CHAPTER:3:

RESEARCH METHODOLOGY

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DETAILED CONTENTS AT A GLANCE

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EXECUTIVE SUMMARY OF CHAPTER NUMBER THREE:

This chapter provides significant details on the various aspects of research methodology applied in the conduct of this research study. It mainly includes viz., Basic Terms and Rationale of the research study, Research Design of the research study, Scope and Coverage of the research study, Objectives, Research Questions and Hypotheses of the research study, Conceptual Model developed in this research study, Sources of Secondary Data, Sampling Decisions, Collection of the Primary Data and its Analysis, and Interpretations, Recommendations and Suggestions of the research study of primary data. The researcher has made an effort to provide an insight, method, and process utilized to estimate and calculate a suitable sample size for this research study. It also contains information on scale utilized, the number of statements/items generated, and process followed in undertaking review of literature for making of the Structured Questionnaire have been covered in it.

It has provided data and information on 'Reliability and Validity 'of the Structured Questionnaire put to use for collection of the primary data from respondents. It has offered details on the Normality Test performed on the research study's preliminary data to characterize its distribution. Details on the statistical techniques used to analyse the primary data that were gathered is provided in this chapter. It has also provided chapterisation of the Ph.D. Thesis.

3.0 RESEARCH METHODOLOGY:

The researcher has provided information on the various aspects of research methodology followed in conduct of the research study. It has provided information on various aspects of methodology mainly consisting of basic terms, research design scope, coverage, objectives and conceptual model developed to conduct this research study, The research study is based on compilation of secondary data gathered using diverse sources as well as collected primary data that using structured questionnaire that were analyzed to offer recommendations, findings, implications and suggestions of this research study.

3.1: BASIC TERMS OF THE RESEARCH STUDY:

The basic terms of the research study are defined as follows:

BASIC TERMS OF RESEARCH STUDY:

The key terms of the research study were briefly explained as follows.

3.1.1 Health Care:

"Health care is the organized provision of medical care to individuals or a community" (https://en.oxforddictionaries.com). "Health care is described as the prevention, diagnosis, and management of illness as well as the upkeeping of mental and physical well-being using medical and allied services offered by health professionals" (The Free Dictionary; www.thefreedictionary.com).

3.1.2 Service:

"Service is an activity, benefit or satisfaction offered for sale that is essentially intangible and does not result in the ownership of anything" (Kotler, Philip. Armstrong, Gary, 2016).

3.1.3 Health Care Services:

"It can be defined as services related to furnishing of medicine, medical or surgical treatment, nursing, hospital services, dental service, complementary health services or any or all of the enumerated services or any other necessary services of like character, whether or not contingent upon sickness or personal injury, as well as the furnishing to any person of any other services and goods to prevent, alleviate, curing or healing human illness, physical disability or injury" (https://www.oregonlaws.org).

3.1.4 Health Care Service Delivery:

Care for users is only one aspect of the health services provided through service delivery systems, assisting individuals, families, communities, and whole populations. Reaching the goal of universal healthcare coverage calls for the development of healthcare delivery systems that are all of the following: safe; easily accessible; of high quality; focused on the needs of individuals and communities; and, finally, fully integrated. (http://www.who.int).

3.1.5 Rural:

In this context, "rural" refers to an undeveloped region far from any central urban or suburban hub. It's easy to recognize a rural location by the prevalence of farms, plants, and wide-open landscapes (http://www.businessdictionary.com).

3.1.6 Sub-Centers (SCs):

The sub-center serves as the community's first point of contact for primary healthcare. However, to improve maternity and child health, family welfare, nutrition, vaccination, diarrhoea control, and communicable disease prevention, Sub Centers communicate with their communities to encourage positive behavioural change (Health Management Information System, Retrieved on December 2017).

3.1.7 Primary Health Centre:

Primary Health Centers in India are established to deliver safe and qualitative services on a 24x7 basis. A PHC must have a medical officer, at least 14 paramedics and other staff members to meet minimal standards and comprises of following units.

3.1.8 Community Health Centers (CHC):

It functions as First Referral Units (FRUs) for providing Emergency Obstetric Care, including facilities for Caesarean Sections, Blood Transfusions and New Born Stabilization Unit (NBSU) Services (National Health Mission, Ministry of Health EL Family Welfare, Government of India, 2014). Under the MNP/BMS initiative, the State Government construct and maintains CHCs. Standard minimums for a CHC call for the presence of a Surgeon, A Physician, Gynaecologists, and Paediatricians, as well as 21 paramedical and other staff members (Health Management Information System, Retrieved on December 2017).

3.1.9 Primary health care (PHC) Clinics:

It serve as the primary point of interaction between villagers and their local doctors. It offers primary and secondary care to the people living in the countryside, emphasizing primary and preventative health. Under the MNP/BMS, State Governments create and support the PHCs. (Health Management Information System, Retrieved on December 2017).

3.2: RATIONALE OF THE RESEARCH STUDY:

India's rural communities, and the ill within them, rely heavily on the services provided by rural Primary Health Centers (PHCs), which require an efficient delivery system to ensure their continued success. By providing healthcare as close as feasible to people's homes and places of employment, Primary Health Care Centers (PHCs), particularly in rural parts of India, provide an initial contact point and a channel for users and the National Health Service. Primary, Secondary, and Tertiary Healthcare Services are provided by each Healthcare Center. Health Care, Education, Nutrition Promotion, Basic Sanitation, Family Welfare Services for mothers and their Children, immunizations, disease control, and proper treatment for sickness and injury are all examples of what this phrase refers to in rural regions.

