

**FACTORS INFLUENCING FIRST-TIME FATHERS'
ENGAGEMENT IN PRENATAL CARE AT HAFR AL-BATIN
MATERNITY & CHILDREN HOSPITAL, SAUDI ARABIA**



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Factors Influencing First-Time Fathers' Engagement in Prenatal Care at Hafr Al-Batin Maternity & Children Hospital, Saudi Arabia

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Abstract. This study investigates the factors influencing first-time fathers' engagement in prenatal care at Hafar Al-Batin Maternity & Children Hospital, Saudi Arabia. Guided by Attachment Theory, a quantitative, descriptive-correlational, cross-sectional design was employed to examine the relationships between demographic characteristics and paternal involvement domains—warmth and attunement, indirect control, control and process responsibility, and frustration—and overall prenatal engagement. A purposive sample of 108 first-time fathers completed an adapted 22-item Paternal Involvement with Infants Scale (PIWIS), validated by clinical experts. Findings indicate that fathers demonstrated moderate engagement, occurring “a few times a week,” with the highest involvement observed in control and process responsibility and the lowest in frustration. Educational attainment significantly influenced engagement levels, whereas age, nationality, and religion showed no substantial differences except within the warmth and attunement domain. These results underscore the combined influence of personal, cultural, and contextual factors on paternal involvement during pregnancy. The study highlights the necessity of culturally sensitive, father-inclusive prenatal care strategies and informs policy development, clinical practice improvements, and future research aimed at enhancing paternal engagement in maternal and child health within Saudi healthcare settings.

Keywords: Attachment theory, Father-inclusive care, First-time fathers, Paternal involvement, Prenatal care engagement

Introduction

A growing number of studies highlight the important role of first-time fathers during pregnancy, particularly in supporting maternal health and promoting early bonding with the baby. While prenatal care has traditionally focused on mothers, recent global health discussions emphasize the need to involve fathers in maternal and child health. Research shows that active father involvement is associated with positive outcomes, including healthier pregnancies, improved maternal mental health, and stronger family relationships (Isacco & Garfield, 2021).

Fathers' involvement during pregnancy includes more than providing emotional support. Research shows that when fathers attend prenatal visits, participate in decision-making, and practice healthy behaviors, mothers are more likely to attend regular checkups, follow medical advice, and experience lower levels of stress and anxiety (Levy-Shiff et al., 2020). In addition, higher father involvement is associated with positive outcomes such as reduced risk of preterm birth, healthier birth weights, and improved parenting after childbirth (Wysocki & Gavin, 2021).

These benefits highlight the importance of viewing fatherhood as a shared responsibility during the perinatal period rather than a secondary or optional role. Despite increasing evidence, first-time fathers are still not always involved in prenatal care, especially in societies where traditional gender roles remain strong. In many cultures, such as in Saudi Arabia, men are expected to act as providers, while women are responsible for childcare and reproductive health. These gender roles can limit fathers' participation in prenatal care due to social stigma, institutional barriers, and lack of knowledge (Cabrera et al., 2021).

Furthermore, healthcare systems that do not actively include fathers, along with maternal gatekeeping—where mothers intentionally or unintentionally limit fathers' involvement—can further reduce fathers' participation in pregnancy-related decisions (Heilman & Barker, 2021).

Researchers have begun to examine these challenges more closely. For instance, Andreou et al. (2023) identified key behaviors of paternal involvement during pregnancy, such as attending prenatal appointments, providing emotional and physical support, and participating in shared decision-making. However, their findings also indicate that research on father involvement remains limited, particularly in non-Western and culturally conservative settings. In Saudi Arabia, Younis et al. (2024) reported that paternal prenatal depression affects more than one-fourth (26.9%) of expecting fathers. Their study identified social isolation, maternal depression, and lack of emotional support as major contributing factors.

These findings show that fathers also experience emotional and mental challenges during pregnancy and are not merely passive observers. Therefore, their roles should be studied more closely. It is important to examine the factors that support or limit paternal involvement during the prenatal stage, especially within the cultural, religious, and social structures that shape family life in Saudi Arabia. Although previous regional and international studies provide initial insights, there is still limited understanding of how gender-role beliefs, maternal gatekeeping, and personal motivations influence the involvement of first-time fathers in this context.

This study aims to address this research gap by examining the factors that influence first-time fathers' participation in prenatal care at Hafar Al-Batin Maternity and Children Hospital. Specifically, it focuses on maternal gatekeeping, prenatal involvement behaviors, and gender-role attitudes. By identifying these factors, the study seeks to support the development of culturally sensitive strategies that promote father-inclusive prenatal care in Saudi Arabia and other similar settings.

