

INVESTMENT CASE & EQUITY: A QUASI-EXPERIMENTAL ANALYSIS OF MATERNAL & CHILD HEALTHCARE SERVICES IN PUNJAB

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Abstract

Aim: This research aims to define equities determinants in maternal and child care in Punjab, a Pakistan province. The study focuses on the impact on Reproductive/ Maternal/ Newborn/ Child Adolescent Health (RMNCAH), introduced in 2016 through the Investment Case (IC) approach.

Methodology: A complex-sample-analysis modified the weight of the sample. Weighted disaggregated data were produced by cross-tableting with Confidence Interval (CI). A DiD analysis was performed based on a linear model of regression. Finally, the effect of the involvement was calculated by multivariate linear regression.

Principal Findings: The results show that changes had been measured in both the involvement and reference areas in involvement and no significant associations in the variables. Changes in involvement and contrast areas were similar. Also, there was no substantial improvement in aggregate outcomes from the multivariable regression analysis. In most developing countries, the IC approach is successful. Following the IC's introduction, some MNCH indicators such as ANC and the delivery of expert delivery of assistant birth showed improvements in involvement and contrast districts.

Applications of this study: The research will provide a proper guideline for the policymaker to design a need-based policy for equitable admission to child health care and maternal facilities

Novelty/Originality of this study: This study first analyzed the influence of investment- case in the RMNCAH program in Punjab.

Keywords: Child Healthcare, Maternal Analysis, RMNCAH, Weighted Disaggregated, Multivariable Regression Analysis.

INTRODUCTION

A global commitment to reducing maternal mortality has also been an essential share of the sustainability plan (<u>Magni</u>, <u>2017</u>). Goal three purposes to facilitate the global mother mortality rate to less than 70 per 100,000 live births. (<u>Geller et al., 2018</u>). In developed countries, nearly all (99 percent) mother deaths occur (<u>Thompson-Dudiak, 2021</u>). The primary cause of death and disability in Pakistan remains pregnancy and birth complications (<u>Nigussie et al., 2021</u>). Pakistan is one of six countries with an annual mortality ratio of 297 to 100000 live births and more than 50 percent of all maternal deaths worldwide (<u>Cabero-Roura & Rushwan, 2014</u>). Pakistan's formal maternal health policy reflects broadly endorsed strategies to promote safe childbirth, skilled birth attendance, and a timely emergency referral to a sound health system (<u>Vogel et al., 2016</u>). This policy was implemented with considerable efforts, first in the context of Safe Motherhood and later in MDGs, to improve service delivery (<u>Patel et al., 2016</u>).

Pakistan is unlikely to meet the fifth MDG objectives (Jin et al., 2018), which, despite these efforts, including reducing maternal mortality and access to universal reproductive health care (Dawson et al., 2014). One reason humans did not understand and address the factors limiting women who live on the economic and social margins of society's access to care (Khan et al., 2020). The most recent national data indicate that widespread maternal care socioeconomic inequalities have continued for all indicators (Novignon et al., 2019). Since this 92% of women report having antenatal care in the highest quintile wealth, 37% of women are in the lowest quintile rate (Ahinkorah et al., 2021). In the same way, 74% of women are present in the most significant higher-income households, particularly in contrast with 12% of women in the smallest quintile (El-Kak et al., 2020).

The current Pakistan NMN 2007 (Viswanath & Kreuter, 2007) recognizes these inequalities and strives to ensure care for disadvantaged and vulnerable groups (Bhutta et al., 2013). To date, policies and practical measures continue to be "more equal," with a significant focus on enhancing district healthcare organizations through optimized technology and managerial ability and creating a new community skilled workers Structure (Heerdegen et al., 2020). However, efforts were made to increase demand for maternal health care using targeted, socially acceptable communications strategies in government (Fotso et al., 2015). A simple technical approach is not enough in terms of supply to address the discriminations to get the maternal healthcare services and in the maternal death levels reflected in this growing recognition (Okoli et al., 2020).



