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Research Article

**PROMOTING PROGRAM FOR MOTHERS AROUND RISK  
FACTOR AND PREVENTING PRACTICE OF SUDDEN  
INFANT DEATH SYNDROME AT NAJHRAN CITY****Dr. Howaida Moawad Ahmed Ali**

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**Article Received:** February 2020**Accepted:** March 2020**Published:** April 2020**Abstract:**

*Background: Sudden infant death syndrome (SIDS) is the sudden and unexplained death of a baby younger than 1 year old. Aim of the study: Evaluate the risk factors related to mothers, infant, home, sleep environment, preventing practice. Implement the promoting program regarding strategies to prevent SIDS. Examine the efficiency of the promoting program on mother's knowledge and practice towards SIDS. Estimate the association between mother's knowledge related risk factor and preventing practice with their socio-demographic characteristics. Tool I: Part 1: Socio-demographic data for mothers and their infant. Part2: pre/post questionnaire for evaluation home and sleep environment and their risk factors related infant and their mothers. Tool II: Interviewing pre/post questionnaire for preventing practice include knowledge and practice to prevent sudden infant death syndrome. Results: more than two third of the mothers were less than thirty years and had university education. While 55% of father infant was smoker and with boys' gender at the age from 3 to 6 months. The of the mothers improved their knowledge post program specifically in the elements of avoid co-bedding for twins, overheating, prenatal care, avoid smoking and prone and side infant position. The majority of the mothers were had adequate knowledge post program related to risk factor and preventing practice of SIDS compared to pre-program. There was highly statistically significant difference at  $P=0.01$ . Conclusion: Henceforth, with working of this study, we can promotion of SIDS and controlling these risk factors through enriching level of mother's alertness by education is essential. Recommendation: Parents essential to recognize the recent finest practices to decrease the incidence of sleep-related SIDS and highpoints advices to aid parents confirm safe sleep surroundings for infants.*

**Keywords:** Mothers, Sudden infant death syndrome, Promoting program.

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**INTRODUCTION:**

Sudden Unexpected Death in Infancy (SUDI) is a term used to describe the sudden and unexpected death of a baby. SUDI may be the result of a serious illness or a problem that baby may have been born with, but most SUDI deaths occur as a result of either SIDS or a fatal sleep accident. Sudden Unexpected Infant Deaths (SUID) are deaths that occur suddenly and unexpectedly in previously healthy infants and have no obvious cause of death prior to investigation (unexplained). SUID excludes deaths with an obvious cause, e.g., motor vehicle accidents (Dufer and Godfrey., 2017). Sudden Infant Death Syndrome (SIDS) is one subgroup of SUID. Others are accidental suffocation, infections or other known medical causes, and homicide. SIDS is defined as sudden death of an infant under one year of age which remains unexplained after a thorough case investigation, including performance of a complete autopsy, examination of the death scene, and review of the clinical history.” There is inconsistency in coding SUID/SIDS deaths on death certificates (Duncan, and Byard, 2018). Some medical examiners are calling fewer deaths SIDS, instead coding them as “accidental suffocation” or “unknown.” Regardless of how they are coded, many Child Death Review teams review SUID/SIDS deaths because they believe they are preventable (The National Center for Fatality Review and Prevention, 2020).

Although there is widespread agreement among SIDS researchers for many of the SIDS risk factors, there is still a continued debate as to whether pacifiers are protective and whether it is bed-sharing itself or the particular way family's bed-share that put infants at risk (Rasinski, et al., 2003). Although SIDS affects infants from all social strata, lower socioeconomic status, younger maternal age, inadequate prenatal care and lower maternal education level are consistently associated with an increased risk of SIDS (Andreotta., 2015). Emerging evidence also substantiates an expanding number of genetic risk factors. There is a major association between sleeping position and SIDS. The prone sleeping position increases the risk of SIDS (Yikilkan., et al., 2011).

**Significant of the study:**

The incidence of Sudden Infant Death Syndrome in the Middle East at Saudi Arabia is 51,591(Right Diagnosis from Health Grades., 2020). The occurrence of SIDS is rare during the first month of life, increases to a peak between 2 and 4 months old, and then declines (Kattwinkel, et al., 2000). Risk reduction campaigns emphasizing the importance of avoiding multiple and simultaneous SIDS risks are essential to prevent SIDS, including among infants

who may already be vulnerable (Trachtenberg et al., 2012) and (Maged and Rizzolo., 2018).