In view of above, it was decided to conduct an empirical research study to examine and understand users' experiences of those individuals or users who have availed medical and or health care services delivered by PHCs in selected Villages of the Vadodara District of the Gujarat State so that policymakers and service providers can better understand and timely deliver their needs and it would be helpful in improving quality of improve the quality of health care services to them.

3.3: SCOPE AND COVERAGE OF THE RESEARCH STUDY:

This research study was conducted mainly to examine and understand experiences of those individuals called as either users who have availed medical and or health care services delivered by PHCs in selected Villages of the Vadodara District of Gujarat State. Thus, this research study had focused upon recipients of the Primary healthcare services who are residents of selected villages located in the Vadodara District, of the Gujarat State.

Additionally, the concept of Patient-Centred healthcare service delivery was gathered from the Rural community in selected villages in the Vadodara District of the Gujarat State with regards to selected criteria, viz., Awareness, Accessibility, Affordability, Preferences, Availability of Infrastructure, Environment, Work Culture, use of Information Technology, Security, Comprehensive care, and Feedback Mechanism.

3.4: OBJECTIVES OF THE RESEARCH STUDY:

Reviewing the relevant literature, it is evident that Service Delivery, Financing, Community Engagement, and users Centred Health Care Services Delivery are significant characteristics that impact the delivery of Health Care Services. Human resources, care quality, and the contribution of information technology are crucial to providing health care services. The delivery of health care services needs consideration of equity factors for Gender and no discrimination based on income, caste, location, and accountability to the community.

Patient-centred service delivery needs attention to the community's awareness, accessibility, affordability, preferences, infrastructure, environment, work culture, use of technology security, comprehensive care, and feedback mechanism.

The key objective of this research study was to determine how users in this research study , perceived specific health services as provided to them by Primary Health Care Centres (PHCs) in selected villages located in the Vadodara District of the Gujarat State.

The other objectives of the research study are as follows:

- To measure the awareness of those users who had availed health care services and had also used the facilities provided at Primary Health Care Centers (PHCs);
- To study and understand and the influences of selected demographic variables on the acceptability of the Health Care Services as delivered by the Selected PHCs functioning in the villages of the Vadodara District of the Gujarat State.
- To assess the Primary Health Care services offered by the Government through Primary Health Care Centers (PHCs) in chosen villages from Vadodara District in Gujarat State; and
- To study and analyse the (4 A's) Availability, Acceptability, Affordability, and Accessibility of the Health Care Services as well as Awareness, Environment, Infrastructure, Work Culture, Service Delivery, Community Engagement, Perception of the use of PHC Services, and Preference for PHC by patients or users vis-à-vis Health Care Services as delivered by the Selected PHCs functioning in the Villages of the Vadodara District of the Gujarat State.

3.5: RESEARCH QUESTIONS OF THE RESEARCH STUDY:

The researcher has attempted to sought answers of following research questions as given in the box below:

Research Questions:

- **RQ_1**: What is the perception of selected patients or users on Health Care Services delivered to them the Selected PHCs functioning in the Villages of the Vadodara District of the Gujarat State?
- **RQ2**: What is the level of overall awareness amongst selected patients or users on Health Care Services as delivered to them by the Selected PHCs functioning in the Villages of the Vadodara District of the Gujarat State?
- **RQ_3**: Is there any association between demographic variables of selected patients or users vis-à-vis Health Care Services as delivered to them by the Selected PHCs functioning in the Villages of the Vadodara District of the Gujarat State?
- **RQ_4**: What is the responsibility of the agency of the Government of Gujarat in arranging, and supplying selected Health Care Services facilities at the PHCs functioning in the Villages of the Vadodara District of the Gujarat State.?
- **RQ_5**: What is the method for assessing the Efficiency of Health Care Services on selected criteria viz., 4As that is Availability, Accessibility, Acceptance, and Affordability as well as Awareness, Environment, Infrastructure, Work Culture, Service Delivery, Community Engagement, Perception of the use of PHC Services, and Preference for PHC by patients or users vis-à-vis Health Care Services as delivered to them by the Selected PHCs functioning in the Villages of the Vadodara District of the Gujarat State?

3.6: RESEARCH DESIGN OF THE RESEARCH STUDY:

The research design of this research study was exploratory and descriptive in nature considering its Objectives, Scope, Coverage and Research Methodology.

Sources of Information:

3.6.1: Secondary Data:

The researcher had made use of a wide range of sources of secondary data including Publications, Websites, Search Engines, Academic Journals, and Unpublished Reports to conduct a concise and critical review of literature.

3.6.2: Primary Data:

The primary data were collected from a cross-section of users comprising of diverse age groups, professions, occupations, and Gender etc. who had availed Health Care Services as delivered to them by the Selected PHCs functioning in the Villages of the Vadodara District of the Gujarat State. A sample of 650 respondents who use the services offered by rural PHCs was drawn for this purpose.

3.6.3: Research Instrument:

The researcher has obtained primary data through making use of structured, non-disguised questionnaire supplemented.

3.6.4: Sampling Decisions:

The Sampling decisions included following.

3.6.4.1: A Representative Sample:

The representative sampling units of this research study were those users who had availed Health Care Services as delivered to them by the Selected PHCs functioning in the Villages of the Vadodara District of the Gujarat State.

3.6.4.2: Sampling Design & Methods:

The Non-Probability Sample Design, supported with convenience sampling method was applied to draw those users who had availed Health Care Services as delivered to them by the Selected PHCs functioning in the Villages of the Vadodara District of the Gujarat State.

