Socioeconomic, Cultural, and Educational Determinants of Maternal and Perinatal Health during the COVID-19 Pandemic in Lima, Peru

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Abstract

Socioeconomic, cultural, and educational factors influencing the health of pregnant women, postpartum women, and perinatal health in Lima, Peru, were analyzed.To analyze the socioeconomic, cultural, and educational determinants associated with the health of pregnant women, postpartum women, and perinatal health during the COVID-19 pandemic at the primary care level in the Cono Sur of Lima.A quantitative, analytical, and cross-sectional study with a non-experimental design was conducted on a non-probabilistic convenience sample of 217 pregnant and postpartum women. Structured surveys were used, and data analysis included descriptive and inferential statistics, including ordinal logistic regression to explore the relationships between variables.Of the 217 participants, 47.5% were aged between 25 and 35 years, 41.9% were pregnant, and 30.9% had one child. Additionally, 59% were single, 46.1% professed the Catholic religion, and 36.9% were homemakers. Significant relationships were found between health and social, economic, and educational determinants, highlighting housing type, family income, and access to services such as the internet and television.The health of pregnant women, postpartum women, and perinatal health in the Cono Sur of Lima is conditioned by a combination of socioeconomic, cultural, and educational factors. These findings underscore the need for specific policies and programs to address inequalities and improve maternal and perinatal health in the region.

Keywords: *Socioeconomic Determinants, Maternal Health, Coronavirus Pandemic, Inequalities.*

INTRODUCTION

Research on the social determinants of health is essential for understanding and addressing the causes of diseases and health disparities in populations. These determinants encompass the circumstances in which people "are born, grow, work, live, and age" and vary among different subgroups of a population, allowing for the design of specific policies (Organización Mundial de la Salud, 2023). Analyzing these determinants is relevant, as health inequalities are seen as an obstacle to sustainable development (Organización Mundial de la Salud, 2014; Friel et al., 2023). Another definition describes them as the variables or conditions that determine the health level of a population (Kepper et al., 2023; Flores-Yallico et al., 2024). In the context of this scientific research, determinants are understood as the conditions in which pregnant, postpartum women, and newborns live that influence the possibility of enjoying good health. Factors such as poverty, education, housing, dietary habits, unemployment, customs, among others, are key determinants of complications, diseases, and mortality in this population group (Harriett et al., 2023).

The health of pregnant, postpartum women, and newborns is influenced by various socioeconomic, cultural, and educational factors. In 2020, a maternal death occurred every 2 minutes, and almost 800 women died daily, most from preventable causes during pregnancy and childbirth (Simbar et al., 2023). Around 10 million women worldwide, and one million in the Americas, suffer severe sequelae as a result of complications during pregnancy

and childbirth (Organización Mundial de la Salud, 2023). Socioeconomic determinants of pregnant women and their environment have been shown to hinder access to healthcare services with qualified professionals, preventing timely care (Lu et al., 2023).

Precarious economic conditions, unemployment, inadequate housing, poor nutrition, and limited access to health services negatively affect the health of mothers and newborns (Vizheh et al., 2023). Cultural factors also significantly impact health, as cultural practices, beliefs, and customs can influence decisions and adherence to health personnel's recommendations (Vamos et al., 2023; Borda, 2020; FIGO, 2018). The educational level and access to education for women affect their self-knowledge about maternal and perinatal health, as well as delays in availability, acceptability, quality, and accessibility of health systems (Navarro-Prado et al., 2023). Additionally, educational level influences their ability to make informed decisions about health care, such as adopting healthy habits during pregnancy and the postpartum period and recognizing warning signs to seek professional help (De Oliveira et al., 2021; Maciel, 2022).

The pandemic left long-term sequelae on health in Peru, with various effects on the population, such as delayed cancer diagnoses and the lack of an increase in the health budget (Bauhoff, 2022). The country has faced five waves of COVID-19. During this time, maternal morbidity and mortality decreased thanks to increased prenatal care coverage, institutional deliveries, and care by qualified personnel. In 2022, regions such as Lima, Madre de Dios, Piura, Huánuco, Pasco, La Libertad, Apurímac, Puno, and Lambayeque reported maternal deaths due to COVID-19 during pregnancy, childbirth, and postpartum. Most of these deaths occurred in second and third-level facilities. Perinatal mortality also decreased compared to 2021, with higher figures in La Libertad, Áncash, and Lima Norte (Centro Nacional de Epidemiología, 2022; Gordillo-Rodriguez, Pineda and Gómez, 2023; Alfaro-Alfaro, 2014).

