over four districts in Kerala. Stratified Random sampling technique (Kothari C.R. (2004) was employed for this research. A total of 1000 questionnaires were circulated through Google forms to the four district in Kerala (250 in each), along with letter emphasizing the privacy and anonymity of the responses. A total of 771 questionnaires were collected back, representing a response percentage of 77.1%, which is treated as a reasonable response rate because of the nature of the research. Out of the 771 questionnaires received, 132 questionnaires were rejected because of missing data. 649 questionnaires were considered for the core study (64.9%).

Measuring instruments

Social Distancing

Social Distancing was measured by adopting self-reported data, the reliability measured by using Alfa score of 0.82. And normality tested by using skewness and kurtosis it is in between -1.96 and $+1.96$. Here 7-point Likert scale was used; 1- not true and 7- definitely true.

Social Media

Social Media was measured by adopting self-reported data, the reliability measured by using Alfa score of 0.76. And normality tested by using skewness and kurtosis it is in between -1.96 and $+1.96$. Here 7-

point Likert scale was used; 1- not true and 7- definitely true.

Mental Health

Social Distancing was measured by adopting self-reported data, the reliability measured by using Alfa score of 0.78. And normality tested by using skewness and kurtosis it is in between – 1.96 and + 1.96. Here 7-point Likert scale was used; 1- not true and 7- definitely true.

Normality

De Carlo (1997) mentioned that kurtosis and sketches are "the main indicators to the extent the regularity in the analysis of uncertainty is affected." Periodical data testing is a requirement for statistical tests, since general statistics are the basic assumption in parametric tests. Skewness is termed as a measure of symmetry or the lack of symmetry of the normal distribution. Kurtosis is the measure of peak distribution. If the distribution center, or set of data, is coexisted, it seems to be similar to the left and right of the middle point. If the mean, median, and mode coincide, it is called a symmetric distribution: skewness = 0, kurtosis (excess) = 0. A distribution is called approximate normal if skewness or kurtosis (excess) of the data is between – 1.96 and + 1.96...

Descriptive statistics

	Skewness	Kurtosis
	Statistic	Statistic
Social Distancing	0.520	0.789
Social Media	0.654	0.462
Mental Health	0.421	0.738

Reliability

Cronbach Alpha was done to examine the reliability of data, and that is seem to be similar to the literature. The scales used for measuring the three constructs, social distancing, social media, mental health, were taken from the research. Cronbach’s alpha coefficient of the studied variables was more significant than 0.7, hence it can be concluded that the data is reliable.

Study variable	Cronbach’s Alpha
Social Distancing	0.787
Social Media	0.845
Mental Health	0.698

Tools and software

The data were analyzed employing the statistical techniques with SPSS21; Correlation as well as Regression analysis were done to check the association within the variables.

Data Analysis

Samples for the current research were 639 numbers which covered 4 rural districts in Kerala, around 25% each namely Palakkad (n1= 157, 24.57%), Trissur (n2 = 164, 25.67%), Kozhikode (n3= 169, 26.44%) and Malappuram (n4= 149, 23.32%). To detect the relationship of the variables measured and to validate the significance of these variables were sufficient enough to describe the Mental Health of students during COVID 19 pandemic period in each district the statistical techniques Correlation with Regression were adopted.

Correlation

The statistical device correlation was adopted for finding the relationship between the variables and hypothesis.

H1: there is a positive relationship between Social Distancing and Social Media.

H2: there is a positive relationship between Social Distancing and Mental Health.

H3: there is a positive relationship between Social Media and Mental Health.

Variable	Pearson Co efficient	Significance
Social Distancing	0.784	0.00
Social Media	0.645	0.00
Mental Health	0.811	0.00

Multiple Regression Model

By examining positive and robust association between Social Distancing, Social Media and Mental Health, a multiple regression was done to analyze the impact of Social Distancing with Social Media predicted on Mental Health

H4: there is a substantial association between Social Distancing and Mental Health

H5: there is a substantial association between Social Media and Mental Health

Model Summary ^b				
Model I	R	R Square	Adjusted R Square	Std. Estimated error
1	0.812 ^a	0.659	0.655	0.324
a. Predictors: (Constant), Social Distancing, Social Media				

Interpretation

The testing of the hypothesis on the correlation among the variables shows a very significant positive correlation between them. R is the correlation, its value is 0.812, and R square is the degree of determination, its value is 0.659. The degree of determination shows the extent to which Social Distancing and Social Media influence Mental Health. Here the mental health is determined to the extent of 65.9% by Social Distancing and Social Media

ANOVA table:

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.872	3	12.654	14.238	.000 ^b
	Residual	234.654	395	0.789		
	Total	298.657	423			
a. Dependent Variable: Mental Health						
b. Predictors: (Constant), Social Distancing, Social Media						

ANOVA analysis table exhibits this significant value to be lower than 0.01, this shows the dependent study variable, namely Mental Health, is substantially predicted by the independent study variables, Social Distancing and Social Media, has a confidence level of 99%.

