



ORIGINAL ARTICLE

Knowledge, Attitude, and Practice among Palestinian Mothers Attending the Governmental Primary Health Care Centers Regarding Preconception Care Services

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Received: 23/06/2022

Accepted: 23/08/2022

Published: 01/10/2022

OPEN ACCESS

Doi:

<https://doi.org/10.52865/REKK2942>

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Funding: Nil

Competing Interests: The authors declare that this manuscript was approved by all authors in its form and that no competing interest exists.

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ABSTRACT:

Background: Preconception care considers the backbone for safe pregnancy and childbirth outcomes. Therefore, early preconception care provided by healthcare professionals before pregnancy is crucial in reducing childbirth morbidity and mortality rates. This study aims to assess mothers' knowledge, attitude, and practice (KAP) about preconception care at governmental primary health care clinics in the Gaza Strip.

Methods: A descriptive cross-sectional study was conducted in seven primary health care centers and data was collected using a self-administered questionnaire (including 3-point Likert Scale). A convenience sample of 372 mothers aged from 16 to 49 years, and who visit governmental clinics as a routine follow-up were selected.

Results: The overall level of mothers' knowledge was 60% (moderate) with $\mu = 1.80$. A positive attitude was reported among mothers and the overall level was 71% ($\mu = 2.13$) and the overall level of practices regarding preconception care was 59% with $\mu = 1.77$. Further, the highest level of knowledge (75%) was reported about the importance of eating a well-balanced diet and folic acid intake ($\mu = 2.25$), and most mothers showed a high attitude level in terms of the importance of consultation at the preconception period ($\mu = 2.26$).

Conclusion: In Gaza Strip, mothers have fair knowledge and attitude levels but low level of practice regarding preconception care which shows that there is an opportunity in existing circumstances for the implementation of interventions targeting predictors for increased knowledge and uptake of preconception care.

Keywords: Preconception, Maternal health, Gaza Strip, Palestine.



Introduction:

Preconception care (PCC) is a series of health interventions provided to women and couples before conception occurs (World Health Organization, 2013). Attending preconception care help in increasing the chance of giving birth with fewer complications that occur during pregnancy, labor, or after delivery. These complications could be mild, moderate, or in some cases severe enough to threaten the mother's or baby's life (Kikuchi et al., 2018; Lawn et al., 2014).

Safe delivery and healthy baby require previous knowledge & experience for each mother (Lalonde et al., 2019). Therefore, preconception counseling is an important aspect of the care of reproductive-aged women (World Health Organization, 2012). There are many voices that highlight the necessity of PCC as a preventive approach to achieve safe pregnancy in order to enhance the health of mothers and their infants (Al-Shiekh, Ibrahim, Etewa, & Alajerami; El Bilbeisi et al., 2020). Being more aware and knowledgeable of both couples about healthy pregnancy consider an important motivator factor for behavioral changes toward the best before pregnancy (Kabakyenga, Östergren, Turyakira, & Pettersson, 2011). Knowledge about maternal health, obstetric danger signs, and birth preparedness among women attending PCC sessions enhance the impact of basic knowledge of risk signs on prenatal practices (Firouzan, Noroozi, Farajzadegan, & Mirghafourvand, 2018).

It has been reported that the maternal mortality rate for 2020 in the United States was 13.8 deaths per 100,000 live births compared with a rate of 20.1 in 2019, and approximately two-thirds of maternal deaths occur during the childbirth process mainly after delivery (CDC, 2020; Ronsmans, Graham, & group, 2006). In Palestine, about fifty-five percent of maternal deaths among women occurred due to maternity causes (Abu-El-Noor et al., 2018; Al-Adili, Johansson, & Bergström, 2006). Therefore, the present study was carried out to assess the level of KAP related to preconception care services among mothers in the Gaza Strip (GS).