3.6.4.3: Sampling Frame:

The researcher had put efforts to make use of available data and information collected from as on date from the offices of the Gram-Panchayat, personal meetings with Sarpanch, and other local organizations functioning at Village level with regard to Number of PHCs, functioning of PHCs, number of users etc. which was considered as sampling frame in the research study.

3.6.4.4: Sample Size:

A total of 650 users who have actually availed the Health care services and had made use of various facilities available at the PHCs were considered and drawn as follows:

Sample Size Determination:

In recent times the research needs to identify the method of determining the sample size, which should be representative of a given population. The formula for determining sample size is given below.

The formula for Determining Sample Size:

$n = \pi (1 - \pi) z^2 \div D^2$

Where

n = required sample size.

π = the estimated population proportion based on the estimate of Jishnu Das et al. (2012) and https://www.yesbank.in, Average of 30 per cent of patients visit primarily in rural areas, with the majority of patients belonging to the underprivileged section of society (Jishnu Das et al. (2012) and https://www.yesbank.in).

z = suppose the level of confidence is 95 per cent, then the associated z value is 1.96

D = the level of precision and desired precision are such that the allowable interval is set as D = p (sample proportion) – π (population proportion) = + or – 0.05.

This formula is used from Malhotra and Das's (2011) 'Marketing Research – An Applied Orientation' 6th Edition, Pearson, Page number 364.

Calculation of Sample Size:

$$n = \frac{\pi (1 - \pi) z^2}{D^2}$$

$$n = \frac{0.30 (1 - 0.30) (1.96)^2}{(0.05)^2}$$

$$s = \frac{0.30 (0.70) (3.8416)}{0.0025}$$

$$s = \frac{0.806736}{0.0025} = 322.7$$ Sample size is 320 households)

Vadodara District had a total of 8 Talukas, and the sample size distribution is given in the following table. As the population size is different in all selected eight talukas, the Stratified Random Sampling method (Proportional Allocation) is used. Taluka-wise Allocation of the sample is calculated as follows.

Stratified Random Sampling (Proportional Allocation): $n_i = \frac{n N_i}{N}$

$$n_1 = \frac{n N_1}{N}, \quad n_2 = \frac{n N_2}{NNN}, \quad n_3 = \frac{n N_3}{}, \quad n_4 = \frac{n N_4}{}$$

Where

n = required total sample size (320).

$n_1, n_2, n_3,$ and n_4= the required total sample size for each group.

$N_1, N_2, N_3, N_4, N_5, N_6, N_7$ and N_8= Size of the population for each group (16114, 13918, 15315, 36444, 24334, 15552, 57272, 13882).

N = total population of all four groups (192831).

By applying the formula sample size is calculated as follows:

n_1 (Dabhoi) = $\frac{320 \times 16114}{192831}$ so n_1 is 27 Sample size for Dabhoi.

n_2 (Desar) = $\frac{320 \times 13918}{192831}$ so n_1 is 23 Sample size for Desar.

n_3 (Karjan) = $\frac{320 \times 15315}{192831}$ so n_1 is 25 Sample size for Karjan.

n_2 (Padra) = $\frac{320 \times 36444}{192831}$ so n_1 is 60 Sample size for Padra.

n_2 (Savli) = $\frac{320 \times 24334}{192831}$ so n_1 is 40 Sample size for Savli.

n_2 (Shinor) = $\frac{320 \times 15552}{192831}$ so n_1 is 26 Sample size for Shinor.

n_2 (Vadodara Rural) = $\frac{320 \times 57272}{192831}$ so n_1 is 96 Sample size for Vadodara Rural.

n_2 (Waghodia) = $\frac{320 \times 13882}{192831}$ so n_1 is 23 Sample size for Waghodia.

Sr. No.	Name of the Taluks in Vadodara City	* Total No. of Households as per Census of India, 2011	Calculated Sample Size Equal Distribution [320/8]	Sample Size Proportionate to No of House hold in Talukas	For more representativeness sample we multiply with 2 and roundoff the sample size for Actual Data Collection form Talukas
01	Dabhoi	16114	40	27	55 (54 + 01)
02	Desar	13918	40	23	50 (46 + 04)
03	Karjan	15315	40	25	48 (50 -2)
04	Padra	36444	40	60	120 (120 + 0)
05	Savli	24334	40	40	80 (40 + 00)
06	Shinor	15552	40	26	55 (54 + 01)
07	Vadodara (City And Rural)	57272	40	96	192 (192 + 0)
08	Waghodia	13882	40	23	50 (46 + 04)
	Total Vadodara District	192831	**320**	**320**	**650**
Note: * https://www.indiagrowing.com/Gujarat/Vadodara_District, Accessed on 10/01/2022.					

3.6.4.5: Sampling Media:

The Structured Questionnaire which was translated in 'Gujarati' language was administered in person called as 'Schedules' to collect primary data has been referred as sampling media in this research study.

3.7: HYPOTHESES OF THE RESEARCH STUDY:

The researcher has attempted to test various hypotheses, an illustrative list has been given in box below:

HYPOTHESES OF THE RESEARCH STUDY

Hypothesis – 01:

Ho: The level of awareness of selected users of Primary Health Care Services as provided to them by the selected PHCs in the villages of the Vadodara District of Gujarat State is Equal.

H1: The awareness of users of primary health care services as provided by the selected PHCs in the villages of the Vadodara District of Gujarat State is Low or Unequal

Hypothesis – 02:

Ho: The Primary Health Care Services as delivered to users by the selected PHCs are Patient Centric.

H1: The Primary Health Care Services as delivered to users by the selected PHCs are **NON**-Patient Centric.