By investigating these factors, it is possible to identify areas that need more attention to prevent diseases and complications during pregnancy, childbirth, and the postpartum period. This information can be used to develop specific policies and programs that address the causes of maternal morbidity and mortality, promoting healthier and more equitable communities (Ayers et al., 2023; Calle, 2020).

The Integrated Health Network of Lima Sur reported that 97.3% of health centers in the area are at the primary care level. In 2021, 15 maternal deaths and a perinatal mortality rate of 1.9 per 1,000 live births were recorded in this jurisdiction (MINSA, 2021).

The objective of the research was to analyze the socioeconomic, cultural, and educational determinants associated with the health of pregnant women, postpartum women, and neonates during the coronavirus pandemic, at the first level of care in Lima.

MATERIALS AND METHODS

This study details the framework and procedures used to explore the influence of socioeconomic, cultural, and educational determinants on the health of pregnant women, postpartum women, and perinatal health during the COVID-19 pandemic in the Southern Cone of Lima, Peru. The research is classified as basic research, aimed at contributing to scientific knowledge without direct practical applications. Using a non-experimental design, this study observes and analyzes phenomena without manipulating variables, employing a deductive approach to test hypotheses within the positivist paradigm.

Study Design and Setting

The research employs a quantitative methodology to establish causal correlations between the various determinants and health outcomes. This approach is guided by a thorough review of the literature obtained from databases such as Scielo, Web of Science, and Scopus, ensuring a solid theoretical foundation. The study is conducted among pregnant, postpartum women, and neonates attended to in the first level of health care in the Southern Cone of Lima.

Study Participants and Sampling

The group of participants is composed of pregnant and postpartum women receiving care at health centers in the Southern Cone of Lima. A total of 217 participants were selected using a non-probabilistic convenience sampling method, designed to facilitate access and participation, reflecting common practices in health research where specific groups are targeted based on their availability and relevance to the study objectives.

Data Collection Tool and Technique

Data collection was carried out through structured surveys using standardized questionnaires. The instruments used were validated by experts to ensure their reliability and accuracy, obtaining high internal consistency scores (Cronbach's Alpha) indicating high reliability. Data analysis involved descriptive statistics to outline basic trends and inferential statistics, including ordinal logistic regression, to delve into the relationships between the variables studied.

Ethical Considerations

Ethical rigor was a cornerstone of this study, adhering strictly to ethical guidelines. These included ensuring participants' autonomy, non-maleficence, beneficence, and justice. Ethical approval and informed consent were obtained from all participants, emphasizing confidentiality and the academic purpose of the data use. The ethical framework aligned with prescribed standards, ensuring that all procedures respected the rights and well-being of the participants.

This comprehensive methodological and ethical framework not only strengthens the scientific validity of the study but also ensures that it contributes valuable insights capable of informing future research and improving practices in health settings.

RESULTS

Table 1: Health of Pregnant, Postpartum Women, and Neonates by Social Determinant During the Coronavirus Pandemic, at the First Level of Care. Southern Cone of Lima, 2022

		Salud de la gestante, puérpera y perinato						Total N=217		X2, p
		Mala		Regular		Buena				
Determinante social		n	%	n	%	n	%	N	%	
Edad	15 a 25 años	10	4.6	56	25.8	16	7.4	82	37.8	
	25 a 35 años	28	12.9	61	28.1	14	6.5	103	47.5	X2:14.4 P=0.006*
	35 a 45 años	2	0.9	28	12.9	2	0.9	32	14.7	
Gestante/puérpera	Gestante	21	9.7	91	41.9	24	11.1	136	62.7	X2:3.8 P=0.14
	Puérpera	19	8.8	54	24.9	8	3.7	81	37.3	
Número de hijos	No tiene hijos	10	4.6	32	14.7	16	7.4	58	26.7	
	Tiene 1 hijo	10	4.6	45	20.7	12	5.5	67	30.9	
	Tiene 2 hijos	12	5.5	34	15.7	4	1.8	50	23.0	
	Tiene 3 hijos	4	1.8	24	11.1	0	0.0	28	12.9	X2:19.7 P=0.01*
	Más de 4 hijos	4	1.8	10	4.6	0	0.0	14	6.5	
RN Sano/Enfermo	Sano	17	7.8	44	20.3	8	3.7	69	31.8	X2:2.6 P=0.27
	Enfermo	2	0.9	11	5.1	0	0.0	13	6.0	
Nacionalidad	Perú	30	13.8	114	52.5	30	13.8	174	80.2	X2:4.6 P=0.10
	Venezuela	10	4.6	31	14.3	2	0.9	43	19.8	
Grado de instrucción	Sin nivel	0	0.0	0	0.0	0	0.0	0	0.0	
	Primaria completa	0	0.0	6	2.8	2	0.9	8	3.7	
	Primaria incompleta	2	0.9	12	5.5	1	0.5	15	6.9	
	Secundaria completa	28	12.9	93	42.9	15	6.9	136	62.7	
	Secundaria incompleta	6	2.8	23	10.6	9	4.1	38	17.5	
	Superior no universitaria	4	1.8	9	4.1	5	2.3	18	8.3	X2:11.4 P=0.32
	Superior universitaria	0	0.0	2	0.9	0	0.0	2	0.9	