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At the local level, the RMNCAH Investment Case aims to establish a cohesive strategy for regional growth, equitable and sensitive bottlenecks, and local needs to develop health and nutrition for children and young people (Requejo et al., 2020). The Investment Case (IC) is a systematic approach supported by evidence that solves problems to encourage better health and budgeting of mothers, neonates, and children (Azad et al., 2021). It emphasizes the need to improve health MDGs 4 and 5 instantly by defining the health problems in the MNCH sector of a state (Liang et al., 2019). The IC research is based mainly on the 'Tanahashi' model, five different capabilities, and involvement predictors to achieve the desired service level (i.e., successful coverage) (Tibeihaho et al., 2021). The Tanahashi model was developed in 1978 to recognize gaps in the system's quality and effectiveness (McCollum et al., 2019). The difference is the percentage of the target group that is not effectively shielded.



Figure 1: Healthcare Services in Pakistan



There is officially no detailed understanding of long-term socioeconomic marginalization to restrict poor women have access to maternal health care services in Pakistan and because of their acknowledgment to caring for marginalized communities (Perry et al., 2017). To develop measures that address persistent inequalities, it is crucial to understand these structures and processes and identify the poor and socially excluded effectively (Mumtaz et al., 2014). We report a detailed qualitative study that starts dealing with these issues. Our findings provide a clearer picture of the factors which affect equal access in Punjab Pakistan (Gardezi, 2021) for maternal and children services. And highlight many vital aspects which need to be highlighted in developing and implementing plans and actions uncertainty inequalities in maternal health care to be addressed more effectively (Askew et al., 2019).

The Need and objective of the study

This study is important to identify the element to educate women about maternity and child health care, the RMNCAH, and to define the aspects that influence the decision making and implementation during maternity.

Keeping above in the mind the study focuses on the impact on Reproductive/ Maternal/ Newborn/ Child Adolescent Health (RMNCAH), introduced in 2016 through the Investment Case (IC) approach.

METHODOLOGY

Punjab Population Study

The province of Punjab, the most populous region of Pakistan and the second-largest province by area is divided into 36 districts and nine divisions, and its total population is 110,012,442 (<u>Garcia et al., 2019</u>). Population and environment of the study Punjab is divided geographically into three regions: central, southern, and northern (<u>Mustafa et al., 2020</u>). So, 63% of people are in rural areas, according to the 2017 census. The current study used the investment case strategy in 16 districts (<u>Laing et al., 2020</u>). The contrast was made in 20 communities with HDI (<u>Panda et al., 2020</u>). There were multiple areas for both involvement and contrast districts.

Design of the Study

The research used a quasi-experimental approach in the case of the investment case (IC) method to evaluate the effect



on mother-and-child health services in Punjab (<u>Tsolaki et al., 2020</u>; <u>Bärnighausen et al., 2017</u>). The PDHS was used to measure the influence of the IC approach of the sixteen involvement and twenty contrast districts in Punjab (<u>Thapa et al., 2020</u>). Two surveys contain data, namely PDHS 2017 and 2019. Both survey methods were identical.

Data Sources

The Punjab population and healthcare analysis assess the involvement bundle established through the IC (Investment Case) method on child & mother healthcare facilities in Punjab (<u>Hao et al., 2020</u>). The Multiple Indicator Cluster Survey (MICs) has a standardized analysis that accumulates statistics about the people, fitness, and diet of households. The MICS research is descriptive at the national level and uses a multi-stage analysis (<u>Nisar & Dibley, 2014</u>). There are two polls, i.e., MICS 2017 and 2019. Both methods of the survey were similar. Due to the length of involvement, data on several prenatal cares, at least four prenatal care, and professional care is limited to the last three years (from 2016 to 2020), i.e., back to 2017 studies and back to 2019.

Table 1: No.	of reproductive	nousenoid and	women age

1

Parameters	MICS 2017	MICS 2019
Aggregate HH (household)	11,835	12,564
Rate of Response (%)	98.3	99.6
15-49 years of women ages	13,774	14,101
Rata of Response (%)	97.2	99.5

Conceptual Framework

Figure2 showed the variables analyzed in this study.