Hypothesis – 03:

Ho: The Higher the Perceived Usefulness of the Primary Health Care Services amongst selected users as delivered to them by the selected PHCs, the more favourable the willingness would be to make use of Primary Health Care Services and facilities of PHCs functioning in the villages of the Vadodara District of Gujarat State.

H1:

The Lower the Perceived Usefulness of the Primary Health Care Services amongst selected users or patients as delivered to them by the selected PHCs, the less favourable the willingness would be to make use of Primary Health Care Services and facilities of PHCs functioning in the villages of the Vadodara District of Gujarat State.

Hypothesis – 04:

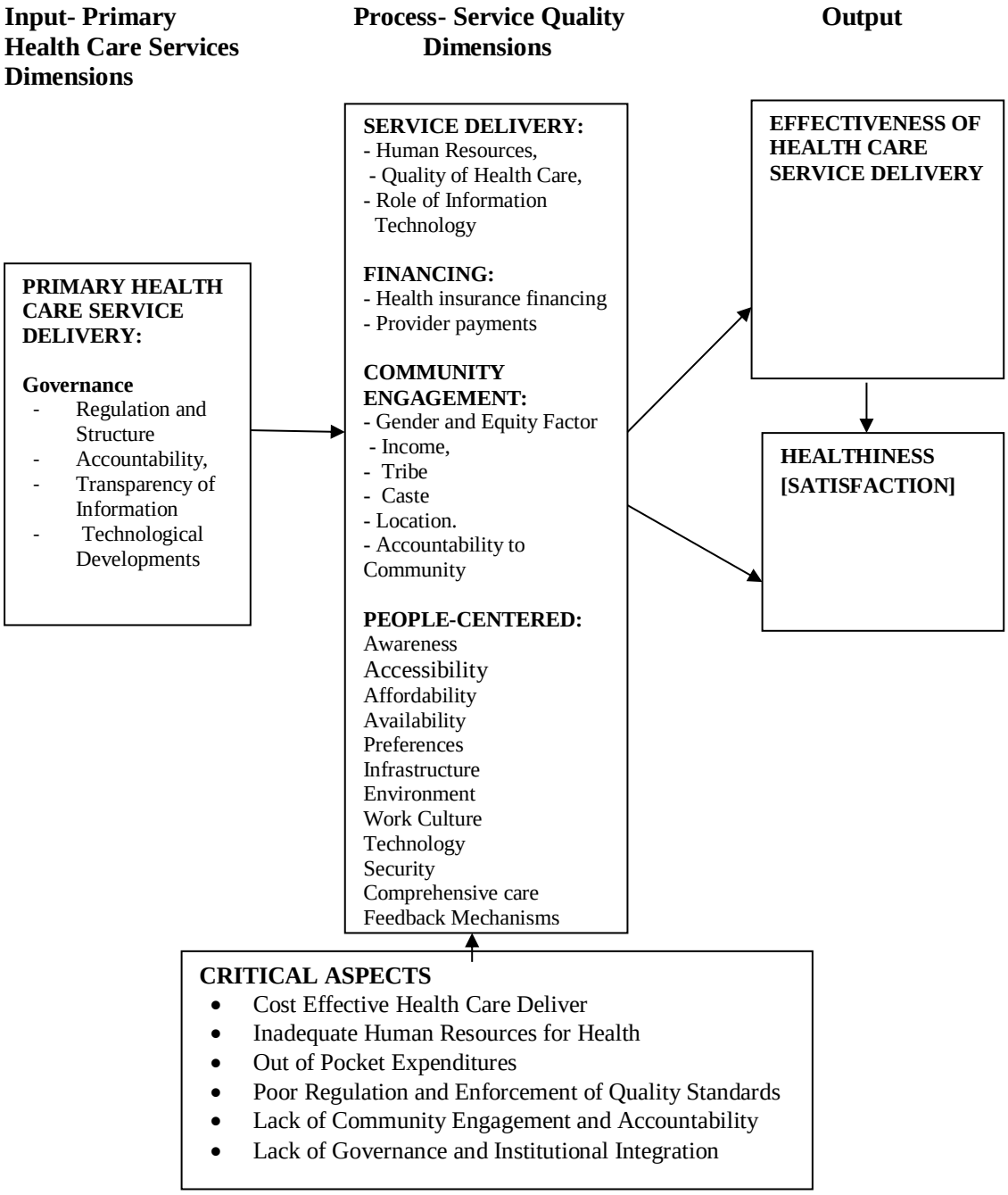
Ho: The higher the 4 A's (Availability, Acceptability, Affordability, and Accessibility) of Primary Health Care Services and facilities of PHCs functioning in the villages of the Vadodara District of Gujarat State, the more positive users' actual experience would be in making use of Primary Health Care Services and facilities of PHCs functioning in the villages of the Vadodara District of Gujarat State.

H1: The Lower the 4 A's (Availability, Acceptability, Affordability, and Accessibility) of Primary Health Care Services and facilities of PHCs functioning in the villages of the Vadodara District of Gujarat State, the less positive users' actual experience would be in making use of Primary Health Care Services and facilities of PHCs functioning in the villages of the Vadodara District of Gujarat State.

3.8: CONCEPTUAL MODEL DEVELOPED FOR THE RESEARCH STUDY:

The review of the relevant past research served as the basis for the development of the research model.

Figure No.: 3.1: The Conceptual Model of the Research Study



Source: Model of Research Study Adapted from Priya Anant et. al.2016.

Based on the above model, an attempt was made in this research study to empirically study and examine the relationship between Primary Health Care Services, the Selected Service Quality Criteria and the Effectiveness of Health Care Service Delivery on health and healthiness.