Estado civil	Conviviente	0	0.0	0	0.0	0	0.0	0	0.0	
	Casada	5	2.3	17	7.8	4	1.8	26	12.0	X2:11.7 P=0.02*
	Soltera	35	16.1	128	59.0	26	12.0	189	87.1	
	Viuda	0	0.0	0	0.0	2	0.9	2	0.9	
Ocupación	Ama de casa	28	12.9	80	36.9	13	6.0	121	55.8	
	Estudiante	0	0.0	5	2.3	4	1.8	9	4.1	X2:12.1 P=0.06
	Trabajo formal	6	2.8	31	14.3	6	2.8	43	19.8	
	Trabajo informal	6	2.8	29	13.4	9	4.1	44	20.3	
Religión	Católica	32	14.7	100	46.1	22	10.1	154	71.0	
	Evangélica	8	3.7	41	18.9	6	2.8	55	25.3	X2:10.6 P=0.03*
	Otra	0	0.0	4	1.8	4	1.8	8	3.7	
Jefe del hogar	Ella	4	1.8	8	3.7	10	4.6	22	10.1	
	El	6	2.8	19	8.8	2	0.9	27	12.4	X2:19.6 P=0.001*
	Ambos	30	13.8	118	54.4	20	9.2	168	77.4	

N=217, X2: Chi cuadrado, *p<0.05 existe relación estadística.

From Table 1, it is highlighted that, out of the total population (n = 217) of pregnant, postpartum women, and neonates, 28.1% fall within the age range of 25 to 35 years, 41.9% are pregnant, 20.7% have one child, 42.9% have completed secondary education, 59% are single, 36.9% are housewives, and 46.1% profess the Catholic religion. There is a statistical relationship between the health of pregnant, postpartum women, and neonates and the social determinants of Number of children (p<0.05), Age (p<0.05), Marital status (p<0.05), Religion (p<0.05), and Head of household (p<0.05).

Table 2: Health of Pregnant, Postpartum Women, and Neonates by Economic Determinants During the Coronavirus Pandemic, at the First Level of Care. Southern Cone of Lima, 2022.