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.392	0.265		7.435	.000
	Social Distancing	0.687	0.232	0.545	13.417	.000
	Social Media	0.765	0.324	0.524	5.343	.000

a. Dependent Variable: employee productivity

Work Adjustment = 1.392 + 0.687 (Social Distancing) + 0.765 (Social Media)

Among these above given two factors, Social Media has a substantial and maximum negative impact over Mental Health. Social Distancing has significant negative impact on Mental Health. The hypothesis [H4] is accepted and it displays a positive association between the variables Social Distancing and the Mental Health. Hypothesis [H5] is accepted and it displays a positive association between Social Media and the Mental Health.

Suggestion for Future Research

In future study, researcher can include more tools and variable and different data collection methods can be used. Sample size may also be increased. Data may be collected from students studying in various other programmes like engineering, medicines etc. And as the present study solely concentrated on university students, it can also be extended to other areas like primary, secondary and higher secondary students.

Implications of the study

The past studies reveals Adult students are the routine users of social media which has impact on their mental health (China Internet Network Information Centre, 2013). Also Rational and pessimistic news of Covid-19 pandemic through Social Media Exposure leads to ruminative thoughts causing psychological distress (Mc Laughlin, 2019). And the Mental health is of vital importance to the academic success of students which is affected by social distancing during Covid-19 pandemic (American College Health Association).

This study found that the social distancing and excessive use of social media negatively impacts the mental health of college students. The difficulties related to affection, interaction, routine habits and academic activities brought mental distress among the students and the sudden change in the social, habitual and cognitive use of social media also indicated several problems on mental health of these college students. It showed the need of a shift to minimal use of social media and a drastic change in the measures of social distancing for maintaining good mental health among the students. The important variable while studying the impact of COVID 19 pandemic on students of higher education were social distancing, social media and mental health. The studies (Julio Torale Et al, 2020) reveal that the COVID 19 pandemic situation has significant impact on mental health. As the present study shows positive relationship social distancing and social media with mental health, it can contribute to the needed changes in social distancing and social media policy measures so that there would be minimal impact on mental health of students. And this research throws light on the authenticity that peculiar social distancing methods upsurge frustration among students.

Discussions with Conclusion

In the present global scenario, research on mental health of the students is of crucial importance to the educational psychologists. There is lack of clear of messages and peoples' desire for true facts is

increasing. This has forced the public to seek information from less reliable social media (Rubin & Wessely, 2020). Though the psychological impact of quarantine is general felt, its real impact on millions of people are not well studied in the present scenario (Brooks et al., 2020; Venkatesh & Edirappuli, 2020). This study has thrown light on the positive nature of relationship between safety measures like social distancing and use social media in higher education with mental stress. The authorities can inculcate mental health by making apt changes in social distancing and social media usage by students of higher education.

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THE EFFECT OF UNHEALTHY FOOD HABIT AND LACK OF EXERCISE IN WOMANHOOD; A CASE STUDY ON THE INCIDENCE OF POLYCYSTIC OVARY SYNDROME [PCOS] AMONG ADOLESCENT GIRLS IN KERALA

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Abstract

Purpose: Polycystic Ovarian Syndrome is an endocrine hormonal disorder commonly find among women during adolescent age. The causes for PCOS couldn't exactly proved till this era. But the condition seems to connect the unhealthy food habits along with lack of proper physical exercises leads to insulin resistance and further to prevalence of PCOS. This research focuses to evaluate the relationship between sedentary lifestyle like unhealthy food habits along with lack of physical movement towards PCOS. This study focused on adolescent girls from five different district in Kerala. Design/methodology/approach: An experience survey was conducted to study how the unhealthy food habits and lack of physical exercise influence adolescent girls for the prevalence of PCOS during their adolescent age. Data collected from 606 respondents from five districts(20% each) in Kerala. Findings: In this research, a substantial positive correlation was established between the variables like unhealthy food habits ($r=.685$),lack of physical exercise ($r=.693$) and Incidence of PCOS($r=.591$) with reference to the adolescent girls from five districts in Kerala .This study revealed that unhealthy food habits along with lack of physical exercise influence the incidence of Polysystic Ovary Syndrome. Here the PCOS among adolescent girls is determined to the extent of 64.3% by unhealthy food habits along with lack of proper physical exercises. This study revealed the chance of occurrence PCOS among adolescent girls is positively associated with their sedentary life style like the use of unhealthy foods along with lack of physical exercise. Originality /Value: This study gives a relevant findings about the causes to occur Polysystic Ovary Syndrome and how it affects the adolescent girls during their childhood due to lack of proper life style and it leads to hormonal disorder. Study also shows the demographic variable like weight and age which influence the prevalence of PCOS among Keralites in southern districts. Study flashed the hereditary factors and personal factors which causes to the occurrence of PCOS.