3.8.1: Governance:

It encompasses system norms and regulations, decision-making, leadership structures, accountability, and openness inside specific organizations. But, unfortunately, poor administration and leadership, as well as considerable corruption, characterize the Indian health system. This combination makes it difficult for the healthcare system to function (Priya Anant ET. al., 2016).

3.8.2: Regulation and Structure:

When it comes to the Health Care System, particularly the private, diverse sector, the Indian Government has little power and authority. As a result, the Health Care System lacks appropriate cross-sectoral connections. Decentralization initiatives via the National Health Mission yield positive results, particularly in States with strong leadership. This decentralization, in particular, implies better procedures for community responsibility and information openness. However, even though Government-sponsored health insurance plans have developed independent Governing Bodies, these Bodies retain minimal regular coordination and engagement with major interest groups such as customers and providers (ibid)

3.8.3: Health Care Service Delivery:

The number and kind of healthcare services offered to users who provide healthcare, the quality of healthcare delivered, and the use of technology are essential, inter-related components of delivery of healthcare services. Ambulatory care, often known as Outpatient Care, is typically delivered by informal providers but has been increasingly dominated by the Commercial Sector in India. The decline in public sector infrastructure, personnel, and quality contribute to the growth of private sector service provision (ibid).

3.8.4: Affordability of Health Care Services:

While other countries emphasize preventative and screening measures, treatment is the standard in India. In the absence of Generics, unnecessary hospitalizations and pharmaceutical abuse threaten the efficiency and affordability of health care (ibid).

3.8.5: Quality of Health Care Services:

Except in rare instances, health care provided by either the Public or Commercial Sectors is sub-par in terms of quality, safety, and focus on the individual. Other factors that contribute to the problem include the absence of financial incentives for service providers to prioritise quality, inadequate levels of regulation and monitoring, and the incapacity of consumers and users to recognise and demand quality (ibid).

3.8.6: Human Resources:

The healthcare workforce is scarce and disproportionately concentrated in rural areas. In the past, the training and recruiting of doctors have come at the expense of other medical professionals, including nurses, midwives, allied health workers, rural health care providers, and those trained in Indian medical systems (ibid).

3.8.7: Information Technology:

Information and data management is becoming more critical in public and commercial sectors, with applications ranging from health records to disease surveillance. In Telemedicine, users and doctors communicate remotely. However, given the low acceptance levels, there are worries about the cost and returns of adopting technology, especially if a client interface is required. In addition, there are challenges with standards and interoperability (ibid).

3.8.8: Financing:

Public and commercial sectors use information technology to manage Patient records and monitor disease. In addition, Telemedicine connects users to doctors. However, low adoption rates raise worries about the cost and returns of adopting technology, especially if a client interface is required. In addition, interoperability and standards are challenges (ibid).

3.8.9: Health Insurance:

When health insurance is available, it is mainly confined to secondary or tertiary hospital care. Outpatient treatment price challenges, as well as high administrative costs, are factors contributing to the market's absence of outpatient insurance products. However, the advent of Government-sponsored health initiatives in many states, particularly the Rashtriya Swasthya Bima Yojana (RSBY) outpatient pilot programme, are encouraging indicators of improvement. Evidence from public and commercial initiatives is increasing to support the idea that outpatient treatment may help lower healthcare expenditures (ibid).

3.8.10: Community Engagement:

The primary care models' attention to issues of equality and Gender, and the strategies utilized to inspire community responsibility, are the foci of this research (ibid).

3.8.11: Equity and Gender:

Disparities in health status along socioeconomic, Gender, racial/ethnic, and geographical categories are particularly pronounced in India. However, community involvement has also increased health-seeking behaviour and awareness (ibid).

3.8.12: Accountability to Community:

Neither the public nor the media adequately inform policymakers about the community's needs. Institutional improvements under the National Health Mission are ongoing to offer communities a stronger voice, but they require more energy and capability. Civil society and Non-Governmental organizations are also making efforts to demand consumer rights (ibid).

3.8.13: People-centred:

People-centred health care services include various dimensions, viz., Awareness, Accessibility, Affordability, Availability, Preferences, Infrastructure, Environment, Work Culture, Technology, Security Comprehensive care, and Feedback Mechanisms. Care focused on individual users needs is a vital first step in raising standards.

It encourages several steps to better health care quality, including patient participation in decision-making, feedback on treatment results, provider-to-provider comparisons of patient outcomes, openness and learning from errors, and more. "Person-centeredness is not simply one of the dimensions of health care quality; it is the doorway to all characteristics," says worldwide health care quality expert Donald Berwick (Donald, 2018).

3.8.14: Comprehensive Care:

Organizing a group of specialists in medicine, nursing, pharmacy, nutrition, social work, education, and care coordination to address users acute, chronic, and preventative/wellness needs in the areas of Health environment (Priya Anant et al. 2016). If the United States is serious about achieving the Sustainable Development Goals, it must adopt the principle of universal health care (SDGs). The primary purpose of SDGs is to ease the way toward a more just and prosperous society by ensuring that everyone has access to the healthcare they need, no matter where they live. However, healthcare quality is also an essential consideration for universal health insurance. Care must be efficient, risk-free, and adapted to the needs of the people receiving it. Moreover, treatment should be delivered on time and without wasting resources in rural regions working hard to offer high-quality medical care (ibid).

3.8.15: Accessibility:

Wixom et al. (2005) defined User-generated content websites must be accessible to users, information, and expertise. Digangi defined " The scholar invented the term "social accessibility," which means "the capacity to access social resources to engage." The study's author defined "social accessibility" as "access to social resources" and "a critical number of social contacts." (Di Gangi, 2010).