		Salud de la gestante, puérpera y perinato						Total		X2, p
		Mala		Regular		Buena				
Determinante económico		n	%	n	%	n	%	n	%	
Tipo de vivienda	Casa Independiente	35	16.1	103	47.5	27	12.4	165	76.0	X2:6.5 P=0.03*
	Departamento en edificio	5	2.3	42	19.4	5	2.3	52	24.0	
Material de la vivienda	Ladrillo o bloque de cemento	31	14.3	111	51.2	26	12.0	168	77.4	
	Piedra o sillar con cal o cemento	0	0.0	0	0.0	0	0.0	0	0.0	
	Madera	6	2.8	32	14.7	6	2.8	44	20.3	X2:6.8 P=0.14
	Estera	0	0.0	0	0.0	0	0.0	0	0.0	
	Otro Material	3	1.4	2	0.9	0	0.0	5	2.3	
Su vivienda es	Propia	4	1.8	26	12.0	12	5.5	42	19.4	
	Alquilada	22	10.1	80	36.9	8	3.7	110	50.7	X2:16.6 P=0.01*
	Alojada	12	5.5	37	17.1	12	5.5	61	28.1	
	Prestada	2	0.9	2	0.9	0	0.0	4	1.8	
[Agua Potable]	Si	40	18.4	145	66.8	32	14.7	217	100.0	
	No	0	0.0	0	0.0	0	0.0	0	0.0	
[Luz eléctrica]	Si	38	17.5	142	65.4	32	14.7	212	97.7	X2:2.08 P=0.35
	No	2	0.9	3	1.4	0	0.0	5	2.3	
Alcantarillado	Si	28	12.9	109	50.2	30	13.8	167	77.0	X2:6.4 P=0.04*
	No	12	5.5	36	16.6	2	0.9	50	23.0	
[SIS]	Si	32	14.7	129	59.4	28	12.9	189	87.1	X2:2.24 P=0.32
	No	8	3.7	16	7.4	4	1.8	28	12.9	
[Essalud]	Si	0	8.0	4	1.8	2	0.9	6	2.8	X2:1.7 P=0.41
	No	14	6.5	48	22.1	14	6.5	76	35.0	
[Otro seguro]	Si	40	18.4	145	66.8	30	13.8	215	99.1	X2:11.6 P=0.03*
	No	0	0.0	0	0.0	2	0.9	2	0.9	
Ingreso económico familiar mensual	Mínimo Salario	8	3.7	50	23.0	18	8.3	76	35.0	
	Menos De Un Mínimo Salario Vital	22	10.1	45	20.7	4	1.8	71	32.7	X2:17.7 P=0.001*
	Más De Un Mínimo Salario	10	4.6	50	23.0	10	4.6	70	32.3	

Recibe apoyo social del estado	Si	2	0.9	2	0.9	4	1.8	8	3.7	X2:9.3 P=0.009*
	No	38	17.5	143	65.9	28	12.9	209	96.3	
El aporte de ingreso económico familiar cubre sus necesidades básicas	Si	22	10.1	54	24.9	22	10.1	98	45.2	
	No	18	8.3	91	41.9	10	4.6	119	54.8	X2:12.4 P=0.002*

N=217, X2: Chi cuadrado, *p<0.05 existe relación estadística

From Table 2, it is highlighted that, out of the total population (n = 217) of pregnant, postpartum women, and neonates, 47.5% have independent housing, 51.2% of their housing material is brick or cement block; 36.9% live in rented housing; 66.8%, 65.4%, 50.2%, 59.4%, and 22.1% have access to water, electricity, sewerage, SIS, and ESSALUD, respectively. Additionally, 23% earn the minimum wage. A statistical relationship was found between the health of pregnant, postpartum women, and neonates and the economic determinants of Housing (p<0.05), Water service (p<0.05), Sewerage service (p<0.05), Religion (p<0.05), Family income (p<0.05), State social support (p<0.05), and Family income covering basic needs (p<0.05).

Table 3: Health of Pregnant, Postpartum Women, and Neonates by Cultural Determinant During the Coronavirus Pandemic, at the First Level of Care. Southern Cone of Lima, 2022

Determinante cultural	Salud de la gestante, puérpera y perinato						Total		X2, p
	Mala		Regular		Buena				
	n	%	n	%	n	%	n	%	X2:20.6 p=0.001*
Bajo	22	10.1	30	13.8	6	2.8	58	26.7	
Medio	16	7.4	93	42.9	22	10.1	131	60.4	
Alto	2	0.9	22	10.1	4	1.8	28	12.9	
Total	40	18.4	145	66.8	32	14.7	217	100.0	

N=217, X2: Chi cuadrado, *p=<0.05 existe relación estadística

From Table 3, it is evidenced that out of the total population (n = 217) of pregnant, postpartum women, and neonates, 42.9% present a medium level of cultural determinacy. Likewise, a statistical relationship is reported between health and cultural determinant (p<0.05).