The American Academy of Pediatrics recommends a safe sleep environment that can reduce the risk of all sleep-related infant deaths (Moon., 2016) and (Colson, et al.,2017). Mothers can help reduce the risk of SIDS and other sleep-related infant deaths. Therefore, mothers should be educated routinely about safe sleep practice and prevention of SIDS (Elbilgahy, et al., 2019).

**Aim of the study:**

- Evaluate the risk factors related to mothers, infant, home, sleep environment, preventing practice.
- Implement the promoting program regarding strategies to prevent SIDS.
- Examine the efficiency of the promoting program on mother's knowledge and practice towards SIDS.
- Estimate the association between mother's knowledge related risk factor and preventing practice with their socio-demographic characteristics.

**Research hypothesis:**

- The promoting program will improve the mother's knowledge related to preventing practice of SIDS.

**SUBJECTS AND METHODS:**

**Research Design:** a quasi-experimental designed intervention study utilized in this study.

**Setting:** the study conducted at out-patient clinic of maternity and childhood hospital, Najran city, Saudi Arabia.

**Sample:** the study participant was 200 mothers had children age from 0 to 1 years.

Tools: Tool I: Part 1: Socio-demographic data for mothers as age, education level and smoking parents' condition

Part2: Socio-demographic data for their infant as age, gender, health status, gestational age, feeding and family history.

Part3: pre/post questionnaire for evaluation home and sleep environment risk factors.

Tool II: Interviewing pre/post questionnaire for mothers around preventing practice which include knowledge and practice to prevent sudden infant death syndrome as sleep baby on back, avoid overheat, avoid smoking, breastfeeding.

Scoring system: the total mothers response post promoting program regarding preventing practice was more than 70% considered adequate preventing practice and risk factor while the mothers had less than 70% considered inadequate preventing practice and risk factor.

**Validity and reliability**

The validity and reliability of the instrument was done by 2 specialists in pediatric nursing. The reliability of tool was assessed using Alpha Cronbach's test; the alpha reliability was 0.78.

**Pilot study**

The researcher checks the feasibility, applicability and clarity of the tool through implementing a pilot study on 5 mothers; some modifications were made accordingly and the mothers were not included in the study.

**Ethical Considerations**

Oral consent was obtained from mothers after give details about the study; confidentiality of data and the mothers' right to drawback from the study was assured.

**Promoting program stages:****The preintervention stage:**

Data were collected from participant mothers using a structured questionnaire, the researcher explain the purpose of study, prepare videos, poster, power-point presentation, infant doll to facilitate

understanding. The researcher division mothers to small group each group contain 5 mothers.

**The intervention phase:**

An educational program was carried out for mothers by the researcher during the period from December 2018 to May 2019. The researcher came to study setting one day per weak. The investigator used different teaching methods as lectures, group discussion, posters, video, booklets etc. The content of the program was implemented for each group in one session. Each session included 5 mothers and took 30 min.

**The postintervention phase:**

Via the same tool, the participants were re-evaluated post the program implementation for knowledge related risk factor and preventive strategies.