Research Questions

Fathers' involvement in prenatal care is widely recognized as beneficial to maternal and infant health. However, there is limited empirical data in the Saudi context regarding the level of paternal engagement and the factors that influence it. At Hafar Al-Batin Maternity & Children Hospital, no existing study has specifically examined how internal and external factors relate to fathers' participation in prenatal care.

This research aims to address the following key questions;

1. What is the Demographic Profile of the participating fathers in terms of;
 - 1.1 Age
 - 1.2 Educational Attainment
 - 1.3 Nationality
 - 1.4 Religion
2. What are the factors that significantly influence fathers' engagement in prenatal care
 - 2.1 Warmth and Attunement
 - 2.2 Control and Process Responsibility
 - 2.3 Frustration
 - 2.4 Indirect Care
 - 2.5 Positive Engagement
3. Is there a significant difference between the aforementioned factors in relation to father's overall level of engagement in prenatal care?

Scope and Delimitation of the Study

This quantitative study focuses on first-time fathers who are accessing prenatal services at Hafar Al-Batin Maternity and Children's Hospital in Saudi Arabia. The study examines the key factors of fathers' engagement in prenatal care, including warmth and attunement, control and process responsibility, frustration, indirect care, and positive engagement, as measured using the PIWIS questionnaire. The study also considers selected demographic characteristics of the participating fathers, such as age, educational attainment, religion, and nationality, to determine how these variables are related to their level of prenatal engagement. Data collection will be conducted after the questionnaire undergoes validation and face validation to ensure its reliability and suitability for the target respondents. In terms of delimitations, the study is limited to first-time fathers from one institution; therefore, the findings may not be generalized to fathers from other hospitals, regions, or those with previous fatherhood experience. Additionally, the study focuses only on the perspectives of first-time fathers and does not include the views of mothers, healthcare providers, or other stakeholders involved in prenatal care.

Literature Review

Global Trends and Importance of Father Involvement in Prenatal Care

Father involvement in prenatal and postnatal care has been linked to better health outcomes for both mothers and infants. Studies show that fathers who actively participate in early infant care develop stronger bonding with their newborns, while mothers experience lower levels of postpartum depression and improved quality of life (Yıldırım & Şahin, 2025). In addition, many mothers report feeling more emotionally supported when fathers attend prenatal visits, and fathers gain a better understanding of pregnancy (Walsh et al., 2021). However, cultural and institutional barriers still limit paternal involvement. For example, although many healthcare workers support father participation, only a small number actively include fathers in care due to traditional gender roles and healthcare practices that focus mainly on mothers (Buek et al., 2021). Fathers may also experience stress, lack of support, and limited access to information despite their willingness to be involved (Kotelchuck et al., 2022). Overall, these findings highlight the need to strengthen father-inclusive programs and education in prenatal care to support healthier families and promote more inclusive healthcare systems.

External Influences on Paternal Engagement

Paternal engagement during the prenatal period is influenced not only by fathers' readiness but also by institutional practices, policies, and cultural norms. Research shows that fathers' health and behaviors can affect child outcomes even before birth, highlighting the importance of supportive, family-centered healthcare systems; however, fathers remain underrepresented in many research and clinical programs (Jansen et al., 2023). Similarly, studies indicate that although expectations of fatherhood are changing, many healthcare systems still focus mainly on mothers, and factors such as marital status, healthcare design, and provider bias can limit fathers' participation (Bond, 2012). Other research found that fathers who feel more prepared—due to strong relationships, confidence, and financial stability—are more involved after birth, while economic challenges and family conditions may reduce engagement (Aytuglu et al., 2025). Overall, these findings suggest that paternal involvement is shaped by both personal and external factors, and improving father participation requires supportive healthcare systems, inclusive policies, and programs that encourage father-friendly prenatal care.

Internal Factors Influencing Father Participation

A father's participation in prenatal care is often influenced by internal factors such as personal beliefs, parenting confidence, and perceived family roles. Research shows that fathers who believe they are capable caregivers are more likely to be actively involved in child development, especially when supported by their partners, while maternal resistance can reduce their participation (Pekel-Uludağlı, 2023). Higher paternal confidence and maternal encouragement have also been linked to better child outcomes, including improved language, motor, and social skills. In a local study in the Philippines, parental self-efficacy was found to be the strongest predictor of involvement, as parents who felt confident in their abilities were more proactive and supportive of their children's development (Guillena, Mediodia, & Baldonado, 2023). Overall, these findings suggest that fathers' confidence and belief in their role strongly influence their level of involvement, highlighting the need for prenatal programs that build fathers' confidence and recognize their role as an essential part of parenting.

