ORIGINAL RESEARCH ARTICLE

Assessment of women's awareness of reproductive health concepts in an Iraqi community

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Abstract

Researches indicate that reproductive and sexual health awareness is a major health indicator in communities. This study aimed to assess women's awareness of reproductive health in the Iraqi community. A cross-sectional survey in Iraqi governorates was implemented, and a convenient sample of 3416 women participated in the study. Data were collected using a well-designed structured questionnaire. SPSS version 26 was used for data analysis and description statistics. The study found low awareness about reproductive and sexual health among women. While one-third showed adequate awareness regarding premarital care, child marriage, and breastfeeding. Only 21% and 10% of the participants, respectively, having adequate awareness of sexually transmitted disease types and contraceptive methods. Remarkably, a large majority lacked awareness of healthy sleep patterns. 47% of the participants expressed adequate awareness of the stress effects on health. Overall, using health facilities appropriately and regularly was present in only 5% of the participants with the preferential to private sector. Low reproductive health awareness was significantly associated with low educational levels among participants (p-value < .00001). The study revealed that awareness of sexual and reproductive health among Iraqi women is unsatisfactory in the majority of its determinants. Education programs targeting all Iraqi communities are crucial for improving understanding of this vital subject. Future research is advised to examine the effect of digital health system platforms in disseminating knowledge of reproductive health and preventing diseases. *(Afr J Reprod Health 2024; 28 [11]: 17-25).*

Keywords: Reproductive health, sexual health, awareness, lifestyle, Iraqi women, pregnancy, supplement

Résumé

Les recherches indiquent que la sensibilisation à la santé reproductive et sexuelle est un indicateur clé de la santé dans les sociétés. Cette étude visait à évaluer la sensibilisation des femmes à la santé reproductive dans la société irakienne. Une enquête transversale a été menée dans les gouvernorats irakiens et un échantillon de commodité de 3 416 femmes a participé à l'étude. Les données ont été collectées à l'aide d'un questionnaire bien conçu. La version 26 de SPSS a été utilisée pour l'analyse des données et les statistiques descriptives. L'étude a révélé une faible sensibilisation à la santé reproductive et sexuelle chez les femmes. Tandis qu'un tiers d'entre eux se sont montrés suffisamment sensibilisés aux soins prénuptiaux, au mariage des enfants et à l'allaitement maternel. Seulement 21 % et 10 % des participants, respectivement, étaient suffisamment informés des types de maladies sexuellement transmissibles et des contraceptifs. Il est frappant de constater que la grande majorité d'entre eux ne sont pas conscients des habitudes de sommeil saines. 47 % des participants ont exprimé une conscience adéquate des effets du stress sur la santé. Globalement, l'utilisation appropriée et régulière des installations sanitaires n'était présente que dans 5 % des postes, le secteur privé étant préféré. Une faible sensibilisation à la santé reproductive était associée de manière significative à de faibles niveaux d'éducation parmi les participants (valeur p < 0,00001). L'étude a révélé que la sensibilisation à la santé sexuelle et reproductive parmi les femmes irakiennes n'est pas satisfaisante dans la plupart de ses déterminants, et que les programmes éducatifs ciblant toutes les communautés irakiennes sont d'une grande importance pour améliorer la compréhension de ce sujet vital. Il est souhaitable de mener Des recherches futures sont recommandées pour étudier l'impact des plateformes numériques des systèmes de santé sur la diffusion des connaissances sur la santé reproductive et la prévention des maladies. *(Afr J Reprod Health 2024; 28 [11]: 17-25).*

Mots-clés: Santé reproductive, santé sexuelle, sensibilisation, mode de vie, femmes irakiennes, grossesse, supplément

Introduction

Sexual and reproductive health (SRH) is a worldwide globally recognized essential health concern and an elementary human right which are poorly addressed and seldom researched in the Arab world.[1]

New laws, policies, and interventions rooted in human rights aim to improve the health of children, adolescents, and women.[2] Worldwide, 15

million girls have married before the age of eighteen.[3] This was especially common in areas where it is a customary practice.[4]

Sexually transmitted diseases (STDs) impose a great impact on reproduction ability, women and partner health, infertility, pregnancy complications, or HIV infection with its stigma among communities. Every day worldwide. More than one million sexually transmitted infections are acquired, and most of them are asymptomatic.[5] Stigmatization of STDs has a great impact on the health worldwide.[6]

Fertility control and protective sex have been advised worldwide to improve women's health and well-being.[7] The provision of contraception provides family planning satisfaction, and it is embodied within the achievement of sustainable development goals.[8] On the other hand, during pregnancy, the women need all support psychologically and socially to end with a successful pregnancy and a healthy baby. The preventive effect can be influenced by enhancing knowledge of both pregnant women and their husbands which may be associated with decreased maternal and infant mortality.[9] The diet quality during pregnancy and lactation has an essential role in the satisfactory influence of macro and micronutrients for her infant during fetal life and the breastfeeding period.[10]