**Statistical analysis:**

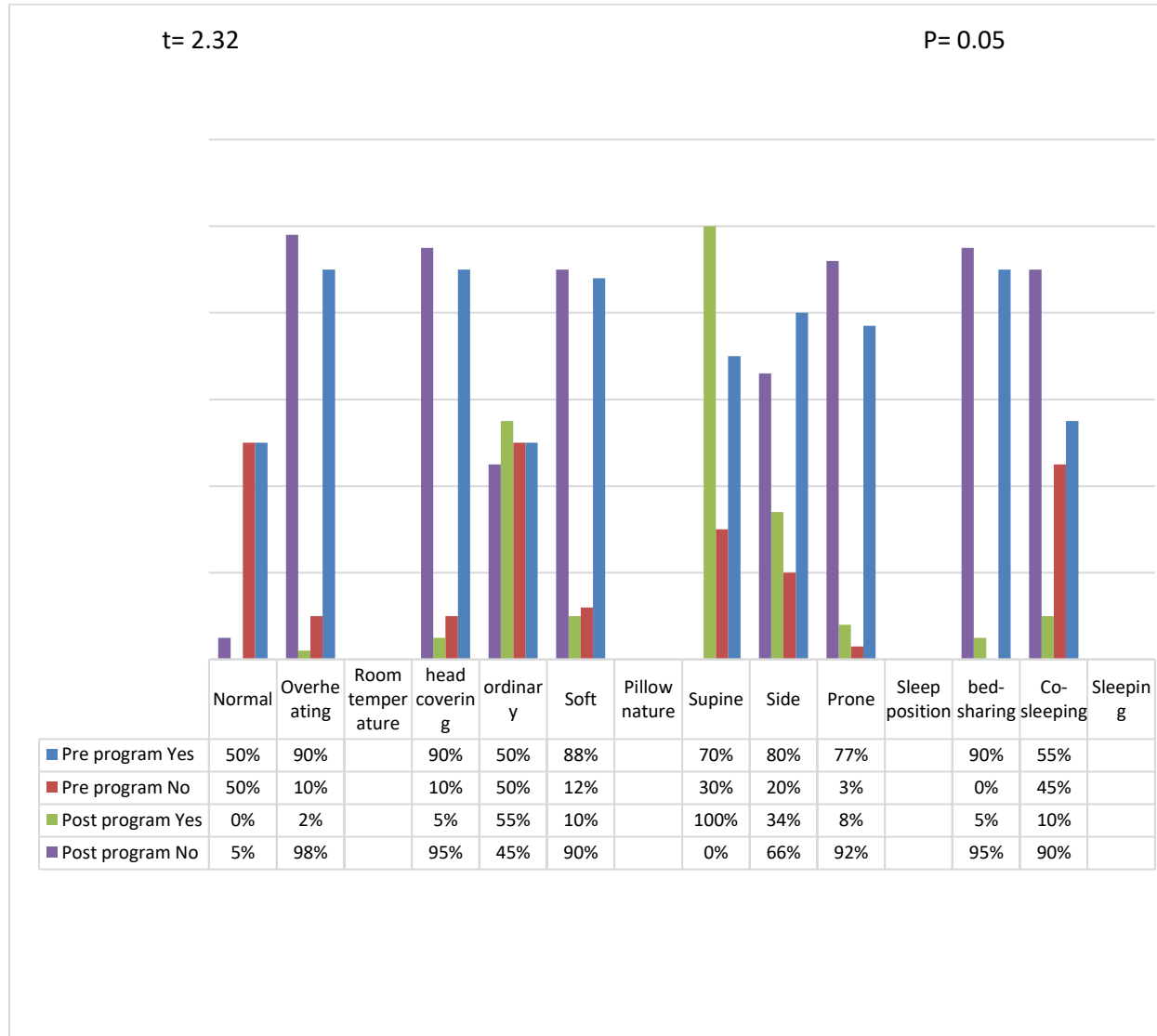
The data were collected, tabulated, and analyzed using Descriptive statistics, Chi-square test, Data was analyzed using SPSS (Statistical Package for Social Science) version 24 P value <0.05 was considered significant.