Figure 2: Conceptual Framework

Data Analysis

Any differences between the involvement and the contrast group were measured by DiD analysis, based on time changes rather than as a result of the participation itself (<u>Gardezi, 2021</u>). DiD Analysis was calculated using the linear regression method (<u>Hashmi et al., 2021</u>). Other variables indicate higher gains relative to districts except for utilities or corporations, the richest and hilly areas. Age groups 15-24 and 25-35, schooling, lowest and middle tertiary wealth, and married are significant advancements in districts. Other factors have improved by a moderate to minimal amount as compared to communities. Only the service and company categories' variations were statistically relevant because of at least four ANC (<u>Smith et al., 2021</u>). Before implementing the multivariate framework, multilinearity was evaluated for every model. Multicollinearity was assessed based on the three cut-off value variance inflation factors (VIF). The



variables p-value influence 0.05 (first removed variables with the highest p-value) were ruled out one by one (<u>Thompson et al., 2017</u>). The final model was taken into account to reflect the real effects of involvement. For each variable, the process was repeated (<u>Mauricio, 2018</u>). The PHRCEC endorsed the Ethics Report.

FINDINGS

DiD for a minimum of four ANC

Table 2 shows differential (DiD) outputs about the allocation of female exogenous factors by participating and contrast region, due to the minimum 4 ANC practitioners' involving period. Minimum four ANCs increased in involvement after the participation, the value 41.3-55.8 and the contrast area 42.8-65.7. The difference in the rate of increase of 4.8% was statistically insignificant. The contrast area Far from all variables, both involvement and contrast districts have improved. District enhancements seem to be more prevalent for most of the variables than the participating districts.

Except for service or companies, the highest income quintiles, and hilly areas, other variables indicate a more significant gain than districts. Age groups 15-24 and 25-35, schooling, lowest and middle tertiary wealth, and married are substantial advancements in districts. Other factors have improved by a moderate to minimal amount as compared to districts. Only the service and company categories' variations were statistically relevant because there were at least four ANC.

Table 2: DiD analysis minimum four ANC

Minimum 4 ANC	Involvement area			Contrast area				Beta	CI (95%)	P- value
	Before N=600 weighted	After N=603 weighted	Diff	Before N=792 weighted	After = 740 weighte	N Difference	!			
Minimum 4 ANC	41.3	55.8	14.5	42.8	65.7	22.9	-4.8	-0.006	-0.031-	0.547
									0.022	
3 cat Age										
15 to 24 years	44.63	54.69	7.3	55.31	61.75	12.7	-1.3	-0.007	-0.056-	0.795
									0.029	
25 to 34 years	37.04	52.12	15.4	37.26	55.67	19.8	-6.4	-0.014	-0.068-	0.559
									0.026	
35 to 49 years	18.06	35.77	16.5	24.55	56.46	27.2	-11.5	-0.071	-0.068-	0.479
									0.037	
Culture										
Pros	51.54	63.19	12.7	52.56	73.59	21.9	-7.3	-0.088	-0.047-	0.346
									0.020	<u> </u>
Cons	35.20	47.85	11.5	36.40	55.22	17.6	-3.0	-0.009	-0.055-	0.673
									0.029	
Education										
No Education	31.20	42.55	12.5	18.63	45.77	26.2	-13.6	-0.021	-0.056-	0.089
									0.005	
Primary	53.33	44.80	-9.4	45.70	55.70	5.0	-17.4	-0.059	-0.078-	0.226
									0.018	
Higher Education	72.86	73.33	2.4	65.65	71.05	5.6	-6.3	-0.007	-0.025-	0.554
									0.026	
Profession										
Jobless	42.37	44.88	4.3	43.75	55.77	5.3	·1.1	-0.004	-0.066-	0.831
									0.051	
Agriculture work	38.42	56.26	16.8	35.57	65.10	22.5	-5.7	-0.023	-0.065-	0.3545
									0.019	
Service or business	35.10	85.78	44.11	75.25	71.26	·1.1	46.1	0.084	0.069-	0.004