Methods

A descriptive cross-sectional design was used in the current study. The present study was done from June 2021 to August 2021. A convenience sample of 372 eligible participants



(Women aged ≥ 18 years, and being attended to governmental clinics during their obstetric care) from the five governorates of GS was proportionally selected in this study based on the population density. Constructed self-administered questionnaire (3-point Likert scale) was used as instrument for collecting data about KAP of mothers towards preconception care that received at primary health clinics. The questionnaire consisted of three parts and collected data about socio-demographic characteristics of participants' preconception care components. A pilot study was conducted with 30 participants to assess the feasibility of the study and the reliability of the questionnaire. The reliability of the questionnaire has been tested and alpha coefficient was 0.84 and the content validity of the questionnaire was also evaluated by a team of ten experts in the study subject.

Ethical approval

The study protocol was approved by the Helsinki Ethics Committee of the Gaza Strip, Palestine, as well as permission to conduct the study in the Ministry of Health was obtained. Further, all participants were required to sign informed consent forms prior to the study.

Data analysis

Quantitative data was analysed using a statistical Package for Social Science (SPSS) version 26. Descriptive statistics involved generation of frequency distributions of socio-demographic, and obstetric and medical history characteristics. 3-point Likert scale Scores range from 1 -3 for all items, with the highest value (3) indicating agree, therefore, weighted mean was calculated based on dividing the mean by 3.

Results

Table (1) showed that more than one-third 127 (34.1%) of study participants are from the age group > 20 – 25 years and 117 (31.5%) from the age group > 25 – 30 years. The mean age of all participants Mean \pm SD is (26.029 \pm 5.2). According to the place of living, the majority of study participants are from Gaza governorate accounted for 160 (43%) and the rest of participants 53 (14.2%) are distributed equally from the other governorates. Furthermore, the majority of women are educated as more than one-third of participants 131 (35.2%) had university education and more than 50% percent of mothers



193 (51.9%) finished their secondary school education. In addition, the results showed that the majority of mothers 359 (96.5%) are housewives and only 13 (3.5%) are working. Less than one third of study participants 107 (28.8%) their monthly income was more than 300\$ while the majority of study participants 265 (71.2%) their monthly income was less than 300\$.

Table (1): Socio-demographic characteristics of the participants

Variables	n	Percent
Age		
16 - 20 years	5.8	15.6
> 20 – 25 years	127	34.1
> 25 – 30 years	117	31.5
> 30 years	70	18.8
Total	372	100.0
Mean age = 26.029 SD = 5.274		
Place of residency		
Rafah	53	14.2
Khanyounis	53	14.2
Middle	53	14.2
Gaza	160	43.2
North	53	14.2
Total	372	100.0
Level of education		
Prep school	48	12.9
Secondary school	193	51.9
University	131	35.2
Total	372	100.0
Working status		
Working	13	3.5
Housewife	359	96.5
Total	372	100.0
Monthly income		
≤300 \$	265	71.2
>300 \$	107	28.8
Total	372	100.0
Mean income = 261.55 \$, SD = 154.59 \$		



Approximately half (88) of the study participants have 3 to 5 pregnancies, 30.9% (115) have two pregnancies, 52.4% (195) had two to four deliveries and 37.1% (138) had one delivery. In addition, 33.6% (125) had previous abortions (Table 2).

Table (2): Distribution of study participants by obstetric and medical history

Variables	n	Percent
Number of pregnancies		
Two times	115	30.9
3 – 5 times	188	50.5
6 times and more	69	18.6
Total	372	100.0
Number of deliveries		
Primiparous	138	37.1
2 – 4 times	195	52.4
5 times and more	39	10.5
Total	372	100.0
Previous abortions		
Yes	125	33.6
No	247	66.4
Total	372	100.0

Table (3) presented participants' knowledge about preconception care. The results showed that the highest mean (75% with mean score 2.25) obtained in women's knowledge about the necessity of eating balanced meals & consumption of folic acid before pregnancy. In contrary, the lowest score obtained in the knowledge about decreasing in the distance between pregnancies and its relation with development of congenital anomalies with mean score 1.48 and mean percent 49.3%, followed by the knowledge that decreasing the distance between pregnancies leads to congenital anomalies, with mean score 1.48 and mean percent 49.3%. In general, the results indicated moderate knowledge about preconception care with mean score 1.80 and mean percent 60%.