**RESULTS:****Table 1: the socio-demographic characteristics of the mothers and their infant (N=200)**

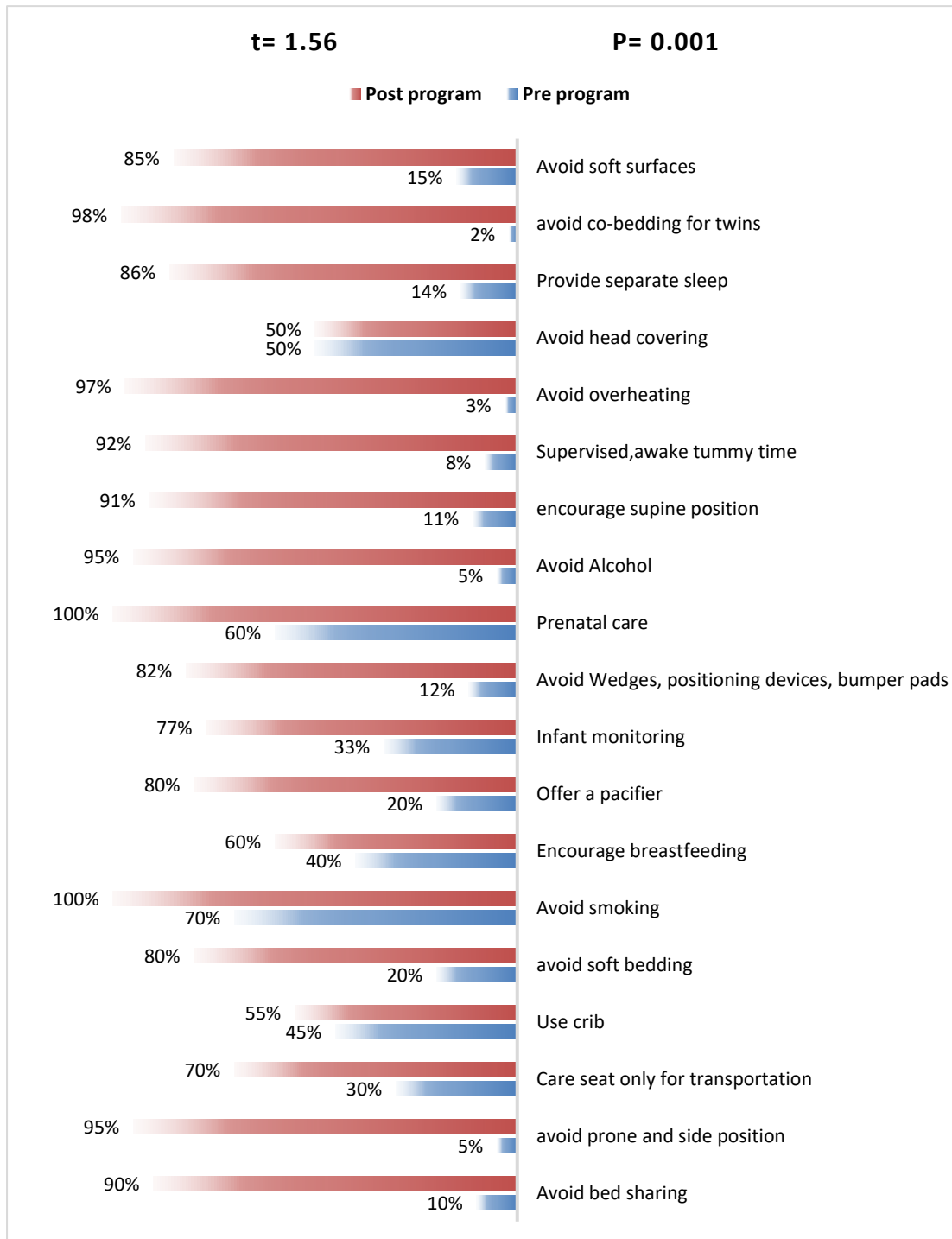
Items	Number (%)
<b>Mothers age</b>	
Less than 30	150(75%)
More than 30	50(25%)
<b>Education</b>	
Primary and preparatory	15(7.5)
Secondary	40(20)
University	145(72.5)
<b>Father smoking</b>	
Yes	90(45%)
No	110(55%)
<b>Infant gender</b>	
Boys	118(59%)
Girls	82(41%)
<b>Infant age</b>	
<3 months	85(42.5%)
3-6 months	100(50%)
6-9 months	10(5%)
9-12 months	5(2.5%)
<b>Infant gestation</b>	
Premature	85(42.5%)
Full term	115(57.5%)
<b>Infant health</b>	
Healthy	140(70%)
Unhealthy	60(30%)
<b>Infant feeding</b>	
Breastfeeding	70(35%)
Formula	66(33%)
Complementary	136(68%)
<b>SIDS history</b>	
Yes	71(35.5%)
No	110(64.5%)

**Table 1:** illustrated that 75% of mothers were less than thirty years and more than two third of them had university education. While 55% of father infant was smoker. More than half of infant gender was boys and they were at the age of 3 to 6 months, full-term gestation, healthy status, furthermore nearly two third of infant had complementary feeding with no SIDS family history.