Keywords: Unhealthy food habit, lack of physical exercise, Polysystic Ovary Syndrome, women hood, adolescent, metabolic, endocrine.

Introduction

Down the years, the adolescent girls in kerala are confronting various lifestyle diseases due to imbalanced dietary habits and sedentary lifestyle. one such menace most of the adolescent girls facing is the Polycystic Ovary Syndrome and the number of women having PCOS is increasing at an alarming rate day by day. PCOS is a condition in which a woman's reproductive and metabolic features are affected, symptomizing hormonal imbalances, metabolic abnormalities and insulin resistance which aggravates the possibility of the risk of infertility, type 2 diabetes and cardiovascular disease which will largely affect one's quality of life. In fact the exact reason for the occurrence of PCOS is unknown. This condition is often related to multi- factors including genetic predisposition also. Despite this unsettled backdrop of PCOS, majority of medical practitioners agree with the fact that both unhealthy lifestyle and lack of exercise amounts in the development of PCOS among women.

'Polycystic ovary syndrome has become commonplace in today's world. PCOS must be considered a

serious issue because its implication on long term health regardless of a woman's age. It needs to be seen as a lifelong condition, not one tied only to pregnancy. Polycystic Ovary Syndrome is a highly prevalent endocrine - metabolic disorder that implies various severe consequences to female health, including alarming rates of infertility'. [Dr. Tarini Sonwani, 2019,] Firstly, the occurrence of PCOS is said to be because of the unhealthy intake of processed food, which includes high amounts of oil, fat and sugar contents. The unchecked consumption of unhealthy food makes a person obese or overweight and also leads to the excess production of testosterone, hair growth, irregular periods and more likely to develop PCOS in a young age itself. The present generation is more attracted towards packaged and ready-to-eat food items which make their life more convenient, but these poisons in disguise create serious repercussions in future. Another factor which works along with the inclusion of unfavourable diet pattern in leading women to the condition of PCOS is the lack of physical exercise in daily life. Medical practitioners often recommend both the obese and lean person with PCOS symptoms, to follow a correct pattern of exercise on a daily basis. In particular an obese woman should give meticulous attention in doing rigorous and proper exercise without fail. Because it can readily restore ovulation and thereby increase the possibility of getting conceived. Simultaneously such a shift in lifestyle can also decrease the insulin level, Acanthosis nigricans, Testosterone levels and thus raises Sex Hormone Binding Globulin [SHBG] levels and above all to make a person physically and psychologically at ease. It is said that engaging in any kind of physical exercise of more than 150 minutes per week is ideal to maintain a healthy body. At least 90 minutes of moderate - high intensity exercise [heart rate 150 times per minute], such as playing basketball, a brisk walk, running, rowing and so on are some activities generally advised by doctors for people with this health condition.

'It is proved that physical exercise could effectively improve menstrual disorders and thin ovulation of obese PCOS patients. Exercise intervention could effectively improve health-related life quality of overweight or obese PCOS patients, which can improve the insulin resistance of the patients and help them to increase ovulation rate and decrease hormone level for increasing pregnancy rate'. [Shaobing Wang, Zhenghong Zhang and Yiping Lin, September 19, 2019] Therefore encapsulating these variables, the present study focusses on how compromise in healthy food habit and lack of physical exercise lead adolescent girls in Kerala to the state of PCOS