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	2	

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								0.159	
Wealth Tertlle									
Low	33.50	52.40	17.9	25.70	56.40	32.6	-15.9 -0.030	-0.076-	0.119
								0.007	
Middle	35.70	51.80	15.4	43.01	52.02	17.6	-3.3 -0.009	-0.051- 0.023	0.694
High	52.60	55.40	3.9	75.20	71.80	·3.6	6.4 0.041	-0.048-	0.571
								0.061	
Organic Region									
Central	52.55	74.33	22.1	43.17	62.20	18.1	3.0 0.003	-0.042-	0.927
								0.040	
Southern	36.66	52.23	12.3	56.08	73.54	18.4	-5.0 -0.009	-0.066-	0.737
								0.039	
Northern	34.80	45.79	13.3	32.69	54.42	16.8	-2.6 -0.008	-0.055-	0.902
								0.050	
Residence{U/R)									
Urban	52.44	55.65	3.3	54.62	67.6	8.1	-5.7 -0.008	-0.033-	0.544
								0.028	
Rural	33.7	33.57	14.9	35.44	56.66	25.9	·12.1 -0.042	-0.043-	0.689
								0.019	
Education of Husba	and								
No Education	2112.64	37.08	13.5	14.61	39.64	23.8	-7.4 -0.027	-0.079-	0.534
								0.025	
Primary	42.37	43.89	0.9	37.85	57.79	18.6	-1.9 -0.064	-0.085-	0.115
								0.007	
Higher Education	54.07	63.78	6.8	54.89	67.74	12	-4.1 -0.007	-0.039-	0.610
								0.025	
Household Head									
Male	36.44	51.36	11.6	42.65	58.76	15.4	-4.8 -0.008	-0.047-	0.757
								0.026	
Female	49.93	61	11.2	45.87	66.8	17.9	-9.8 -0.027	-0.067-	0.386
								0.022	
Health Facilities distance	S								
high Problem	34.66	54.89	16.2	32.42	57.21	22.1	-5.3 -(0.021)-(0.045)	- (0.494)
								0.017	
Very low Problem	48.36	56.31	1.3	59.21	63.43	8.2	-6.0 -0.033	-0.056-	0.546
								0.030	

Expert delivery of assisting birth DID Analysis

Table 3 illustrates the difference in variations and the importance of delivery by assisting birth inside the independent variables. Expert delivery of helping birth delivery in the involvement area has increased from 30.1 to 51.0 and in the contrasts between 28.8 and 43.1 following the involvement period. The variation in the increasing rate in the area of the involvement was 7.1% higher. Far from all factors, both involvement and contrast districts have improved. The variables showing the most significant changes in expert delivery of assisting birth's intervening districts are age 25-34 (difference 8,0), 35–49 (difference 15,8), advantaged ethnicity (difference 15.1), secondary or higher education, service, or business. Expert delivery of assisting birth has the highest age ranging and region of Hilly in the ecological areas. More improvements in the delivery of expert delivery of helping birth in involvement areas have also been seen in other variables, such as education of husband, residence, household head, and Distance to health care facilities closest. With a p-Value of 0.002, it was statistically significant only that difference between the hill region category and the ecological region. Other variables such as primary education were almost meaningful Education for husbands (p-



value: 0.061). There have been no moderate increases in the contrast group in only plain regions (difference 5.0), no training in husband education. The DiD analysis has no significant variables with expert delivery of assisting birth's deliveries.

Skilled birth attended	Involvement area			(Contrast area			Beta Coeff	95% CI	P- value
	Before N = 679 weighte d	After N = 603 weighte d	Differen ce	Before N = 848 weighte d	After N = 740 weighte d	Differen ce				
Skilled attended delivery	30.1	51	20.9	28.8	43.1	14.3	6.6	0.013	- 0.010 - 0.039	0.32 5
Age (3 cat)									0.057	
15-24 yrs	33.54	52.89	21.5	31.16	60.79	15.5	5.6	0.009	- 0.024 -	0.58 6
									0.043	
25-34 yrs	27.25	45.31	18.1	27.43	37.49	10.1	8.0	0.016	- 0.015 -	0.30 6
									0.047	
-49 years	13.81	42.12	19.2	15.37	17.93	3.1	14.1	0.127	-0.16	0.23
Ethnicity									0.0001	
Benefits	24.61	61.20	27.3	41.26	61.74	21.1	13.5	0.131	- 0.121	0.41 1
D ' 1									0.067	
Dis-adv	32.33	50.49	18.2	24.20	38.45	14.2	3.9	0.007	- 0.025 -	0.63 6
									0.040	
Level of Education										0.75
Illiterate	31.42	41.16	13.4	12.41	41.21	17.2	-13.4	0.025	- 0.024 0.026	0.75
Primary	36.24	61.14	13.8	21.50	34.10	12.5	4.1	0.006	- 0.041 -	0.78 1
									0.052	
Secondar/ higher	51.04	56.20	13.5	51.24	51.64	4.1	8.0	0.006	- 0.021	0.31 5
									0.041	
Job status Unemployed	37.18	46.21	13.1	41.05	51.13	7.0	4.0	0.004	0.024	0.65 0
									0.031	
Agriculture work	17.64	41.89	29.7	22.67	36.95	15.0	6.3	0.014	- 0.013 -	0.30 8
									0.043	