Barriers To engagement in prenatal care

Although the importance of paternal involvement during pregnancy and after childbirth is widely recognized, many social and institutional barriers still limit fathers' participation. Studies show that traditional gender roles, strict work schedules, and healthcare systems that focus mainly on mothers make it difficult for fathers to be actively involved (Small et al., 2025). Fathers often report workplace inflexibility and social expectations that place them in a secondary role, while healthcare providers note the lack of programs designed specifically to include fathers. Similarly, systemic biases and cultural assumptions continue to marginalize fathers, as many health programs remain maternal-centered and lack supportive policies such as paternity leave, father-focused education, and provider training on inclusive practices (Aytch et al., n.d.). Overall, these findings highlight that fathers face multiple barriers—from social expectations to institutional limitations—that reduce their involvement. Addressing these challenges requires improvements in healthcare policies, workplace support, and public attitudes toward fatherhood, especially in settings such as Hafar Al-Batin Maternity and Children Hospital, where creating a more inclusive and family-centered prenatal care system is essential.

Cultural and Religious Factors in Father Involvement

Father involvement in prenatal care is strongly influenced by cultural and religious beliefs that shape family roles and parenting expectations. In Saudi Arabia, traditional gender roles based on Islamic and tribal values often define fathers as protectors and providers, while mothers are more involved in caregiving and health-related decisions, which can affect the level of paternal participation (Almalki, 2020). Religious beliefs

can also encourage involvement, as studies show that parents who are actively engaged in religious activities often feel a stronger sense of responsibility toward their children's development and well-being (Alshboul, Fawaris, & Alshbool, 2021). Similar findings in the Philippine context indicate that strong spiritual beliefs are associated with more supportive and nurturing parenting behaviors (Jocson & Garcia, 2021). However, cultural expectations and social norms may also limit father participation, especially in societies where caregiving is viewed mainly as a mother's responsibility (Bartolome, Mamat, & Masnan, n.d.). Overall, these findings suggest that cultural traditions and religious values can both support and restrict father involvement, highlighting the need for culturally sensitive healthcare approaches that encourage fathers' participation during pregnancy.

Institutional and Community Support Systems

Efforts to improve father involvement in prenatal and family health depend greatly on support from healthcare systems and community partnerships. Studies show that provider attitudes, system strategies, and collaboration between organizations influence fathers' access to and participation in care. For example, healthcare reforms in Saudi Arabia emphasize proactive and value-based care models that support prevention, health promotion, and more inclusive family-centered services (Hasbrouck, AlKassabi, & Alghamdi, 2021). Similarly, collaboration between healthcare and community sectors has been identified as important for successful health programs, particularly when there is shared purpose, strong partnerships, sufficient resources, and effective leadership (Alderwick et al., 2021). In the Philippine context, continuous quality improvement programs highlight challenges such as limited healthcare capacity and weak patient engagement but also stress the importance of involving families and improving care systems to support better outcomes (Espallardo & Sy, 2021). Overall, these studies show that strong institutional support, coordinated community efforts, and positive provider attitudes are essential for promoting father involvement and creating inclusive health systems that support family well-being.

Fathers' Attitudes, Perceptions, and Lived Experiences

Fathers' attitudes, perceptions, and personal experiences strongly influence their involvement during the prenatal period. Research shows that in many Arab contexts, fathers are often expected to focus on financial support, which may limit their direct involvement in emotional and caregiving roles, although positive father participation has been linked to higher child self-esteem (Ridge et al., 2018). Studies among Filipino first-time fathers also show that experiences such as financial difficulties, lifestyle changes, and new responsibilities shape how young men understand and accept fatherhood, often leading to increased responsibility despite emotional and economic challenges (Ildefonso et al., 2022; Biscocho & Brigoli, 2024). These findings suggest that paternal involvement is influenced not only by cultural expectations and system access but also by fathers' emotional readiness and life experiences. Overall, understanding fathers' perspectives and daily challenges is important for developing supportive and culturally responsive programs that encourage greater father involvement in prenatal care, particularly in settings such as Hafar Al-Batin Maternity and Children Hospital.

Methodology

Research Design

This study used a quantitative research design with a cross-sectional approach to examine the factors influencing first-time fathers' engagement in prenatal care at Hafar Al-Batin Maternity and Children Hospital. The cross-sectional design allowed data to be collected from participants at one point in time, making it suitable for identifying patterns and relationships among variables. This approach helped examine how cultural, institutional, and individual factors influenced father involvement during the pre-natal period. Quantitative analysis was used to identify significant relationships between demographic characteristics, personal motivations, and external factors that affected paternal participation.