3.8.16: Behavioural Intention:

Fishbein and Ajzen (1975) defined it as an agent's expected behaviour. Ajzen believed that time, money, skills, and other people's engagement influenced behaviour intention (Ajzen, 1985).

3.9: DESIGNING OF THE STRUCTURED NON-DISGUISED QUESTIONNAIRE:

With the assistance of a survey of the existing literature on the subject that was selected for this research study, the research study's objectives and gaps were located. The structured questionnaire contains questions on the specified medical treatment that are worded impartially.

Using a Likert scale, users were asked to rate his or her opinion of PHC s Health Care Services, Preferences for PHCs, and Behavioural Intentions, Age, Gender Educational Qualifications, Employment, and Annual Income were identified as background demographic variables to be considered under study of the users who had availed Primary Health Care Services as well as used facilities of PHCs.

After reviewing the relevant literature, the researcher had drafted the structured, non-disguised questionnaire as given in Table 3.1. **[**Please Refer the Annexure-I**].** The Pilot Test of the was undertaken.

Table 3.3 demonstrates the validity of the structured, non-disguised questionnaire, whereas Table 3.2 demonstrates the questionnaire's reliability.

Table No. 3.1: List of Selected References used for Drafting the Research Instrument:

Name of Author and Research Papers	Conduct of the Time Period of Research Study	Total Number of Criteria Items
Demographic Criteria [At the Beginning of the Questionnaire]:		
National Rural Health Mission	Downloaded on 10/07/2021	**1 to 9**
Xin, He., Lingui, Li., Ying, Bian	2018	
Auditi Pramanik	2016	
M.R. Chandrasekar	2015	
General information regarding Primary Health Center (PHC) – Available; Name; Number of villages; Location convenient place; Distance from village; Time to reach PHC; Specialists visit, and Awareness **[Q-1 T0 Q-9]**		
National Rural Health Mission	Downloaded on 10/07/2021	**18**
Rashmi Ardey, Rajeev Ardey	2015	
Fakultät für Geowissenschaften	2006	
Xin, He., Lingui, Li., Ying, Bian	2018	
Statements that reflect opinion for Accessibility and Affordability criteria related to Primary Health Center [Q-10]		
National Rural Health Mission	Downloaded on 10/07/2021	**01 to 12**
Xin, He., Lingui, Li., Ying, Bian	2018	
Jagdananda	Retrieved on 08/10/2021	
Statements that reflect opinion for Availability criteria related to Primary Health Center [Q-10]		
National Rural Health Mission	Downloaded on 10/07/2021	**13 to 21**
Sarath, Chandran., Pankaj, Roy	2014	
Anupam, Mitra., Shivangi, Shukla	2019	
Statements that reflect opinion for Environment criteria related to Primary Health Center [Q-10]		
National Rural Health Mission	Downloaded on 10/07/2021	**22 to 30**
Xin, He., Lingui, Li., Ying, Bian	2018	
Sarath, Chandran., Pankaj, Roy	2014	
Statements that reflect opinion for Infrastructure criteria related to Primary Health Center [Q-10]		
National Rural Health Mission	Downloaded on 10/07/2021	**31 to 41**
F. Ram,. B. Paswan., L. Ladu, Singh	2005	
Rajeshwari, Sathyananda., Anja, Krumeich., Usha, Manjunath., Angelique, de Rijk., C. P. van Schayck	2021	
Sarath, Chandran., Pankaj, Roy	2014	
Rimakhi, Borah., Pranjal, Bezborah	2019	
Anupam, Mitra., Shivangi, Shukla	2019	
Statements that reflect opinion for Work Culture criteria related to Primary Health Center [Q-10]		
National Rural Health Mission	Downloaded on 10/07/2021	**42 to 50**
Mr.Ravi Mohan	Retrieved on 07/10/2021	
Sarath, Chandran., Pankaj, Roy	2014	
Rimakhi, Borah., Pranjal, Bezborah	2019	
Anupam, Mitra., Shivangi, Shukla	2019	

Name of Author and Research Papers	Conduct of the Time Period of Research Study	Total Number of Criteria Items
Statements that reflect opinion for Service Delivery criteria related to Primary Health Center [Q-10]		
National Rural Health Mission	Downloaded on 10/07/2021	**51 to 62**
Abdalelah, Saifuddin, Saaty., Zaid Ahmad, Ansari	2014	
Rajeshwari, Sathyananda., Anja, Krumeich., Usha, Manjunath., Angelique, de Rijk., C. P. van Schayck	2021	
Anupam, Mitra., Shivangi, Shukla	2019	
Statements that reflect opinion for Community Engagement criteria related to Primary Health Center [Q-10]		
Fakultät für Geowissenschaften	2006	**63 to 75**
Anupam, Mitra., Shivangi, Shukla	2019	
Statements that reflect opinion for Perception criteria related to Primary Health Center [Q-10]		
Fakultät für Geowissenschaften	2006	**76 to 87**
Rashmi Ardey, Rajeev Ardey	2015	
Abdalelah, Saifuddin, Saaty., Zaid Ahmad, Ansari	2014	
Rimakhi, Borah., Pranjal, Bezborah	2019	
Anupam, Mitra., Shivangi, Shukla	2019	
Statements that reflect opinion for Preferences criteria related to Primary Health Center [Q-10]		
Fakultät für Geowissenschaften	2006	**88 to 98**
Anupam, Mitra., Shivangi, Shukla	2019	
M.R. Chandrasekar	2015	
Overall Opinion about different criteria related to Primary Health Center [Q-11]		
Anupam, Mitra., Shivangi, Shukla	2019	**12**
Statements that reflect suggestions Primary Health Center [Q-12]		
Fakultät für Geowissenschaften	2006	**07**

3.9.1: Reliability and Validity of the Structured Non-Disguised Questionnaire:

The researcher has used the Cronbach coefficient alpha to evaluate the Reliability of different instrument constructs. As shown in Table No. 04, the Cronbach Alpha score (Cronbach, 1991) demonstrated the inner consistency of the measure and represented the level of coherence among the chosen questions. The value of the users' opinions of rural Primary Health Centers (PHC) ranged from 0.764 to 0.895.