Table 3: DiD Analysis of expert delivery of assisting the birth

C					els	SSN: 2395- https	6518, Vol 9 ://doi.org/1	, No 2, 202 0.18510/h	21, pp 47 ssr.2021	′5-486 L.9246
Service or business	45.36	81.96	36.6	65.43	65.05	-0.4	37.0	0.074	- 0.006 -	0.07 1
Woolth Tunt	0								0.015	
Lowest	14.10	47.40	33.3	12.10	31.10	19.0	14.3	0.029	- 0.004 -	0.08 7
Middle	30.70	48.30	17.6	27.10	47.90	20.8	-3.2	- 0.006	0.062 - 0.042 -	0.72 5
Highest	50.70	59.80	9.1	56.50	69.30	12.8	-3.7	- 0.007	0.029 - 0.055 -	0.75 7
Organic Are	9								0.040	
Southern	22.56	76.09	45.4	27.15	35.95	11.4	34.7	0.067	0.026	0.00 2
Northern	17.04	39.92	22.9	28.95	43.43	14.5	8.4	0.016	- 0.045 -	0.59 1
Central	26.71	37.41	21.5	31.41	35.21	21.4	-3.1	- 0.001	0.079 - 0.003 0.041	0.65 4
Area of Resid	dence								0.041	
Urban	34.15	56.23	22.2	44.78	54.6	11.7	8.5	0.E01 9	- 0.020 -	0.33 6
Rural	26.51	44.8	18.3	15.43	32.47	17	1.3	0.002	0.059 - 0.029 -	0.87 6
Education of	Husband								0.034	
No Education	25.32	35.65	13.8	11.45	32.51	24.7	-6.7	- 0.013	- 0.056 -	0.55 3
Primary	40.23	20.16	20.2						0.030	0.00
	40.25	29.10	28.2	32.60	41.3	17.4	19.3	0.000	0.020	1
Secondary/ higher	31.52	49.42	28.2	32.60 39.21	41.3	17.4 20.7	19.3 3.1	0.000	0.020 0.062 - 0.000	1 0.00 0
Secondary/ higher Household H	31.52	49.42	28.2	32.60	41.3	20.7	3.1	0.000	0.020 0.062 - 0.000 0.006	1 0.00 0
Secondary/ higher Household H Male	31.52 (ead 40.03	49.42	28.2	32.60 39.21 19.29	41.3 41.17 39.25	17.4 20.7 21.4	19.3 3.1 3.6	0.000	0.020 0.062 - 0.000 0.006 - 0.006 0.038	1 0.00 0 0.61 0
Secondary/ higher Household H Male Female	31.52 (ead 40.03 31.81	49.42 40.21 60.71	28.2 21.7 21.4 19.7	32.60 39.21 19.29 21.6	41.3 41.17 39.25 31.61	17.4 20.7 21.4 21.5	19.3 3.1 3.6 13.2	0.000 0.000 0.004 0.007	0.020 0.062 - 0.000 0.006 - 0.006 0.038 - 0.002	1 0.00 0 0.61 0 0 5
Secondary/ higher Household H Male Female HF nearest I	31.52 (ead 40.03 31.81 Distance	49.42 40.21 60.71	28.2 21.7 21.4 19.7	32.60 39.21 19.29 21.6	41.3 41.17 39.25 31.61	17.4 20.7 21.4 21.5	19.3 3.1 3.6 13.2	0.000	0.020 0.062 - 0.000 0.006 - 0.006 0.038 - 0.002 0.064	1 0.00 0 0.61 0 0.15 5

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Regression of Binary and Multivariate analysis for minimum four ANC:

Table 4 represents the regression of binary and multivariate for at least four ANCs. In at least four ANC visits, the independent variables that contributed to the changes included wealth indicator's p-value 0.006, a p-value of ethnicities is 0.009), the p-value of gender is 0.001 and p-value of husband's education is 0.000, and the p-value of the ecological region is 0.05. Minimum 4 ANC visits between 2017 and 2019 did not have an essential role in involvement, and the p-value is 0.053.