Review of Literature

Unhealthy Food style and polycystic ovarian syndrome

PCOS is an endocrine disorder commonly found among women in their reproductive age. This hormonal disorder can be found among adolescent girls due to their unhealthy food style during teenage period. The symptoms related to this hormonal disorder is irregular menstrual period, excess hair growth, etc. Doctors commonly don't know exactly what causes PCOS, but the condition seems to be related to higher levels of androgens and genetics. Researchers found adolescent females who had experienced precocious puberty had an increased risk for developing PCOS. Children with lower nutrient diets tend to enter puberty earlier. Overall our modern diet rich in processed foods, dairy products, processed meats and fast food is disruptive to normal development and aging. Sedentary lifestyle and faulty food style are considered the common cause to which leads to insulin resistance and further to prevalence of PCOS. The majority of people with PCOS have insulin resistance or high insulin. (Dr. Lara Briden 2018) The ideal diet consists of a variety of foods from various food groups like healthy carbohydrates such as vegetables, lean meat, fish and high fiber grains. Low glycemic index foods cause the body to release insulin steadily and slowly, making it easier for the body to use food as energy rather than store it as fat. These unhealthy fats can increase estrogen production which can make weight gain and ultimately leads to PCOS symptoms. Fat concentration leads to obesity which leads to hormonal imbalances. In adolescent girls PCOS has augmented due to unhealthy food habits and obesity. (Leila Hajivandi et al, 2018). Protein rich foods such as meat, fish, eggs, nuts and seeds could help fast metabolism for a few hours. Eating too few calories can cause a major decrease in metabolism. Leading a sedentary

lifestyle, skimping on protein, drinking sugary beverages also can be considered as the reason to slow down metabolism. Slow metabolism tends to have more leftover calories which get stored as fat. On the other hand, those with fast metabolism burn more calories and are less likely to accumulate a lot of fat. Daily food consumption by women has been attached with metabolic signals, shown the possible link of daily foods affecting ovulatory functions (Shivananda Nayaks, et al 2019). Ovulatory functional disorder seems to be a cause of PCOS among adolescent girls.

The increasing prevalence of PCOS among young adult girls can be directly related to a sedentary life and over use of junk food also lack of nutritional food overall food style leads to metabolic imbalances such as insulin resistance and hormonal disorder which is common in Indian population. In a case control study found that total energy and fat intake have been more in PCOS group rather than others (Ahmadi et al. 2013). Another cohort study showed that PCOS group tended to take more fatty foods and high glycaemic index foods more than healthy women. (Moran et al. 2013). Another study showed that low carbohydrate diet increased insulin sensitivity, but didn't present any defects in reproductive hormones (Douglas et al. 2006). This contradiction leads to a research gap and an anxiety to study the relationship between food style and chance to occur polycystic ovary syndrome among adult girls. Hence, it was relevant to hypothesize that :

H1: there is a positive impact between unhealthy food habits and occurrence of polycystic ovarian syndrome.

Lack of physical exercise and the occurrence of PCOS. (Independent variable 2)

The world has witnessed diseases of many kinds during various centuries. But, the rate of diseases especially life style diseases accelerated among adolescent girls, with the advent of modernisation inside the households. The picture becomes more explicit through the juxtaposition of the nature and rate of lifestyle diseases caused to the women of 1990s and that of recent years. Analysing the pre- industrial period the rate of lifestyle issues like PCOS were comparatively low where the household and daily chores were done manually, without much assistance from electric and electronic equipment. During that period, natural physical movement helped women to stay fit and healthy also. Another unfavourable trend that has been taken up by the current generation is their excess addiction towards modern technology, which belittled them as mere couch potatoes. Consequently the long and lazy chat rooms of social media platforms and the screen-to-screen life turned their life as a total unhealthy one. This uncontrolled addiction towards virtual life often discourages them to get engaged in any form of physical exercises. Resultantly, the over consumption of unhealthy food and little exercise altogether makes the adolescent girls victims to lifestyle diseases like PCOS. Medical practitioners strongly advise women having PCOS to do casual and sport type exercises like, fast walking, jogging, aerobics, swimming and so on, on a daily basis. And it has been proven that through habituating such rigorous exercises could decrease the intensity of PCOS symptoms in one's body.