Sampling Design

This study used purposive sampling, a non-probability method that selected participants based on specific criteria. The participants were first-time fathers whose partners were receiving prenatal care at Hafar Al-Batin Maternity and Children's Hospital. To be included, fathers had to be at least 18 years old, fluent in Arabic or English, and available during hospital visits within the data collection period, while fathers whose partners were already in the postpartum stage or were not available during recruitment were excluded. Purposive sampling was appropriate because it allowed the researcher to focus on fathers who were experiencing fatherhood for the first time and were involved in prenatal care activities. The study aimed to include 150 first-time fathers, which was considered adequate for quantitative analysis of engagement factors and demographic variables.

Research Locale

The study was conducted at Hafar Al-Batin Maternity and Children Hospital, a regional healthcare facility located in Hafar Al-Batin, Saudi Arabia. The hospital provides comprehensive maternal and child healthcare services and serves a culturally diverse population. Because it offers prenatal care services, the hospital was an appropriate setting for examining how expectant fathers participate in healthcare and support their partners during pregnancy. The sociocultural environment of the hospital also helped in understanding the local context of father involvement.

Research Participants

The target population of this study consisted of first-time fathers whose partners were receiving prenatal care at Hafar Al-Batin Maternity and Children's Hospital in Saudi Arabia. The study focused on fathers who were actively involved or eligible to participate in prenatal activities such as medical checkups, consultations, and birth preparations. Participants were required to be first-time fathers aged 18 years or older, fluent in Arabic or English, and available during hospital visits within the data collection period. Fathers whose partners were already in the postpartum stage or who were not available during recruitment were excluded from the study.

Research Instrument

The main data collection tool used in this study was the Paternal Involvement with Infants Scale (PIWIS), developed by Singley (2016) and adapted for prenatal use. The instrument included 22 items grouped into five subscales: warmth and attunement, control and process responsibility, frustration (reverse-scored), indirect care, and positive engagement. Each item was answered using a 7-point Likert scale ranging from 1 (Not at all) to 7 (More than once a day) to measure the frequency of prenatal involvement behaviors. The questionnaire items were revised to suit expectant fathers by replacing infant-care activities with prenatal-related actions, such as accompanying partners to prenatal visits. To ensure clarity, cultural relevance, and accuracy, the adapted PIWIS was reviewed and validated by an OB-GYN specialist at Hafar Al-Batin Maternity and Children Hospital. In addition, a demographic section collected information such as age, education, and employment, and an optional open-ended question allowed fathers to share suggestions on how hospitals could better support paternal involvement.

Data Gathering Procedure

Data was collected over a two-month period through face-to-face administration of the questionnaire. Fathers who met the eligibility criteria were approached during their partners' scheduled hospital visits. After obtaining informed consent, a trained research assistant guided participants in answering the survey to ensure clarity and completeness of responses. This process allowed immediate clarification of questions, which helped improve the accuracy and reliability of the data. All collected data were kept anonymous and securely stored, and participants were informed of their right to withdraw from the study at any time. Completed questionnaires were then coded and entered into a password-protected database for analysis.

Results and Discussions

Problem 1: What is the Demographic Profile of the participating fathers in terms of Age, Educational Attainment, Religion, and Nationality

Table 1: Distribution of Participants according to Age

Age of the Participants	<i>f</i>	%
21-25 years old	7	6.50
26-30 years old	69	63.90
31-35 years old	30	27.80
36-40 years old	2	1.90
Total	108	100%

Table 1 shows A total of 108 participants were included in this study. Most participants (69 or 63.90%) were aged 26–30 years, making it the largest age group. This was followed by those aged 31–35 years (30 or 27.80%), while the least number of participants were aged 36–40 years (2 or 1.90%). These results show that most respondents were in the young or early adulthood stage. This finding supports previous studies showing that younger fathers are more likely to participate actively in prenatal care. For example, Rahman et al. (2017) reported that fathers aged 18–29 years showed more positive attitudes toward attending prenatal visits and supporting their partners. Overall, the high number of fathers aged 26–30 years suggests that this group may have greater readiness and motivation to take on responsible fatherhood roles.