**Figure 1: Distribution of mother's knowledge related to infant sleep risk factors pre and post promoting program**

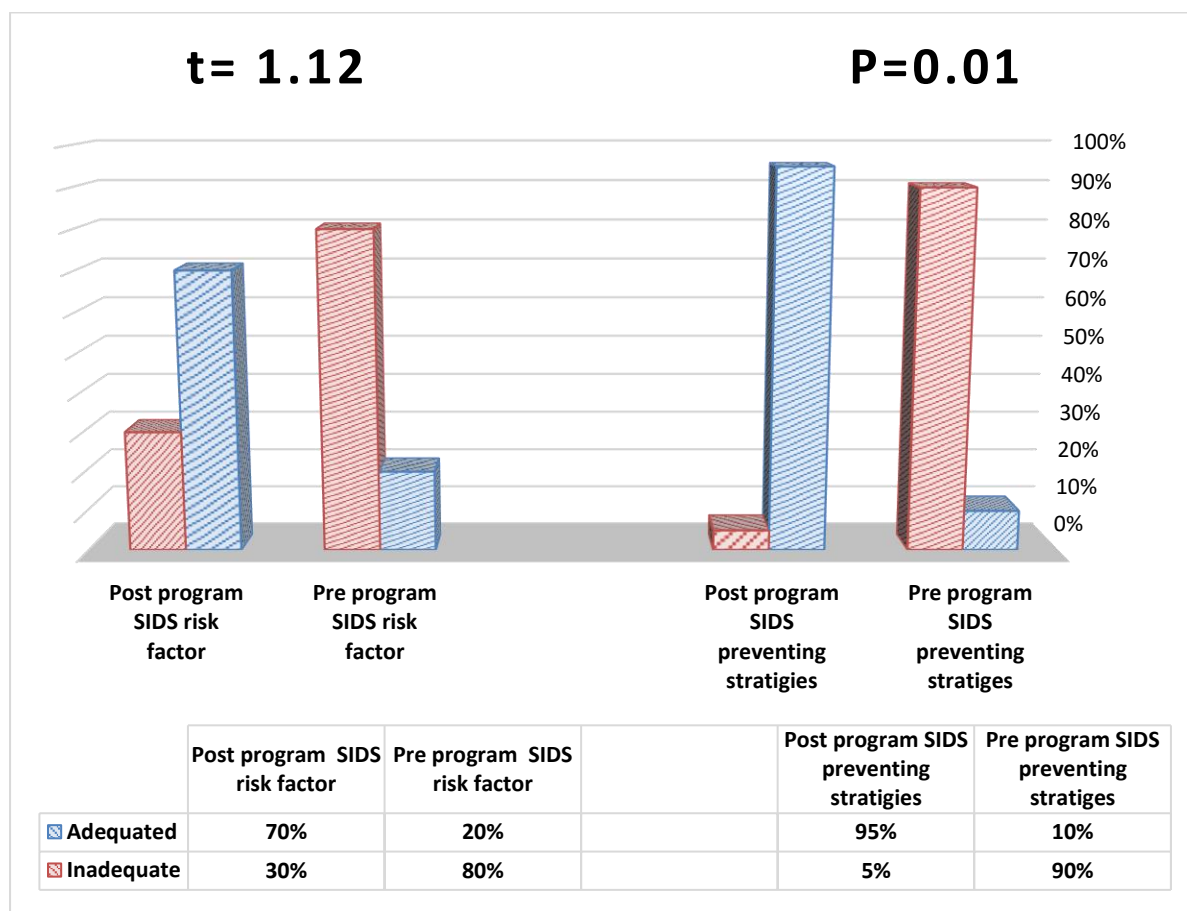


**Figure1:** illustrated that the mother's knowledge was improved post program related to risk factor of SIDS.

**Figure 2: The distribution of the mothers pre and post program around preventing practice of SIDS**

**Figure 2:** evidenced that more than two third of mothers improved their knowledge post program compared to pre-program specifically in the elements of avoid co-bedding for twins, overheating, prenatal care, avoid smoking and prone and side infant position. There was highly statistically significant difference at  $P=0.001$ .

**Figure 3: the total mother's knowledge around SIDS risk factors and their preventing practice pre and post promoting program**



**Figure3:** Exposed that the majority of the mothers were had adequate knowledge post program related to risk factor and preventing practice of SIDS compared to pre-program. There was highly statistically significant difference at  $P=0.01$ .

**Table 2: The association between the mother's socio-demographic characteristics and their knowledge related to risk factor and preventing practice post promoting program.**

Variable	Mothers knowledge				X <sup>2</sup>	P
	Adequate		Inadequate			
	N	%	N	%		
<b>Mothers age</b>						
Less than 30	145	96.7	5	3.3	3.29	0.001
More than 30	42	84	8	16	4.23	0.05
<b>Education</b>						
Primary and preparatory	10	66.7	5	33.3	4.12	0.05
Secondary	33	73.3	7	26.7	3.34	0.05
University	140	96.5	5	3.5	2.67	0.001

**Table2:** told that there was association between the adequate mother's knowledge related to risk factor and preventing practice post promoting program with their age less than thirty years and their university education level. There was highly statistically significant at  $P= 0.001$ .