“When the weight of obese PCOS women drops by 5%, spontaneous ovulation could be improved and the natural pregnancy rate could be increased”. (Shaobing Wang, Zhengong Zhang and Yiping Liu, September 19th 2019). By doing proper exercises one can modulate insulin sensitivity and lipid metabolism in skeletal muscle. Physical movements can improve insulin sensitivity by increasing intramyocellular triacylglyceron concentration. Medical scholars opine that the ideal body mass index is 25, but when one turns obese the body mass index rises up to about 27-28, which is an alarming condition. Thus, this could only be regulated through an ideal intervention in to one's food habit and following strict exercise and maintaining an ideal body weight. This context tends to study the chance of PCOS occurrence due to lack of physical exercises and reaches the relevant hypothesis that :

H1 : There is a positive impact between Lack of physical exercise and the occurrence of polycystic ovary syndrome (PCOS)

Polycystic Ovary Syndrome (PCOS) Dependent variable

A healthy life style leads to healthy body and control the occurrence of hormonal diseases. PCOS is one of the life style disease commonly occur among adult girls which causes to infertility. Lifestyle is the habit of healthy eating and following physical activity and weightloss. Sensible diet and healthy eating habit reduces overweight among obese persons. Along with good diet pattern physical activity is an another important factor which make an impact for the occurrence of PCOS. Physical activity for 30-45 minutes in a regular basis for 3-5 days in a week is necessary to maintain hormonal functions. Disorder in hormonal functions in a body level may leads to Polycystic ovarian syndrome. PCOS is a common disorder seen among 4-12% of women in their reproductive age (Sheehan 2004) It was found and described in United States in 1935 (Stein IF 1935) women who are suffering from PCOS shows many clinical manifestation like hair growth, acne, irregular periods and infertility (Ehrmann DA. 2005). PCOS also linked with obesity, insulin variations, hypertension and type 2 diabetics (Carmina et al. 1999) reduction of metabolic complication is possible through life style modifications (Norman R et al. 2002) Teenage healthy girls regularly involve in sporty activity having less to occur PCOS, than others those follows sedentary life style. (Lina Michala et al. 2012). From past references a few studies evaluated that major dietary pattern as a factor for analysis among PCOS women reported that the fat intake was higher in PCOS women group but no difference in carbohydrate and protein intake (Ahmadi et al. 2013) Most of the previous studies focused on the evaluation of food groups like energy foods, nutrients etc. (Wright et al. 2004) Anita Soni a gynaecologist in Powair Hirannandani hospital, said that the more peripheral fat leads to hormonal imbalances among women. Dr. Anjali Talwalker reported that the increasing condition of polycystic ovarian syndrome among Indian women, but many of them couldn't know that even the symptoms of polycystic ovarian syndrome. PCOS commonly arise among women having poor food habits and lack of physical body movement and adversely affect and should be treated. Along with unhealthy food habits and poor physical activity leads to accelerate the chance of PCOS hormonal disorder.

Bulent Yildiz, MD, professor of endocrinology and metabolism at Hacettepe university of medicine in Ankara, Turkey in his current research focuses on food intake and body weight as well as androgen excess disorders in women specify about PCOS as it is not a disease, but syndrome can be defined as an underappreciated, underrecognised syndrome. National Institute of Health Criteria (NIH) estimated to affect 5-15% of women PCOS associated with unhealthy food habits and lack of physical exercises. There is an existence of confusion related to diagnostic criteria and the optimal management of metabolic symptoms which is occurred due to the unhealthy food habits and lack of physical exercises. Globally it has been reported the prevalence of PCOS among adult women are 15-20% (Sirmans and Pate 2014). More over this 50-70% women having PCOS symptoms suffering insulin resistance and which leads to other adversities in metabolic system. (Ovalle and Azziz 2002) The causes of PCOS is still unclear, but considered that genetic and environmental factors may be caused the symptoms of PCOS (Norman et al. 2007). Among the most important causes insulin resistance is considered the pathophysiology of PCOS. (Stephens et al. 2013) Unhealthy food style including intake of more fatty foods and junk foods results in overweight, ultimately obese and tends to insulin resistance. Insulin resistance leads to uncontrolled production of androgens leads to PCOS (Norman et al. 2002) It is observed from a study that central obesity and insulin disorder might be reduced with healthy diets and regular physical activity. (Esmailzadeh et al. 2007) In this context study focused on Kerala womenhood in an age group of 10-25 to study the relationship between unhealthy food habits and lack of physical activity and the impact of these two features for the occurrence of PCOS.

H1 : There is a positive significant relationship between unhealthy food style and lack of physical exercise with the occurrence of polycystic ovary syndrome (PCOS).