Table 4: Health of Pregnant, Postpartum Women, and Neonates by Educational Determinants During the Coronavirus Pandemic, at the First Level of Care. Southern Cone of Lima, 2022

Determinante educativa		Salud de la gestante, puérpera y perinato						Total		X2, p
		Mala		Regular		Buena				
		n	%	N	%	n	%	n	%	
Internet	Si	32	14.7	110	50.7	24	11.1	166	76.5	X2:0.34 P=0.84
	No	8	3.7	35	16.1	8	3.7	51	23.5	
Telefonía fija	Si	2	0.9	10	4.6	8	3.7	20	9.2	X2:11.3 P=0.003*
	No	38	17.5	135	62.2	24	11.1	197	90.8	
Telefonía móvil	Si	38	17.5	123	56.7	26	12.0	187	86.2	X2:3,4 P=0.17
	No	2	0.9	22	10.1	6	2.8	30	13.8	
Telefonía móvil y fija	Si	2	0.9	10	4.6	6	2.8	18	8.3	X2:12.4 P=0.002*
	No	38	17.5	135	62.2	26	12.0	199	91.7	
Computadora	Si	10	4.6	28	12.9	12	5.5	50	23.0	X2:5.5 P=0.06
	No	30	13.8	117	53.9	20	9.2	167	77.0	
Tv por cable	Si	10	4.6	40	18.4	12	5.5	62	28.6	X2:1.5 P=0.45
	No	30	13.8	105	48.4	20	9.2	155	71.4	
Acceso a radio	Si	20	9.2	90	41.5	26	12.0	136	62.7	
	No	20	9.2	55	25.3	6	2.8	81	37.3	X2:.7.4 P=0.002*
Acceso a TV	Si	36	16.6	139	64.1	22	10.1	197	90.8	X2:23 P=0.001*
	No	4	1.8	6	2.8	10	4.6	20	9.2	
Accede a internet por	Computadora	4	1.8	8	3.7	4	1.8	16	7.4	X2:16.7 P=0.001*
	Laptop	0	0.0	6	2.8	4	1.8	10	4.6	

Celular	30	13.8	88	40.6	22	10.1	140	64.5	
Otro	6	2.8	42	19.4	2	0.9	50	23.0	

n=217, X2: Chi cuadrado:20.6, *p=0.001<0.05 existe relación estadística

From Table 4, it is noted that out of the total population (n = 217) of pregnant, postpartum women, and neonates, 50.7% have internet access, 4.6% have landline phones, 56.7% have mobile phones, 4.6% have both landline and mobile phones, 12.9% have computers; 18.4% have cable TV, 41.5% have access to radio, 64.1% have access to TV, and 40.6% access the internet via computer. A statistical relationship was found between educational determinants and landline phone (p<0.05), both landline and mobile phones (p<0.05), access to radio (p<0.05), access to TV (p<0.05), and internet access by computer (p<0.05).

Table 5: Multivariate Ordinal Logistic Regression Analysis of the Health of Pregnant, Postpartum Women, and Neonates by Social Determinant

		Estimación	Desv. Error	Wald	gl	Sig.	Intervalo de confianza al 95 %	
							Límite inferior	Límite superior
Ocupación	Ama de casa	-2.664	0.958	7.735	1	0.005	-4.541	-0.786
	Estudiante	-1.387	2.130	0.424	1	0.515	-5.562	2.788
	Trabajo formal	-1.360	0.869	2.447	1	0.118	-3.063	0.344
	Trabajo informal	0ª			0			

From Table 5, it is observed that the variable Housewife in the Occupation dimension significantly influences the health of pregnant, postpartum women, and neonates according to the social determinant.

Table 6: Multivariate Ordinal Logistic Regression Analysis of the Health of Pregnant, Postpartum Women, and Neonates by Economic Determinant

		Estimación	P	Intervalo de confianza al 95 %	
				Límite inferior	Límite superior
Ubicación	**Ingreso familiar**				
	Mínimo salario	-0.192	0.774	-1.505	1.121
	Menos de un mínimo salario vital	-1.592	0.032	-3.048	-0.137
	Más de un Mínimo Salario	0ª			
	Recibe apoyo social del estado				
	Si	0.869	0.608	-2.450	4.188
	No	0ª			
	El **aporte de ingreso económico familiar cubre sus necesidades básicas**				
	Si	-0.246	0.663	-1.352	0.859
	No	0ª			

Pseudo R cuadrado Nagelkerke: 0.35

From Table 6, it is observed that the variable Less than a minimum living wage in the Family Income dimension significantly influences the healthh of pregnant, postpartum women, and neonates according to the economic determinant.