**DISCUSSION:**

Sudden infant death syndrome (SIDS) is the sudden unexpected death of a child younger than one year during sleep that cannot be explained after a postmortem evaluation including autopsy, a thorough history, and scene evaluation (Lieber., 2018). The incidence of SIDS has decreased more than 50% in the past 20 years, largely as a result of the Back to Sleep campaign. The most important risk factors relate to the sleep environment. Prone and side sleeping positions are significantly more dangerous than the supine position. Bed sharing with a parent is strongly correlated with an increased risk of SIDS, especially in infants younger than 12 weeks (Adams, et al., 2015).

The current study exposed that more than half of infant gender was boys and they were at the age of 3 to 6 months, full-term gestation, healthy status, furthermore nearly two third of infant had complementary feeding with no SIDS family history. These finding coordinated with study done by (Elbilgahy, et al., 2019) who create that the mean age of the studied infants were  $4.86 \pm 3.05$  and half of them (49.7% & 45.8%) were boys and taking breast feeding only respectively. Furthermore, approximately two thirds of infants were using the pacifier and 72.3% of them were healthy at birth. Also, the study done by (Miladinia, et al., 2015) found that 310 (35.3%) of infants were 6 to 9 months and 504 (57.4%) were female.

The present study revealed that 75% of mothers were less than thirty years and more than two third of them had university education. While 55% of father infant smoker (Miladinia, et al., 2015) who found that of 878 cases, 291 (33.15) % of parents were under 20 year, most common risk factors of SIDS were determined: co-sleeping (92.03%), bed sharing (49.31%), side lying position (47.49%) and non-exclusive breastfeeding (45.5%). A significant relationship was found between bed-sharing and head covering ( $P < 0.05$ ); bed-sharing and prone position ( $P < 0.05$ ); bed-sharing and breastfeeding (under 4 months) ( $P < 0.05$ ); mothers' age and co-sleeping ( $P < 0.05$ ) mothers' age and prone position ( $P < 0.05$ ) (Miladinia, et al., 2015).

The existing study evidenced that more than two third of mothers improved their knowledge post program compared to pre-program specifically in the elements of avoid co-bedding for twins, overheating, prenatal care, avoid smoking and prone and side infant position. There was highly statistically significant difference at  $p = 0.001$ . these results harmonized with study done by (Yikilkan., et al., 2011) who reported that only 39% of mothers were aware of SIDS. Forty-six percent of the mothers preferred a supine sleeping position for

their infant and 16% of the parents were bed-sharing with their infants. Total knowledge score of health professionals who selected supine sleeping position as the safest was significantly higher ( $P < 0.001$ ). Moreover (Dufer and Godfrey., 2017) discovered that safe sleep educational sessions before hospital discharge resulted in higher post-test scores compared with pre-test scores and a high percentage of compliance to safe sleep practices at home.

Regarding the mother's knowledge were improved post program related to risk factor of SIDS. Beside the majority of the mothers were had adequate knowledge post program related to risk factor and preventing practice of SIDS compared to pre-program. There was highly statistically significant difference at  $P = 0.01$ . These finding accorded with study done by (Hamadneh., 2014) who portrayed that the SIDS education program targeted at neonatal healthcare providers within the Jordanian context was effective in improving staff knowledge, practices and preparedness to instigate parental/family education.

The present study reported that there was association between the adequate mother's knowledge related to risk factor and preventing practice post promoting program with their age less than thirty years and their university education level. There was highly statistically significant at  $P = 0.001$ . these finding in the same line with study done by (Bezerra., et al., 2015) who showed that the factors such as maternal education and information on the correct sleeping position for the child were statistically significant when associated with knowledge of mothers about SIDS.

**CONCLUSION:**

Henceforth, with working of this study, we can promotion of SIDS and controlling these risk factors through enriching level of mother's alertness by education is essential.

**Recommendation:**

- Parents essential to recognize the recent finest practices to decrease the incidence of sleep-related SIDS and highpoints advices to aid parents confirm safe sleep surroundings for infants.
- The risks for SIDS are several; hence, education on prevention must be complete. Sustained research, standardized hospital practice, and parent education may help decrease the incidence of SIDS.
- Media and public health organizations that provide safe sleep information would analysis, review, and release this information at least

every five years to ensure that each generation of new parents gets proper information.

- Further studies to discover risk factors and occurrence of SIDS in different districts nation are suggested.

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