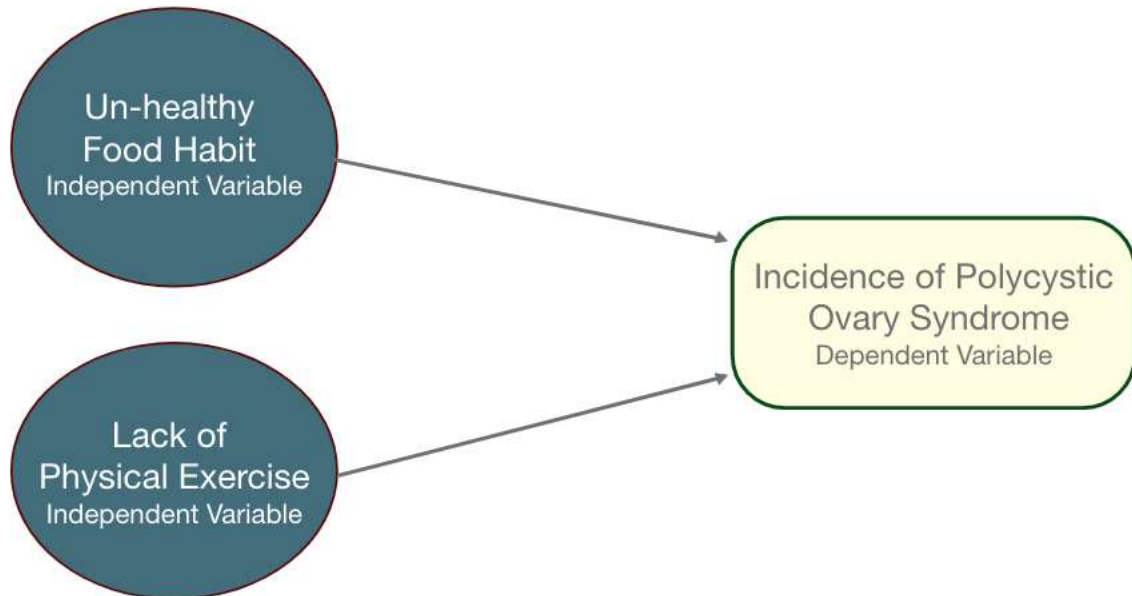
Objectives of the study

This research focuses to study the effect of unhealthy food habit and lack of physical exercise among womenhood; a case study on the incidence of polycystic ovary syndrome [PCOS] among adolescent girls in Kerala. Study aims to know the relationship between Lack of Physical Exercise, Un-healthy Food Habit, NIU International Journal of Human Rights ISSN: 2394 – 0298 Volume 9 (I), 2022

and Incidence of Polycystic Ovary Syndrome, thereby studying whether Lack of Physical Exercise with Un-healthy Food Habit make any impacts on the Incidence of Polycystic Ovary Syndrome among adolescent girls in Kerala.

Conceptual model

Figure 1: Conceptual model



Pilot study

A pilot study was carried out with the questionnaire among adolescent girls in Kerala before doing the core study. One hundred samples were chosen for the study, with 20 numbers from five districts in Kerala. The validity along with reliability of the measured scales were verified to ensure correction of any obscurities in the measurements. Based on the feedback suggested by the respondents, minor corrections were made to the questionnaire.

Population and Sample

The population of the present research comprises of adolescent girls in five districts in Kerala. Multi stage Random Sampling technique (Kothari C.R. (2004) was employed for this research. A total of 1000 questionnaires were circulated through google forms to the five districts in Kerala (200 in each), along with letter emphasizing the privacy and anonymity of the responses. A total of 693 questionnaires were collected back, representing a response percentage of 69%, which is treated as a reasonable response rate because of the nature of research. Out of the 693 questionnaires received, 87 questionnaires were rejected because of missing data. 606 questionnaires were considered for the core study (60.6%). The mean score of age of the resonance is 17 years. Majority of the respondents are Under Graduates 250 (41.25%). 121 (20%) are higher secondary, balance came under others. The majority of the respondents 95% are unmarried, the average weight of the respondents are 42ibm.

Measuring Instruments

Lack of Physical Exercise

Lack of Physical Exercise was measured by adopting International Physical activity questionnaire (IPAQ SF) and collect data (Lee et.al.2011) with three dimensions Yoga, Practice in sports and homely affairs. The reliability measured by using Alfa score of 0.82. and normality tested by using skewness and kurtosis

it is in between – 1.96 and + 1.96. Here 5-point Likert scale was used; 1- not true and 5- definitely true.

Un-healthy Food Habits

Un-healthy Food Habit was measured adopting self-reported data, for this using three demensions such as use of junk food, skipping food,missing nutritious food in food pattern. The reliability measured by using Alfa score of 0.76. and normality tested by using skewness and kurtosis it is in between – 1.96 and + 1.96. Here 5-point Likert scale was used; 1- not true and 5- definitely true.