**Table (3):** Knowledge of study participants about preconception care

Item	Strongly agree	Agree	Disagree	Mean	SD	Weighted Mean (%)
It is essential for the mother to eat balanced meals before pregnancy.	34.9	55.6	9.4	2.25	0.615	75.0
Consumption of folic acid before pregnancy decreases the risk of fetal anomalies.	36.3	53.2	10.5	2.25	0.634	75.0
Pregnancy is risky if the mother was obese.	16.1	58.3	25.5	1.90	0.639	63.3
Decrease the distance between pregnancies cause anemia for the mother.	18.0	47.3	34.7	1.83	0.707	61.0
Pregnancy is risky if mother's weight (BMI) is low.	11.0	52.7	36.3	1.74	0.640	58.0
Pregnancy is risky if mother's age less than 18 years.	9.4	51.9	38.7	1.70	0.629	56.6
Pregnancy is risky if mother's age more than 35 years.	9.7	49.7	40.6	1.69	0.638	56.3
Decrease the distance between pregnancies leads to postpartum hemorrhage.	8.6	45.4	46.0	1.62	0.638	54.0
Pregnancy is risky in case of twin's pregnancy.	8.3	42.5	49.2	1.59	0.639	53.0
Decrease the distance between pregnancies leads to congenital anomalies.	7.0	34.1	58.9	1.48	0.624	49.3
Overall average				1.80	0.376	60.0

Table (4) showed participants' attitude towards preconception care. The results demonstrated that the highest score obtained in believing that consultation with the preconception clinic is helpful to self-prepare for pregnancy physically and psychologically with mean score 2.26 and mean percent 75.3%, followed by believing that preconception healthcare has positive effects on pregnancy and delivery, with mean score 2.24 and mean percent 74.6%. whereas, the lowest score was in the believe that it is necessary to check blood group before pregnancy with mean score 0.64 and mean percent 68.3%, followed by believe that it is necessary to check haemoglobin level before pregnancy, with mean score 2.02 and mean percent 67.3%. The overall mean attitude was 2.13 and mean percent was 71%, which indicated above moderate attitude towards preconception care.

**Table (4):** Attitudes of study participants about preconception care

Item	Strongly agree	Agree	Disagree	Mean	SD	Weighted mean (%)
I believe that consultation with the preconception clinic is helpful to prepare myself for pregnancy physically and psychologically.	30.1	66.1	3.8	2.26	0.519	75.3
I believe that preconception healthcare has positive effects on pregnancy and delivery.	32.3	59.9	7.8	2.24	0.584	74.6
I believe that consultation with the preconception clinic decrease the chance of complications during pregnancy.	23.4	68.3	8.3	2.15	0.543	71.6
I believe that it is necessary to do medical investigations (such as BP, glucose level) before pregnancy.	24.2	59.4	16.4	2.07	0.633	69.0
I believe that it is necessary to check blood group before pregnancy.	23.7	58.6	17.7	2.05	0.641	68.3
I believe that it is necessary to check hemoglobin level before pregnancy.	23.1	56.7	20.2	2.02	0.658	67.3
Overall average				2.13	0.454	71.0

Table (5) illustrated practices about preconception care. The results showed that the highest score item as reported by mothers 71.3%, was taking balanced meals regularly before getting pregnant with mean score 2.14 followed by taking folic acid tablets regularly before getting pregnant with mean score 1.93 and mean percent 64.3%. While the lowest two score were checking blood glucose before getting pregnant with mean score 1.51 and mean percent 50.3% and making heart investigations with mean score was 1.46 and 48.6% mean percent. In general, the results indicated moderate level of practices of preconception care with means score 1.77 and mean percent 59%.