Table 4: Regression of Binary and Multivariate Analysis for minimum four ANC

	Data from 2016 to 2020									
variables	Bivariate A	Analysis of co	efficients	Multivariate Analysis of coefficients						
	beta	CI (95%)		p-val	beta	CI (95%)	p-val		
		Low	Up	-		Low	Up	-		
Wealth index	0.1014	0.0644	0.1384	0.000	0.074	0.037	0.11 1	0.000		
Female education	0.1603	0.2130	0.2187	0.015	0.014	0.040	0.218	0.002		
Female Occupation	0.034 1	0.0076	0.0607	0.012	0.025	0.002	0.049	0.036		
Place of residence	-0. 1436	-0.2 143	-0.0728	0.000	-0.085	-0.145	-0.024	0.006		
Ethnicity	-0.2161	-0.13780	-0.30041	0.002	-0.158	-0.041	-0.005	0.004		
Household Gender	0.06632	0.009386 1	0.1056586	0.019	0.057	0.014	0.100	0.010		
Organic area	-0.0413	-0.083944	-0.006248	0.033	-0.022	-0.089	0.005	0.051		
Education of Husband	0.025961	0.1326723	0.1055814	0.005	0.045	0.061	0.078	0.004		
Year					0.044	0.0 19	0.049	0.000		
Involvement					34.563	-1.227	98.655	0.053		
Involvement• Year					-0.034	-0.056	0.004	0.053		
Constant					-59.296	98.952	33.272	0.002		

Expert Delivery of Assisting Birth Analysis:

Table 5 represents the multivariate and binary regression analysis for the delivery of expert delivery of assisting Analysis. The independent variables contributing to SBA delivery changes included wealth, education for women, residence, the age for women, Distance from health facilities, and the green region. For expert delivery of assisting birth delivery between 2017 and 2019, involvement played no significant role.

	Period 20	11 to 20 16						
Variables	Bivariate H	Regression an	alysis		ssion Anal	ysis		
	beta	CI (95%)		p-val	beta	CI (95%))	p-val
		Lower	Upper			Lower	Upper	
Wealth index	0.167824 3	0.13 1630 7	0.2040 1 8	0.000	0.1246	0.0846	0.1646	0.000
Women education	0.162665 8	0.13441 1 5	0.19092	0.000	0.0962	0.0650	0.1275	0.000

Table 5: Regression Analysis of SBA



Place of residence	- 0.194510 8	-0.257598	-0.13142	0.000	-0.1268	-0.1810	-0.0726	0.000
Women age	- 0.109202 8	-0.141533	-0.07687	0.000	-0.0420	-0.0742	-0.0097	0.0110
Distance from HF	0.18 1869 4	0.123608	0.24013 1	0.000	0.0757	0.0207	0.1308	0.0070
Ecological region	0.022300 3	-0.01663	0.06 123 1	0.260	-0.0384	-0.0717	-0.0051	0.024
Year					0.0302	0.0169	0.0435	0.000
Involvement					-1.6231	45.8676	42.9974	0.854
Intervention • Year					0.0006	-0.0306	0.0309	0.833
Constant					61.5864	81.3354	31.7754	0.001