Incidence of Polycystic Ovary Syndrome

Health Related Quality of Life (HRQL) model questionnaire by WHO is used to collect data about PCOS which includes five domains :menstrual problems ,body hair,emotional,infertility and weight. The reliability measured by using Alfa score of 0.78. and normality tested by using skewness and kurtosis it is in between – 1.96 and + 1.96. Here 5-point Likert scale was used; 1- not true and 5- definitely true.

Normality

De Carlo (1997) stated that kurtosis and sketches are "the most important indicators to the extent the regularity in the analysis of instability is affected." Frequent data testing is a requirement for statistical tests since general statistics are a basic assumption in parametric tests. Skewness is explained as a measure of symmetry or the lack of symmetry of the normal distribution. Kurtosis is a measure of peak distribution. If the distribution center, or set of data, is synchronized, it seems to be similar to the left and right of the middle point. If the mean, median, and mode coincide, it is called a symmetric distribution: skewness = 0, kurtosis (excess) = 0. A distribution is called approximate normal if skewness or kurtosis (excess) of the data is between – 1.96 and + 1.96.

Descriptive Statistics				
	Skewness		Kurtosis	
	Statistic		Statistic	
Lack of Physical Exercise	.234		.768	
Un-healthy Food Habit	.564		.453	
Incidence of Polycystic Ovary Syndrome	.213		.345	

Reliability

Cronbach Alpha was done to analyze the reliability of data, and that is seem to be similar to the literature. The scales used for measuring the three constructs, Lack of Physical Exercise, Un-healthy Food Habits and Incidence of Polycystic Ovary Syndrome, were taken from the research. Cronbach’s alpha coefficient of the studied variables was more than 0.7, hence it can be concluded that the data is reliable.

Study variable	Cronbach’s Alpha
Lack of Physical Exercise	.821
Un-healthy Food Habit	.795
Incidence of Polycystic Ovary Syndrome	.901

Tools and software

The data were analyzed employing the statistical techniques with SPSS21; Correlation as well as Regression analysis were done to check the association within the variables.

Data Analysis

Samples for the present research were 606 numbers which covered 5 districts in Kerala, around 20% each namely Palakkad (n1= 119, 19.63%), Thrissur (n2 = 121, 19.96%), Malappuram (n3= 122, 20.13%), Kozhikode (n4= 122, 20.13%) and Ernakulam (n5= 118, 19.47%). To detect the relationship of the variables measured and to validate the significance of these variables were sufficient enough to describe the Incidence of Polycystic Ovary Syndrome of adolescent girls in each district the statistical techniques Correlation with Regression were adopted.

Correlation

The statistical device correlation was adopted for finding the relationship between the variables and hypothesis.

H1: There is a positive relationship between Lack of Physical Exercise and Un-healthy Food Habit.

H2: There is a positive relationship between Lack of Physical Exercise and Incidence of Polycystic Ovary Syndrome.

H3: There is a positive relationship between Un-healthy Food Habit and Incidence of Polycystic Ovary Syndrome.

Variable	Pearson Co efficient	Significance
Lack of Physical Exercise	0.693	0.00
Un-healthy Food Habit	0.685	0.003
Incidence of Polycystic Ovary Syndrome	0.591	0.001

Multiple Regression Model

By examining positive and robust association between Lack of Physical Exercise, Un-healthy Food Habits and Incidence of Polycystic Ovary Syndrome, a multiple regression was done to analyze the impact of Lack of Physical Exercise with Un-healthy Food Habits predicted on Incidence of Polycystic Ovary Syndrome

H4: There is a substantial association between Lack of Physical Exercise and Incidence of Polycystic Ovary Syndrome

H5: There is a substantial association between Un-healthy Food Habits and Incidence of Polycystic Ovary Syndrome

Model Summary ^b				
Model I	R	R Square	Adjusted R Square	Std. Estimated error
1	.802	.643	.641	.298
a. Predictors: (Constant), Lack of Physical Exercise, Un-healthy Food Habit				

Interpretation

Testing of the hypothesis regarding correlation among the variables shows a very significant positive correlation between unhealthy food habits along with lack of physical exercise and PCOS. R is the correlation and its value is 0.802, and R square is the degree of determination, its value is 0.5643. The degree of determination shows the extent to which Lack of Physical Exercise and Un-healthy Food Habits influence the Incidence of Polycystic Ovary Syndrome. Here the Incidence of Poly Systic Ovarian Syndrome is determined to the extent of 64.3% by Lack of Physical Exercise and Un-healthy Food Habits

ANOVA table:

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	35.012	3	13.506	14.248	.001 ^b
	Residual	263.366	387	.759		
	Total	298.348	394			
a. Dependent Variable: Incidence of Polycystic Ovary Syndrome						
b. Predictors: (Constant), Lack of Physical Exercise, Un-healthy Food Habit						

ANOVA table exhibits that significant value to be lower than 0.01, that shows the dependent study variable, namely Incidence of Polycystic Ovary Syndrome, is substantially predicted by the independent study variables, Lack of Physical Exercise and Un-healthy Food Habit, has a confidence level of at 99%.