**Table (5):** Practice of study participants about preconception care

Item	Strongly agree	Agree	Disagree	Mean	SD	Weighted mean (%)
I take balanced meals regularly before getting pregnant.	36.6	41.4	22.0	2.14	0.752	71.3
I take folic acid tablets regularly before getting pregnant.	32.0	29.3	38.7	1.93	0.839	64.3
I visited the preconception clinic before getting pregnant.	18.5	50.8	30.7	1.87	0.691	62.3
I make exercise / sport activities before getting pregnant.	23.4	37.4	39.2	1.84	0.776	61.3
I checked my blood group before getting pregnant	20.7	39.5	39.8	1.80	0.754	60.0
I checked my hemoglobin level before getting pregnant.	17.7	36.3	46.0	1.71	0.747	57.0
I check my blood pressure before getting pregnant.	16.7	36.3	47.0	1.69	0.739	56.3
I check my blood glucose level before getting pregnant.	11.8	27.4	60.8	1.51	0.698	50.3
I made heart investigations before getting pregnant.	12.1	22.3	65.6	1.46	0.701	48.6
Overall average				1.77	0.504	59.0

Discussion

This is a cross-sectional descriptive study aimed to assess the level of KAP about preconception care among mothers at governmental PHCCs in GS. There is limited previous research studies in Palestine or Arab countries that assess the preconception care women knowledge & practice feedback. Based on the socio-demographic characteristics of present study the results showed that 34.1% of mothers mean age was 26.029 ± 5.274 years, and half of participants had 3 – 5 pregnancies. This result was similar to those of other studies conducted in Palestine and in Gaza Strip for same age group and similar frequency of parity and abortions (Abu-El-Noor et al., 2018; Alkasseh & Abu-El-noor, 2020). Furthermore, similar results were found in a study done in Southern Ethiopia with mean age 28.5 ± 4.3 years as most of the respondents were located in age category of 25-29 years (Adema & Edamo, 2020).

Concerning preconception care, 60% of mothers have moderate knowledge, 70% have positive attitude and only 41% did not attend preconception care services. Comparable to other research results done in neighbour Arab country, lower score was reported in Ahmed, Saeed, and Alawad (2015) from Sudan



study which showed that women awareness regarding PCC was reported in only 11% of participants, nearly one third had positive attitudes towards PCC, and the majority of the women either partial know or have no knowledge about the impact of pregnancy on medical disease and almost half of the women (49%) intended to seek PCC next time. The situation in Palestine seems to be better than Sudan, this could be due to the presence of The United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) primary health care centers that provide services for about 60% of Gaza women for free. Furthermore, a study carried out in Malaysia which aimed to determine the level of KAP regarding PCC among women attending ANC appointments showed lower knowledge score 51.9% of PCC, but higher score (98.5%) with good attitudes, 45.2% had good practices than in the current study (Kasim, Draman, Kadir, & Muhamad, 2016; Mirkhan Ahmed & Jamil Piro, 2017). This difference might be due difference in sample size, and design which was used.

The majority of mothers (75%) in present study have enough knowledge about the necessity of eating balanced meals and consumption of folic acid before pregnancy. Further, the present study showed that only 48.6% of participants seeking medical investigations before getting pregnant. This could be explained by that more than 85% of the participants in the current study had secondary and more level of education. It has been stated that majority of mothers acknowledged that obstetric danger signs prevention is important to seek medical care on time, before and during pregnancy (Bakar, Mmbaga, Nielsen, & Manongi, 2019; Mekonnen, Girmaye, & Taye, 2018). In the current study, two variables could impact the study participants' KAP. These variables included the level of education and the previous experience.

Conclusion

The study concluded that mothers in GS have a low level of practice, moderate level of knowledge and above moderate level of attitude towards preconception care. The level of education could influence their knowledge level and uptake of preconception care. The result of this study raises number of implications for managers or decision-makers such as need for monitoring and evaluating the reproductive health services provided at PHCCs in Gaza Strip. Empowering the mothers with the



required practice and attending PCC services before pregnancy appropriate is imperative also. Further studies are recommended to address the gaps of knowledge and practice.

Since, this was a cross-sectional study that takes a snapshot of the population at a specific time limitation related to this design are anticipated. An inability to generalize the results of the survey to the population as a whole should be considered also as the researcher used convenience sample. Further, respondents could likely have suffered from some recall and social desirability bias on the way to maintain a decent pregnancy and issues that affect foetal development.

Acknowledgements

The research team would like to thank the directors, nurses, and midwives at the primary health care clinics, and all the participants for their cooperation during the process of data collection.



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