Preventing occurrence of sexually transmitted disease help in formulating healthy couples and healthy child. As Cervical cancer which some developed after infection of Human Papilloma Virus or Hepatitis B infections can be prevented by vaccination and proper education, this need proper education at the preconception care period. The transmission of STDs from the mother to her child may lead to neonatal death or even stillbirth and many bad obstetrical outcomes for the baby.[11] Besides, recurrent STDs may lead to dyspareunia which impose effect of sexual satisfaction and may lead to family frustration and unhappiness.[12] A study done during 2007 in middle east and north Africa (MENA) region documented the limited information regarding reproductive health is available for young people who may engaged in sexual relationship without proper guidance to prevent unplanned pregnancy or sexually transmitted diseases.[13] limited resources that have allocated to support family planning program in Iraq was one of the factors that contribute to unmet need of contraception as mentioned by a review study of Alrawi A.[14]

Recently, it was assumed that disseminating technology increases the level of woman's awareness of sexual health, however, no recent study highlights the current awareness level of reproductive and sexual health determinants among Iraqi females. The current study assesses the level of awareness for each determinant of reproductive and sexual health among Iraqi women.

Methods

A well-designed questionnaire form was constructed based on expert opinion, a focus group scale relevant to reproductive health, and a review of the literature.[1,11,15,]

The content Validity of the questionnaire was assessed by computing the agreement among subject matter experts according to Colin and Andrew, 2014 critical values calculations where each assessment question was determined by 6 subject matter experts or panelists in points of relevance, clarity, essential and precision. The content validity ratio (CVR) was determined using an equation, CVR =ne-N/2)/ (N/2) as (ne)is the number of panel members indicating "essential," and (N) is the total number of panel members. [16,17] Accordingly, the mean validity value of the questionnaire formula was 0.9. The reliability of the questionnaire was assessed during the pilot study which was performed on participants who directly were interviewed using a test, and re-test agreements among their answers. The reliability index or percent agreement was 90% which was computed using the formula (total agreement/ total number x100).[18]

A convenient random sample of 3417 females enrolled in the research, the range of age was between 15 and 45 years and more, as a representation of most the Iraqi females. A cross-sectional design with a descriptive type was conducted using a self-administered questionnaire. The research was conducted over the period of 24 months from the beginning of 2022 to the end of 2023. The questionnaire was distributed to the participants in general public areas, primary health care centers, and private clinics in urban and city side district areas besides Google form to ensure acceptable representation of the community strata with the help of friends from the health sectors.

The recruitment included all Iraqi females of reproductive age who were 12 years and older and agreed to participate in the study irrespective of their marital status. Below 12 years were not included as there may be variability in their maturation and some questions will be vague to them. All participants were given a brief explanation of the purpose of the research and then took their approval for participation. All forms used for the questionnaire were anonymous and all information was private, some explanations were provided for certain items so participants couunderstand the meaning of the questions without influencing their answers. As there was electronic participation through Google form which may subject the results to the certain bias of recall bias and non-care answers of some participants, the researcher intended to include in-person interviews with an acceptable percentage of the participants to overcome this shortcoming bias. Added to that, tests, and re-tests were performed on randomly selected participants to test the seriousness of their answers. The questionnaire includes two sections, the first is related to the sociodemographic characteristics of the participants, while the second is concerned with questions related to determinants of SRH awareness.

The socio-demographic characteristics section questions included age, marital status, the relativity of marriage, residence including government and urban-rural, education, number of children, and occupation. The SRH determinants include questions related to premarital health care, pregnancy health, breastfeeding, child marriage, menstrual health, sexually transmitted Diseases (STDs), contraception, and questions related to general health and lifestyle. Each determinant has several questions related to the subject under study which later on scored to determine the level of adequate response. For premarital determinants questions were asked about the importance of educating girls about reproductive health information before marriage, the necessity of adult marriage after the age of 20, the importance of screening for genetic diseases such as thalassemia for both applicants before marriage, sickle cell disease, genetic bleeding, or blood type mismatch, sexually transmitted diseases for both partner and the need to be examined for them before marriage. Questions related to child marriage, and menstruation health and its regularity. Questions related to pregnancy asked about the intake of folic acid, supplements intake, screening for anemia and other diseases, eating healthy food during pregnancy, the importance of follow-up of pregnancy by the doctors, and the tetanus vaccine during pregnancy. Questions related to breastfeeding and its importance and methods of keeping women healthy during breast feeding besides its importance to babies and early detection of diseases. Questions related to STDs were included her awareness about the diseases like Bacterial vaginosis (BV), Chlamydia, Gonorrhea, Hepatitis, Herpes, HIV/AIDS, and Human papillomavirus.