Table 2: Distribution of the participants According to the Highest Educational Attainment of the participants

Highest Educational Attainment of the Participants	<i>f</i>	%
Secondary Education	25	23.1
Diploma	55	50.9
Bachelor's Degree	27	25.0
Master's Degree	1	0.90
Total	108	100%

Table 2 shows the highest educational attainment of the participants, most fathers held a diploma, with 55 out of 108 participants (50.90%). This was followed by those with a bachelor's degree, with 27 participants (25.0%), while only one participant (0.90%) had a master's degree, making it the least frequent. These results indicate that most respondents had moderate to higher levels of education. Previous studies show that educational attainment influences fathers' participation in maternal and child health. For example, Muhabaw, Hailemeskel, and Lambeko (2024) found that fathers with diploma or degree qualifications were more likely to attend antenatal visits and participate in pregnancy-related decisions. Similarly, the findings of this study suggest that having at least a diploma or bachelor's degree supports more informed and active involvement of fathers in prenatal care.

Table 3: Distribution of Participants According to Nationality

Nationality of the Participants	<i>f</i>	%
Indian	6	5.6
Nigerian	1	0.9
Saudi	100	92.6
Sudanese	1	0.9
Total	108	100s%

Table 3 shows in terms of nationality, most participants were Saudi nationals, with 101 out of 108 fathers (92.6%), followed by Indian participants with 6 (5.6%). Nigerian and Sudanese participants had the lowest frequency, with 1 participant each (0.9%). These results show that the majority of respondents were Saudi nationals. Previous research indicates that cultural values in Saudi Arabia, particularly traditional gender roles based on Islamic and tribal beliefs, influence how fathers participate in maternal health and pregnancy-related care (Almalki, 2020). Expatriate fathers may face additional challenges such as language barriers and limited familiarity with the healthcare system, which can affect their involvement. Overall, the high number of Saudi participants in this study suggests that cultural familiarity and social norms may support greater father involvement in prenatal care.

Table 4: Distribution of Participants According to Religion

Religion of the Participants	<i>f</i>	%
Islam	102	94.4
Christianity	5	4.6
Others	1	0.9
Total	108	100%

Table 4 shows Islam was the most common religion among the participants, with 102 out of 108 fathers (94.4%), followed by Christianity with 5 participants (4.6%), while 1 participant selected "others" without specifying a religion. These results show that most respondents were Muslim. In the Saudi context, research indicates that Islamic values strongly influence fathers' sense of responsibility and involvement in family and maternal health, as fathers often view participation in pregnancy and childcare as part of their moral and religious duty (Alshboul, Fawaris, & Alshbool, 2021). This finding supports the present study, where the dominance of Islam among participants suggests that religious beliefs may encourage fathers to feel responsible and more willing to participate in prenatal care.

Problem 2: What are the factors that significantly influence fathers' engagement in prenatal care in terms of Warmth and Attunement, Control and Process Responsibility, Frustration, Indirect Care, and Positive Engagement

Table 5: Paternal Involvement with Infant- Warmth and Attunement

Warmth and Attunement	<i>Mean</i>	<i>SD</i>	<i>VI</i>
1. I talked to my unborn baby.	4.56	1.76	A few times a week
2. I feel my involvement with my baby during pregnancy	5.05	1.62	A few times a week

	is important.			
3.	I miss my baby when I am not with my partner	5.13	1.76	A few times a week
4.	I feel emotionally close to my unborn baby.	5.30	1.80	A few times a week
5.	I smile, laugh, or express joy when interacting with my baby (e.g., during ultrasound, feeling movements).	5.20	1.60	A few times a week
	Mean	5.05	1.32	A few times a week

Table 5 shows the overall mean score for fathers' parental involvement was 5.05 (SD = 1.32), which was verbally interpreted as "a few times a week," indicating that fathers were moderately involved in caring for their infants. The Warmth and Attunement domain reflects fathers' emotional connection and responsiveness to their unborn child, which are important signs of early bonding. Previous research shows that fathers who feel emotionally close to their unborn baby during pregnancy are more likely to remain involved and show caregiving sensitivity after birth (Habib & Lancaster, 2010). In this study, the statement "I feel emotionally close to my unborn baby" had the highest mean score of 5.30 (SD = 1.80), while "I talk to my unborn baby" had the lowest mean score of 4.56 (SD = 1.76), though both were still interpreted as occurring a few times a week. Overall, these findings suggest that fathers show emotional connection to their unborn child, but such behaviors occur at a moderate level.