Table No. 3.2: Reliability of Opinion of Users of Rural Primary Health Centres [PHC]

Sr. No.	Variables	Cronbach's Alpha
1.	Accessibility	0.895
2.	Affordability	0.805
3.	Availability	0.764
4.	Environment	0.823
5.	Infrastructure [Physical Faculties]	0.853
6.	Work Culture	0.815
7.	Service Delivery	0.864
8.	Community Engagement	0.864
9.	Perception of the use of PHC Services	0.835
10.	Preference for PHC	0.890
OVERALL RELIABILITY OF ALL FACTORS		**0.954**

Source: Fieldwork

Table No.3.3: Comparison of Mean Scores Opinion of Users of Rural Primary Health Centres [PHCs]

Opinion of Users of Rural Primary Health Centers (PHCs) concerning Criteria (Q. 10 – Item 1 to 96). Rating Scale 1 [Strongly Disagree] to 5 [Strongly Agree]		Overall Opinion of Users of Rural Primary Health Centers (PHCs) concerning Criteria (Q. 11 – Item 1 to 10). Rating Scale 1 [Strongly Disagree] to 5 [Strongly Agree]		The difference in Mean Count [Column B - Column D]
Average Score	**Mean Score**	**Average Score**	**Mean Score**	**Mean Score**
(Q- 10 - 1 to 96)	**(Rank)**	**(Q-11 -1 to 10)**	**(Rank)**	**(Rank)**
A	**B**	**C**	**D**	**B-D**
Accessibility	4.42	Accessibility	4.55	-0.13
Affordability	4.40	Affordability	4.56	-0.17
Availability	4.46	Availability	4.51	-0.06
Environment	4.46	Environment	4.52	-0.06
Infrastructure [Physical Faculties]	4.45	Infrastructure [Physical Faculties]	4.51	-0.07
Work Culture	4.42	Work Culture	4.22	0.20
Service Delivery	4.48	Service Delivery	4.49	-0.02
Community Engagement	4.49	Community Engagement	4.52	-0.02
Perception of the use of PHC Services	4.49	Perception of the use of PHC Services	4.56	-0.07
Preference for PHC	4.52	Preference for PHC	4.47	0.05
Overall Average	4.46	**Overall Average**	4.49	-0.03

Source: FieldWork

The researcher established the validity of the scale mean scores by comparing them to another questionnaire construct. The table mentioned above, number 05, illustrates how the means of the same construct were assessed. There was less variance in the specified question categories and a similar average satisfaction level. In addition, most responses were determined to be between Agree and Strongly Agree, satisfying the validity requirement.

3.9.2 Assessing Normality of the Distribution of Data:

Normality tests were performed on data from 650 people who had used healthcare services in several localities in the Vadodara District of Gujarat State. The Kolmogorov-Smirnov test was used to check for statistical significance since the sample size was more than 100. Table 3.4 displays the test results, which showed statistical significance at the 5% level. This indicated that the raw data did not follow a normal distribution.

Table No. 3.4: Kolmogorov-Smirnov Test of Normality

Sr. No.	Factors	Statistic	Df	P-value
1	Accessibility	.140	650	.000
2	Affordability	.130	650	.000
3	Availability	.156	650	.000
4	Environment	.164	650	.000
5	Infrastructure (Physical facilities)	.187	650	.000
6	Work Culture	.158	650	.000
7	Service Delivery	.178	650	.000
8	Community Engagement	.187	650	.000
9	Perception	.134	650	.000
10	Preference	.190	650	.000

Source: FieldWork

3.10: DATA ANALYSIS AND INTERPRETATION:

The researcher has made use of some of the statistical techniques to draw conclusions of this research study. Some of the Statistical Methods that were used for data analysis included viz.., a Frequency Analysis, Mean and Standard Deviation Calculations, Correlation Tests, the application of Factor Analysis, and Structural Equation Modelling. Moreover, the Correlation Test, Chi-Square Test, and Rank Test were used to evaluate the significance of the provided statistical hypotheses, which are then used to present the findings and implications of the research study. Using statistical methods, the researcher has tried to characterize the users who had received medical treatment under primary health care services in selected villages of the Vadodara District in the State of Gujarat.

The data analysis sheds light on several important aspects, such as how frequently users use health care services, how well they knew about healthcare services and PHCs, how they felt about these services, and what they intended to do as a result of their experiences, and their behavioural intentions and future use intentions for health care services as provided to them by PHCs functioning in Villages of the Vadodara District of the State of Gujarat.

3.11 FINDINGS AND IMPLICATIONS OF THE RESEARCH STUDY:

The researcher has tried to provide the results of the several statistical methods and procedures used to arrive at these findings and derive their practical consequences. For example, some users Expectations vis-à-vis Experiences with the quality of health care services are correlated via the use and application of correlation. The correlation test was also used to investigate if there was a connection between the three variables of "Continue usage," "Recommend," and "Satisfaction" among a sample of users of healthcare service recipients. The Chi-Square Test was used to compare the proportion of users who were expected to have positive experiences with various aspects of the healthcare system viz., Availability, Affordability, Awareness, Community Engagement, Environment, Infrastructure, and Behavioural Intentions of users for health care services as provided to them by PHCs functioning in Villages of the Vadodara District of the State of Gujarat.