Table 7: Multivariate Ordinal Logistic Regression Analysis of the Health of Pregnant, Postpartum Women, and Neonates by Educational Determinant

		Estimación	Desv. Error	Wald	gl	Sig.	Intervalo de confianza al 95%	
							Límite inferior	Límite superior
Acceso a la radio	Si	0.706	0.322	4.804	1	0.028	0.075	1.338
	No	0ª			0			

Acceso a la tv	Si	-1.848	0.540	11.699	1	0.001	-2.906	-0.789
	No	0[a]			0			
Modo de acceso a internet	Laptop	0.343	0.632	0.295	1	0.587	-0.895	1.581
	Computadora	1.698	0.752	5.096	1	0.024	0.224	3.173
	Celular	0.015	0.368	0.002	1	0.967	-0.705	0.735
	Otro	0[a]			0			

From Table 7, it is observed that the variables access to radio, access to TV, and mode of internet access through the computer significantly influence the health of pregnant, postpartum women, and neonates according to the educational determinant.

DISCUSSION

The presence of the COVID-19 pandemic has caused a worldwide change in the dynamics of everyone's life regardless of social class, economic status, and cultural background. Unimaginable realities were constructed regarding the mode of coexistence among people at the family, community, or work level. This coronavirus crisis reconfigures concepts and practices, such as the care of pregnant, postpartum women, and neonates (Jafree et al., 2023), where life is rematerialized, distances are renegotiated, and new spaces and objects take center stage. This has led to the creation of particular dynamics of coexistence within social spaces that respond to the needs that the pandemic demands to cope with social life; and the new ways of understanding the cultural meaning of care processes (Asif et al., 2023).

From the results, it is observed that out of the total population of pregnant, postpartum women, and neonates during the coronavirus pandemic who perceived having a regular health status, 28.1% were predominantly aged 25 to 35; likewise, 41.9% were pregnant, and 24.9% were postpartum women, both groups predominantly having a regular perception of their health. This situation could be explained by the fact that they were confined due to the pandemic and did not have access to first-level health services. Similarly, our results report that the vast majority of respondents had one child (20.7%) and perceived their health as regular. Globally, one in five women at the age of 18 already has a child, but in the poorest regions of the world, the figure rises to one in three women (Papadopoulou et al., 2023); and 42.9% have completed secondary education. Previous studies report that a higher level of education is associated with better maternal health (Hussen et al., 2023).

During the state of emergency, access to prenatal services was restricted, so they did not meet the respective standards of care. It was also observed that 59% were single and perceived their health as regular. This group could come from a dysfunctional family without emotional support from a partner, which could explain this result. Another group predominantly consisted of housewives (36.9%), and another group predominantly professed the Catholic religion (46.1%), both groups having a regular perception of health. A statistical relationship was found between health and Number of children (p<0.05), Age (p<0.05), Marital status (p<0.05), Religion (p<0.05), and Head of household (p<0.05). The multivariate analysis showed that the occupation variable significantly influences the health of pregnant, postpartum women, and neonates. Household stability, the solidity of the relationship, and marital stability are variables that could be weakened in our study sample. It has been noted that in pregnant women with exclusive dedication to the household, the responsibility for the family rests on them, as they perform both maternal and paternal roles (Zedan et al., 2023).

Similarly, the findings also report that out of the total population of pregnant, postpartum women, and neonates with regular health status, 47.5% have independent housing. Likewise, it is evidenced that 51.2% reported that the material of their housing was brick or cement block and also consider their health as regular. Additionally, 36.9% live in rented housing, and 66.8%, 65.4%, 50.2%, 59.4%, and 22.1% had access to water, electricity, sewerage, SIS, and ESSALUD, respectively. A statistical relationship was found between the health of pregnant, postpartum women, and neonates and Type of housing (p<0.05), Water service (p<0.05), Sewerage service (p<0.05), Religion (p<0.05), Family income (p<0.05), State social support (p<0.05), and Family income covering basic needs (p<0.05).

Similarly, according to the multivariate analysis, it can be deduced that the family income variable significantly influences the health of pregnant, postpartum women, and neonates. Reviewing the components of economic stratification of our results, it is noteworthy that typically we are dealing with a family that predominantly perceives their health as regular and claims to have all basic services, but the vast majority perceive earning less than the minimum wage, which allows us to assert that given the pandemic context, there was no job security or access to work centers was restricted, implying a decrease in family income (Sahoo et al., 2022). In this sense, education can be considered the most decisive factor in combating inequality, as well as reducing regional disparities. From the perspective of economic and social policy, eliminating differences in educational and regional levels will significantly contribute to reducing levels of inequality in access to adequate health systems (Gaidelys et al., 2022).