Table 6: Paternal Involvement with Infant- Indirect Control

	Indirect Control	Mean	SD	VI
1.	I help decide on my partner's general prenatal schedule and activities	5.23	1.56	A few times a week
2.	I accompany my partner to prenatal check-ups or medical appointments.	5.36	1.48	A few times a week
3.	I help arrange resources for my partner's prenatal care (e.g., transport, finances, childcare if needed).	5.22	1.64	A few times a week
4.	I help determine what preparations (e.g., clothes, feeding plans, baby items) are appropriate for my baby.	5.46	1.53	A few times a week
5.	I soothe or comfort my partner when she feels discomfort or anxiety about pregnancy	5.32	1.56	A few times a week
	Mean	5.32	1.26	A few times a week

Table 6 shows the domain Indirect Control, the overall mean score was 5.32 (SD = 1.26), which was verbally interpreted as "a few times a week," indicating moderate involvement. Indirect control refers to fathers' participation through decision-making, planning, and providing resources that support maternal and infant health. Research shows that fathers who help with financial planning, preparations, and resource arrangements during pregnancy can positively influence maternal health and birth outcomes (Alio et al., 2013). In this study, the statement "I help determine what preparations (e.g., clothes, feeding plans, baby items) are appropriate for my baby" had the highest mean score of 5.46 (SD = 1.52), while "I help arrange resources for my partner's prenatal care (e.g., transport, finances, childcare if needed)" had the lowest mean score of 5.22 (SD = 1.64). Overall, the results indicate that fathers were moderately involved in planning and preparation activities that support prenatal care.

Table 7: Paternal Involvement with Infant- Control and Process Responsibility

	Control and Process Responsibility	Mean	SD	VI
1.	I discuss the division of parenting responsibilities with my partner.	5.48	1.60	A few times a week
2.	I participate in decisions regarding my baby's health and well-being.	5.45	1.56	A few times a week
3.	I anticipate my baby's needs (e.g., monitoring health, preparing a safe home environment).	5.33	1.61	A few times a week
4.	I ensure my partner has proper nutrition and rest during pregnancy.	5.35	1.53	A few times a week
5.	I prepare baby items (e.g., clothes, crib, supplies) in anticipation of my baby's arrival.	5.34	1.74	A few times a week
6.	I engage in positive conversations about our baby's future.	5.31	1.67	A few times a week
7.	I feel excited and motivated to take part in baby's care after birth.	5.20	1.88	A few times a week

8. I actively participate in preparing for childbirth and parenthood (e.g., attending prenatal classes, reading materials).	5.21	1.76	A few times a week
Mean	5.34	1.31	A few times a week

Table 7 shows the Control and Process Responsibility domain, the overall mean score was 5.34 (SD = 1.31), which was verbally interpreted as “a few times a week,” indicating moderate involvement in planning and sharing parenting responsibilities. The statement “I discuss the division of parenting responsibilities with my partner” had the highest mean score of 5.48 (SD = 1.60), showing that fathers regularly communicate with their partners about caregiving roles. Meanwhile, the statement “I feel excited and motivated to take part in my baby’s care after birth” had the lowest mean score of 5.20 (SD = 1.88), although it was still interpreted as occurring a few times a week. Overall, these results suggest that fathers were moderately involved in discussing responsibilities and preparing for their role in infant care.

Table 8: Paternal Involvement with Infant- Frustration

	Frustration	Mean	SD	VI
1.	I feel anxious about my ability to care for my baby.	4.67	1.92	A few times a week
2.	I feel resentful about increased responsibilities as a first-time father.	4.72	1.72	A few times a week
3.	I feel jealous of my partner’s connection with the baby.	4.51	1.93	A few times a week
4.	I sometimes feel frustrated when trying to support my partner during pregnancy.	4.43	2.08	A few times a month
	Mean	4.58	1.45	A few times a week

Table 8 shows the Frustration dimension of paternal involvement, the overall mean score was 4.58 (SD = 1.45), which was verbally interpreted as “a few times a week,” indicating moderate emotional challenges among fathers. Research shows that first-time fathers often experience stress, anxiety, and frustration as they adjust to new responsibilities and changing family roles (Chin, Hall, & Daiches, 2011). In this study, the statement “I feel resentful about increased responsibilities as a first-time father” had the highest mean score of 4.72 (SD = 1.72), while “I sometimes feel frustrated when trying to support my partner during pregnancy” had the lowest mean score of 4.43 (SD = 2.08). Overall, the results suggest that fathers sometimes experience frustration, but they continue to remain involved and supportive rather than withdrawing from their responsibilities.