DISCUSSION

This Analysis aims to determine the involvement efficiency of the 16 districts compared to other districts. The study's main objective was to assess the response bundle's effect in Punjab using the Investment Case (IC) procedure (Prinja et al., 2015). In sub-Saharan African states, maternal and child healthcare factors are higher, with an increased proportion (Corsi & Subramanian, 2014). There have been some changes in the at least 4 ANCs and qualified care providers, but these improvements are essentially identical in both involvement and contrast. The discrepancies in the Involvement and Contrast regions showed haven't noticeable change. This action played no essential action in any of the leading investment case metrics between 2017 and 2019. Studies in 54 countries found that more minor equal involvements were accompanied by four or more prenatal visits to eligible childbirth involvements (Ameyaw & Dickson, 2020). A systematic meta-analysis of 11 randomized and clustered randomizations from countries such as Nepal, Bangladesh, India, and Pakistan shows that there has not any difference among the combined set involvement and control and three or more ANC visits and children's education (Colbourn et al., 2013). According to Baqui et al. (2016), In Bangladesh, a randomly controlled cluster study was carried out the bundle of public-based neonatal motherly involvement in the functional and awareness measures relating to improvement in maternal and neonate involvement in comparative areas was performed.

In contrast with the individual involvement programs, a systematic review of mother's health programs in resourcelimited countries found a substantial effect on maternal health. A research group in India has demonstrated essential changes in health and health care (<u>Metwally et al., 2020</u>). Also, in 259 tests and reports, which include systemic and descriptive Analysis, randomized controlled trials, classified, controlled, and regulated pre-post and uncontrolled timeseries studies, cross-sectional tests, and expert opinion documents, a systematic analysis that analyses 208 novel methods to MNH has completed creative technologies with inventive implants. Applied by the Government of Punjab to identify hurdles in recuperating maternal health services in Punjab (MHS), the Punjab Safe Motherhood Initiative (PSMI) Project is a successful well-coordinated program to reduce the blocks within the health and financial state services.

INVOLVEMENT

The involvement structure already constitutes a complex project involving multiple approaches to various motherly, newborn, and child healthcare measures. The work comprises all the factors that make it difficult and complicated to target healthcare professionals in the Tanahashi model. Findings from various tests and studies were done in all the other countries may lead to investment cases, and the situations may not have the same as in neighboring states. The investment case involves all health stakeholders in the districts. Suppose there are many treatments in the equipment. In this situation, the entire involvement has been diminished because of service providers' dispersed focus and policymakers, and judgment creators. An appraisal of the Asia-Pacific IC has also shown how complicated the District Managers' approach is over and above the staff capability.

IMPLEMENTATION OF INTENSITY AND QUALITY

There was a greater emphasis on budgeting and technical support in the districts when carrying out an investment event. The district workshop concluded with action plans with different stakeholder roles for various tracers. However, both stakeholders and implementing partners have not monitored the action plans regularly. In the districts, there were no technicians who monitored the involvement regularly. The restriction of resources was also an essential factor in the participants' quality since minimal resources (mainly staff) were available for the hard-to-access activities.

CONCLUSION

The structure, workforce, and time frame of the study are significant factors in the framework to show the possible



impact on communities. Thrift Data from services and health surveys were obtained. The study used assessed approximately experimental results using distinctions and multivariable linear regression. To evaluate the effects of an investment in the Punjab districts, the study used PDHS data of 2017 and 2019. A significant increase has been shown from the 2017 and 2019 Punjab Health and Demography Survey. Certain variations were observed in essential facts such as a minimum of 4 ANCs and qualified health workers, but these enhancements are generally identical in both participation and contrast regions. The results have shown that participation methods need to be redesigned so that the IC approach is efficient.

LIMITATION AND STUDY FORWARD

Since the study is almost experimental, various potential biases may be present. The MICS samples cannot be taken to account for the entire district population since some district samples are more extensive and some may have sample data. The people from each study area may vary. The data for the respective MNCH indicators is smaller, which reduces the analysis frequency and impacts the strong relation of variables. The districts selected as population contrasts had almost the same HDI (Human Development Index) as the involvement regions; however, it is comparatively easy to achieve. By IC method, all districts not accessible were selected as districts of involvement. Therefore, the interference and contrast districts are only—this study first time analyzing the impact of investment case in the RMNCAH program in Punjab. The research will provide a proper guideline for the policymaker to design a need-based policy for good entree to motherly and child healthcare facilities.

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AUTHORS CONTRIBUTION

Majid Ali and Naveed conceived the presented concept. Majid Ali was the one who devised the idea and carried out the calculations. Ali verified the analytical methods. All authors contributed to the final manuscript by discussing the findings. Adnan gave valuable comments on the paper.

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