The results also report that out of the total population of pregnant, postpartum women, and neonates with regular health status, 42.9% reveal a medium cultural determinant. A statistical relationship was found between health and cultural determinant (p<0.05). This result allows us to assert that the combination of reproductive status and health status creates an experience that begins with medical diagnosis with a symbolic representation of what the presence of COVID-19 implies (Dagher et al., 2022), leading to new forms of social interaction, from notification through care and resilience. Cultural competence is important because it explains how culture influences people's perceptions regarding health, illness, and its causes, the experiences of being sick, and how they express symptoms (Mohulatsi et al., 2023).

Human beings largely survive through social interactions, so any crisis, such as the current COVID-19, leads to experiences lived by women infected with SARS-CoV-2 during their perinatal stage with risk, reinventing their modes of coexistence within institutional, family, and personal settings. In this sense, the proposal of constructing social interactions from this work can contribute to understanding the behavior of complex maternities in unknown health crises, such as the case of women with high-risk pregnancies, who, as mentioned, experienced double vulnerability: a complex pregnancy and the presence of an unknown virus (Organización Mundial de la Salud, 2017).

The study's findings also report that, out of the total of pregnant, postpartum women, and neonates with regular health status, 50.7% have internet, 4.6% have landline phones, 56.7% have mobile phones, 4.6% have both landline and mobile phones, 12.9% have computers; 18.4% have cable TV, 41.5% have access to radio, 64.1% have access to TV, and 40.6% access the internet via computer. It is evident that this group is characterized by predominantly having access to almost all information and communication technologies, with a statistical relationship between health and landline phone (p<0.05); mobile and landline phone (p<0.05), access to radio (p<0.05), access to TV (p<0.05), and internet access (p<0.05). According to the multivariate analysis, the variables Access to radio, Access to TV, and Mode of internet access significantly influence the health of pregnant, postpartum women, and neonates. These results show that pregnant, postpartum women and neonates had the means and resources of ICT, but considered them insufficient or regular to conduct optimal control or follow-up (Kusyanti et al., 2022). During the months of confinement due to the health emergency, teleorientation was introduced to ensure the continuity of care for users regarding preventive and therapeutic issues of pregnancy risks. However, many obstetricians lacked adequate training in ICT (Muthelo et al., 2023). The COVID-19 pandemic has led to expanded coverage of services for patients under this modality, allowing for urgent and routine care. This reflects a significant change in telemedicine that should be established as a permanent care mechanism generated by the COVID-19 pandemic. The use of information and communication technology (ICT) for continuity of care should expand its service to health promotion, disease prevention, and recovery counseling through teleorientation, utilizing technical assistance for the benefit of patients, families, and the community (Mlambo et al., 2022).

CONCLUSIONS AND RECOMENDATIONS

28.1% of pregnant, postpartum women, and neonates during the coronavirus pandemic reported having regular health. Among them, 41.9% were pregnant, and 24.9% were postpartum women.

In social determinants, there is a statistical relationship between the health of pregnant, postpartum women, and neonates and factors such as the number of children, age, marital status, religion, and head of the household.

In economic determinants, there is a statistical relationship between the health of pregnant, postpartum women, and neonates and factors such as housing, water service, sewerage service, religion, family income, state social support, and family income covering basic needs.

In cultural determinants, it is concluded that they have a moderate level, and there is a statistically significant relationship between health and cultural determination.

In educational determinants, it is concluded that there is a statistically significant relationship between factors of access to landline and mobile phones, radio, TV, and internet access via computer.

Pregnant women should receive prenatal and postnatal healthcare from the first level, with specialized obstetric care. The Comprehensive Health System should guarantee complete coverage for women in this target group, including childbirth expenses.

All pregnant women should also have access to a safe and healthy living environment, with clean water and adequate sanitation facilities.

The educational level of women and their partners plays an important role in their nutritional status and dietary habits. Therefore, policies aimed at reducing maternal morbidity should prioritize the importance of education.

Cultural influences can impact the adoption of certain behaviors, such as not attending prenatal care programs, barriers to participation, and promoting the inclusion of pregnant women in various programs. Therefore, interventions should consider cultural factors when designing and implementing programs and policies.

Social support can have a positive impact on the mental health of pregnant and postpartum women; therefore, policies should aim to promote social support networks for these women.

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