Table 9: Overall Paternal Involvement with Infants

	Overall Paternal Involvement with Infants	Mean	SD	VI
1.	Warmth and Attunement	5.05	1.32	A few times a week
2.	Indirect Control	5.32	1.26	A few times a week
3.	Control and Process Responsibility	5.34	1.31	A few times a week
4.	Frustration	4.58	1.45	A few times a month
	Overall Mean	5.07	1.16	A few times a week

Table 9 shows the overall paternal involvement of fathers in this study had a mean score of 5.07 (SD = 1.16), which was verbally interpreted as “a few times a week,” indicating moderate involvement in caring for their infants. Overall paternal involvement includes fathers’ emotional, behavioral, and supportive actions during pregnancy and early childcare. Previous research shows that consistent father involvement, even at moderate levels, supports child development and strengthens family relationships (Cabrera, Volling, & Barr, 2018). In this study, the Control and Process Responsibility dimension had the highest mean score of 5.34 (SD = 1.31), showing that fathers were actively involved in planning and sharing responsibilities. Meanwhile, the Frustration dimension had the lowest mean score of 4.58 (SD = 1.45), indicating occasional emotional challenges but still moderate involvement overall. These results suggest that fathers maintained a steady level of participation across different areas of prenatal and infant care.

Problem 3: Is there a significant difference between the aforementioned factors in relation to father's overall level of engagement in prenatal care?

Table 10: Significant Difference in the Involvement of Fathers with Infants when Grouped According to Participants' Age

Significant Difference in the Involvement of Fathers with Infants when Grouped According to Participants' Age	Test for Equality of Means		Verbal Interpretation
	F-Value	Sig. Value	
Warmth and Attunement Between Groups	0.095	0.963	Not Significant
Indirect Control Between Groups	0.206	0.892	Not Significant
Control and Process Responsibility Between Groups	0.625	0.600	Not Significant
Frustration Between Groups	0.750	0.525	Not Significant
Overall Parental Involvement with Infants Between Groups	0.286	0.836	Not Significant

Table 10 shows the responses of participants on paternal involvement, when grouped according to age, showed an overall F-value of 0.286 and a significance value of 0.836, which is higher than the 0.05 level of significance. This indicates that there were no significant differences in paternal involvement based on age. This finding suggests that fathers across different age groups showed similar levels of involvement with their infants. Previous research supports this result, showing that although younger fathers may initially feel less confident, their level of involvement becomes similar to that of older fathers as they adjust to their parenting roles (Bouchard, 2012). Overall, these results indicate that factors such as motivation, partner support, and relationship quality may have a greater influence on father involvement than age alone.

Table 11: Significant Difference in the Involvement of Fathers with Infants when Grouped According to Highest Educational Attainment

Significant Difference in the Multidimensional Health Seeking Behavior and its Influences when Grouped According to the Participants' Highest Educational Attainment	Test for Equality of Means		Verbal Interpretation
	F-Value	Sig. Value	
Warmth and Attunement Between Groups	4.415	0.006	Significant
Indirect Control Between Groups	5.477	0.002	Significant
Control and Process Responsibility Between Groups	3.288	0.024	Significant
Frustration Between Groups	0.861	0.464	Not Significant
Overall Parental Involvement with Infants Between Groups	4.025	0.009	Significant

Table 11 shows the responses of participants on paternal involvement, when grouped according to their highest educational attainment, showed an overall F-value of 4.025 and a significance value of 0.009, which is lower than the 0.05 level of significance. This indicates that there were significant differences in paternal involvement based on educational level. Among the domains, only the Frustration domain showed no significant difference, while Warmth and Attunement, Indirect Control, and Control and Process Responsibility showed significant differences, with significance values ranging from 0.002 to 0.024. These results suggest that fathers with different educational levels showed varying levels of involvement in most areas of prenatal care. Previous studies support this finding, showing that fathers with higher education levels are more likely to participate in antenatal and postnatal care due to better health knowledge, awareness of parenting roles, and confidence in caregiving (Beraki et al., 2023). Overall, the results indicate that education plays an important role in influencing fathers' involvement in prenatal care activities.