The researcher have also discussed broader implications emerging out of findings of this research study.

3.12: RECOMMENDATIONS AND SUGGESTIONS OF THE RESEARCH STUDY:

This section summarises the Ph.D Thesis. It has outlined the study's constraints, and recommendations. The health care service providers should personalize their services to individual users by considering their background demographic variables, In addition, health care providers must periodically obtain feedback.

3.13: LIMITATIONS OF THE RESEARCH STUDY:

- The received data might result in inaccurate and erroneous data information, analysis, and research study outcomes.
- With the first-hand data and information from rural communities, it would be incorrect to generalize that it is accurate and applied to Gujarat State's entire population.
- The research was primarily conducted in selected villages in the Vadodara District. Therefore, this study does not intend to provide a comprehensive picture of all Gujarat State's village healthcare service customers.
- The research study's conclusions suffer from constraints such as a small sample size and the use of a convenience sampling method.
- The findings of the research study may not be generalizable.
- It was not easy to obtain basic information on healthcare service users because they are dynamic and constantly fluctuate over time.

- Results would be influenced since the research study's time limit and funding was constrained.
- The skewed viewpoint of healthcare service users may not convey honest and accurate facts.
- The various model viewpoints of experts may vary in this regard.

3.14: DIRECTIONS FOR FUTURE RESEARCH:

Future studies may be conducted on healthcare service stakeholders in other districts of Gujarat and other states of India to identify the perception, behavioural intention, and future usage of healthcare services throughout India.

3.15: CHAPTERISATION SCHEME OF THE Ph.D THESIS:

3.15.1: Chapter Number One: Review of the Healthcare System in India:

It included a brief overview of chosen healthcare services, users' perceptions of healthcare services, and behavioural intentions. In addition, it has addressed specific topics such as conceptual definitions of healthcare services and primary healthcare centres, the present state of the healthcare industry in India, Government healthcare programmes, a comprehensive model of healthcare, and essential healthcare components. The current state of the Indian healthcare system was also covered in this chapter, as was the overall number of PHCs in the country.

3.15.2: Chapter Number Two: Review of Literature:

The second chapter of the thesis aims to provide a brief assessment of the literature on the topics of healthcare, healthcare services, primary healthcare, primary healthcare services, attitudes towards healthcare services, rural healthcare, rural healthcare services, and Patient satisfaction with healthcare facilities. The author has attempted to summarise the literature review to give readers a taste of what different authors have contributed to the study of healthcare, healthcare services, primary healthcare services, and primary health centres. In addition, the researcher has studied, classified, compiled, and critically reviewed past research to establish a model for the inquiry. The study relies on several sources, including reference books and published proceedings from relevant seminars, conferences, and workshops. Therefore, the researcher attempted to determine the gaps by doing a thorough literature analysis to decide and choose the goals of this study.

3.15.3: Chapter Number Three: Research Methodology:

Methods are discussed in further detail in the study's third chapter. Furthermore, the researcher has attempted to provide a concise summary of numerous methodological and procedural steps and conceptual aspects of the research methodology, including basic terms of the research study, the rationale of the research study, the scope and coverage of the research study; the research design of the research study; the objectives of the research study; the hypotheses of the research study; the model used in the research study;

The methods of data collection, statistical processes, and computational tools used to analyse and interpret the data have been outlined.

3.15.4: Chapter Number Four: Data Analysis & Interpretation of the Research Study:

After the primary data have been examined and evaluated, the investigation results are reported in chapter four, titled "Data Analysis and Interpretation of the Research Study." Residents of several villages in the Vadodara district of Gujarat State filled out a structured, non-anonymized questionnaire to compile the data. It has provided both complex data and an analysis of how people feel about certain aspects of healthcare, such as who uses these services and how often, who pays for them, and what they expect from their local primary healthcare clinics in terms of things like cost, accessibility, affordability, availability, awareness, community engagement, environment, and infrastructure. The data analysis was conducted using SPSS-21 by the researcher. The data analysis findings are provided graphically, such as percentages, averages, and frequency distributions.

3.15.5: Chapter Number Five: Findings & Implications of the Research Study:

Results from significance tests (or hypothesis tests) performed using several statistical methods and methodologies are reported in chapter five (also headed "Findings and Implications of the Research Study") to emphasise the management and company strategic implications of this research. After analysing the data using statistical methods such as Pearson product-moment correlation, the Chi-square test, the factor analysis, the rank test, and the structural equation modelling (SEM), the researcher discussed the study's results and their implications.

3.15.6: Chapter Number Six: Conclusions, Recommendations and Suggestions of the Research Study:

Chapter 6 provides a condensed version of the whole PhD thesis. It has detailed the study's shortcomings, ideas for moving forward, and recommendations. In addition, this section includes the researcher's results, opinions, and suggestions. The researcher concluded with some conclusive remarks based on primary data she acquired from a random sample of 650 persons living in a few villages in the Vadodara district of Gujarat state who had accessed healthcare facilities. While a result of this examination, the researcher has made some suggestions based on what was learned, what was seen, what was measured, and what ideas for improvement emerged as the study was carried out. This research study relied substantially on secondary sources, all given in the "Selected References" section at the end. Last, a supplementary appendix has been included in the "Appendix."

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