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.007	.225		8.466	.000
	Lack of Physical Exercise	0.606	.043	.433	13.317	.ysti001
	Un-healthy Food Habit	0.732	.043	.234	5.141	.003
a. Dependent Variable: Polysystic Ovarian Syndrome						

$$PCOS = 1.007 + 0.606 (\text{Lack of Physical Exercise}) + 0.732 (\text{Un-healthy Food Habit})$$

Among these above given two factors, Un-healthy Food Habit has a substantial and maximum positive impact over Incidence of Polycystic Ovary Syndrome. Lack of Physical Exercise has significant positive impact on Incidence of Polycystic Ovary Syndrome. The hypothesis [H4] is accepted and it displays a positive association between the variables Lack of Physical Exercise and the Incidence of Polycystic Ovary Syndrome. Hypothesis [H5] is accepted and it displays a positive association between Un-healthy Food Habit and the Incidence of Polycystic Ovary Syndrome.

Suggestion for Future Research

As per the study, it is advisable to limit carbohydrate and ensure active practice in physical exercises to reduce the chance to occur PCOS among adult girls. PCOS is a hormonal disorder which should be properly study and to find the factors . Polysystic ovarian syndrome as a lyfestyle desease and need more studies to make awareness among women to free from this condition. This study followed the details of keralite women and strange to generalise in other geographical area. More studies are needed in this concept.

Implications of the study

In this Era life style among common people are tremendously change in to a western pattern . As the geographical and cultural heritage each nation has its own lyfestyle. Now a days our teenagers follow sedentary life style which leads to lyfestyle deseases. This study focused on the variables unhealthy food habits along with lack of physical exercise leads to the occurrence of Polysystic ovarian syndrome an endocrine hormonal disorder among adolescent girls. The result of the study have an implication on

framing proper and scientific lifestyle practice among teenagers to avoid lifestyle diseases. Previous studies related this topic PCOS found that practice of unhealthy food Habits leads to the chance of PCOS (Farnaz Shahdadian et al.2018). PCOS is a complex disorder that can impact many organ system. If not well managed PCOS can lead to serious long term complications such as endometrial cancer, heart diseases,diabetic and metabolic syndrome.(Uchicago Medicine).

Discussions with Conclusion

The analysis of data reflected a significant positive relationship between Polycystic Ovarian Syndrome and sedentary lifestyle like unhealthy food habits and lack of physical exercise among adolescent girls in southern Kerala. In this Era researchers have focused to find the factors involved in the condition of PCOS among teenagers along with the prevalence and severity. One of the most common reason for the occurrence of PCOS is sedentary life style which affects the physical health and hormonal disorder among common people especially among teenage people.

Limited studies have been conducted on sedentary lifestyle with PCOS (Barr et al. 2011). Along with nutritional food proper diet is an inevitable element in the function of hormones and fertility (Altieri et al.2013). From this study have identified that majority of teenage girls follow an unhealthy food habits like the regular intake of fried food and ready to cook item along with sugary beverage. Among them majority indicated a tendency to skip their food is also leads to insulin resistance and ultimately hormonal disorder. As the response of audience it could be found that majority among them do not include nutrient foods like leafy vegetables ,grains and fruits in their food diet. Along this unhealthy food pattern exhibited a poor rate of engagement in physical exercises like walking,jogging,swimming etc. A few only engage in homely affairs and sports activity. Ultimately this sedentary life style leads to the symptoms of PCOS like overweight (average weight 45ibm) and hormonal disorder like irregular mensuration and hair growth in body part etc.

Conclusion

The increasing prevalence of PCOS among young adult girls is straightly correlated to unhealthy food habits like lack of nutritious food, use of junk food and lack of exercise,weightgain and obesity lead to PCOS symptoms and which is comparatively high in keralites (63.4%).Unhealthy food habits and Lack of physical exercise is positively associated with the chance to occur PCOS among adult girls.

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