Table 12: Significant Difference in the Involvement of Fathers with Infants when Grouped According to Nationality

Significant Difference in the Involvement of Fathers with Infants when Grouped According to the Participants' Nationality	Test for Equality of Means		Verbal Interpretation
	F-Value	Sig. Value	
Warmth and Attunement Between Groups	2.920	0.038	Significant
Indirect Control Between Groups	2.141	0.100	Not Significant
Control and Process Responsibility Between Groups	2.266	0.085	Not Significant
Frustration Between Groups	0.434	0.729	Not Significant
Overall Parental Involvement with Infants Between Groups	1.619	0.619	Not Significant

Table 12 shows the responses of participants on paternal involvement, when grouped according to nationality, showed no significant difference overall, as indicated by the significance value greater than 0.05. However, among the four domains, only Warmth and Attunement showed a significant difference, with an F-value of 2.920 and a significant value of 0.038. The other domains showed no significant differences, with F-values ranging from 0.434 to 2.266 and significant values from 0.085 to 0.619. These results suggest that nationality generally does not affect fathers' level of involvement, except in emotional connection and responsiveness to their infants. Previous research indicates that cultural beliefs and national identity can influence fathers' attitudes toward caregiving, as fathers from different cultural backgrounds may have varying views on emotional expression and parenting roles (Mahmoud & Mohamed, 2022). Overall, the findings show that nationality had limited influence on paternal involvement, with differences mainly observed in emotional bonding behaviors.

Table 13: : Significant Difference in the Involvement of Fathers with Infants when Grouped According to Religion

Significant Difference in the Involvement of Fathers with Infants when Grouped According to the Participants' Religion	Test for Equality of Means		Verbal Interpretation
	F-Value	Sig. Value	
Warmth and Attunement Between Groups	4.372	0.015	Significant
Indirect Control Between Groups	1.990	0.142	Not Significant
Control and Process Responsibility Between Groups	3.077	0.050	Not Significant
Frustration Between Groups	0.510	0.729	Not Significant
Overall Parental Involvement with Infants Between Groups	2.839	0.063	Not Significant

Table 13 shows the responses of participants on paternal involvement, when grouped according to religion, showed no significant difference overall, with an F-value of 2.839 and a significance value of 0.063, which is higher than the 0.05 level of significance. However, among the four domains, only Warmth and Attunement showed a significant difference, with an F-value of 4.372 and a significance value of 0.015. The other domains showed no significant differences, with F-values ranging from 0.510 to 3.077 and significant values from 0.050 to 0.729. These findings suggest that religion did not strongly affect overall paternal involvement but had an influence on fathers' emotional connection with their infants. Previous research shows that religious beliefs can shape parenting attitudes, emotional expression, and nurturing behaviors, as faith-based values often encourage empathy and emotional closeness within families (Mahoney, 2010). Overall, the results indicate that religion may influence the emotional quality of father involvement rather than the overall level of participation.

Ethical Considerations

This study followed the ethical standards and guidelines of the hospital and local research authorities. All participants received written and verbal explanations about the study, and written informed consent was obtained before participation. Confidentiality was maintained by keeping all data anonymous and securely stored, with no personal information disclosed. Participation was voluntary, and fathers were allowed to refuse or withdraw from the study at any time without any consequences. The study posed minimal risk since no medical procedures were involved. Ethical approval was obtained from the hospital's Institutional Review Board (IRB) before data collection began.

Conclusion

The findings show that paternal involvement in prenatal care among first-time fathers is moderate and includes emotional, behavioral, and supportive participation. Most respondents were young, moderately educated Muslim Saudi nationals who showed readiness to take on fatherhood responsibilities. The overall mean score of 5.07 indicated that fathers were involved in prenatal activities a few times a week, especially in planning, decision-making, and providing emotional support to their partners. Among the dimensions, Control and Process Responsibility had the highest score, showing that fathers actively shared caregiving and preparation tasks, while Frustration scores suggested manageable emotional stress rather than withdrawal. These results support Bowlby's Attachment Theory, which states that early emotional bonding between parents and children supports healthy development. Fathers' involvement, especially in providing warmth and support, helps strengthen early bonding with the unborn child and improves maternal well-being. Overall, the study concludes that paternal involvement is influenced mainly by education and psychosocial readiness, and that active father participation supports early attachment and positive child development.

Recommendations

Healthcare providers and hospital administrators are encouraged to strengthen father-inclusive prenatal care by offering structured orientation programs, family-centered consultations, and father-friendly policies such as joint couple sessions, antenatal education, and culturally appropriate opportunities for fathers to attend selected prenatal activities while respecting privacy and cultural values. Policymakers and public health officials should integrate standardized father participation guidelines into national health programs, including awareness campaigns, staff training on culturally sensitive practices, and health education materials designed for fathers with different literacy levels. Since education was found to significantly influence paternal involvement, accessible community-based programs and media initiatives should be promoted to increase awareness of fathers' roles in maternal and child health. Future researchers are encouraged to conduct longitudinal and mixed-method studies to further examine the long-term effects of paternal involvement on maternal and infant outcomes, particularly within the Saudi context, and to evaluate the effectiveness of father-inclusive programs in strengthening family well-being and early parent-child bonding.

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