Besides asking about awareness of the possibility of the effect of gynecological infections on a future woman's reproductive and questions related to awareness for the importance of treating both spouses when gynecological infections occur to eradicate the infections and questions related to Pelvic Inflammatory Disease (PID). Contraceptive awareness part included questions related to each type of contraception and method of use, its percentage of protection, and how to use it in a scientific way. Evaluating lifestyle included questions related to life style as healthy eating, types of food according to the food guide pyramid in a short note and sports questions which includes questions asked about their awareness of importance and days of usual practice. Besides asking about regular sleeping patterns and the time for going to bed with its effect on hormone regulation.

Each question in a specific determinant is weighted by a similar value. This encoding system depends on the three Likert scales: I know to give a 2 score (2), uncertain take (1) score and I do not know scored as (0).

Statistical analysis

The total responses after being encoded, were entered and analyzed by the researcher using Excel Microsoft, and SPSS 25 software versions. In general, the median value is regarded as a cut of points after the sum of their responses for each collected score in the specific determinant. If the participant accomplishes (by collecting the score of all questions) the median value of that determinant, then she will take the moderate awareness score level, while those who passed it, were regarded as having adequate awareness score, and those below it were regarded as having low awareness score.

Collected scores for questions of each determinant were tabulated in a new column labeled with that determinant's title. These new columns of collected scores were transferred to another variable in the SPSS sheet to fill in the three categories according to cut-off point median value using transform into a new variable. Then these ends collected transferred responses were analyzed for their frequency distribution of descriptive purposes and chi-square test analysis whenever needed for comparison. For premarital determinants collected score was 10, for child marriage 6, for pregnancy 16, 8 for breastfeeding, 14 for contraception awareness, 4 for menstrual awareness, 4 for a healthy diet, 4 for sports awareness, 2 for healthy sleeping, 2 for stress effect on healthy behavior. Ethical approval: The study was performed by the ethical standards as laid down in the 1964 Declaration of Helsinki and it was approved by the medical research ethics committee by no. (UOM/COM/MREC/21-22(53) in 25/4/2022). Before the start of data gathering, each participant was well-versed either verbally or written in their consent to participate in the study

Results

A total of 3,416 completed questionnaires were collected, resulting in a response rate of 89%

The largest number of participants in the study came from Baghdad and Basra governorates, according to Figure 1.

Socio-demographic section

The predominant age group among participants was between 18-<25 years. Single unmarried females represent [79.7%] of the respondents' sample. The age distribution ranged between 12 and 55 years with age [18-25 years] being the commonest among them. One-third of participants resided outside urban areas and approximately [63.1%] of the sample had secondary education, while 14% had only primary education.

The students occupy [83.1%] while the housewife represents [15%] of the sample. Consanguineous marriage was prevalent among married participants which represented [26%]. The average number of children for married women ranges between 3-4 as represented [74%] [table 1]

Awareness sections

Results show that only one-third of the participants are adequately aware of premarital care, and [65%] have little to no awareness about this topic. Similarly, only [35%]of the responses were sufficient regarding forbidding underage marriage. Five percent of participants only received enough information regarding pregnancy signs and care, while only [21%] and [10%] of the participants, respectively, had adequate awareness of sexually transmitted disease types and contraceptive methods.

More than half of the participants had a sufficient level of menstrual awareness. Only [8.6%] of participants had appropriate scores for sports awareness and practice, while [40%] of participants had adequate scores for awareness of a balanced diet. Only [27%] of participants knew about healthy sleeping patterns, while more than half [55.7%] had a score indicating they were adequately aware of vitamins and supplements intake. In [47%] of the participants showed sufficient awareness of the impact of stress on health. The questions on vitamins and their significance for a woman who is attempting to conceive were properly answered by more than half [n = 1902] of the participants. Overall, using health facilities appropriately and regularly was present in only 5% of the participants (Table 2), with the private sector having the highest attendance rate (Table 3).

People with primary and or secondary education were more likely to have low reproductive health awareness in comparison with university and postgraduate strata (P-Value < 0.00001) (Table 4).

Discussion

The present study presents low to moderate awareness about SRH among females in the Community of Iraq. This is the first study performed in Iraq that explores the different SRH variables in same study. Raising the awareness of SRH directing to both sexes especially females in reproductive age is regarded as imperative public policy that should be implemented within legislation of public health and researches. In the present data, the overall acceptable awareness of SRH is present in 16% of participants.

Besides, most of the participants who have low education located in a zone of low awareness. These findings support those from other studies that found a high link between awareness and educational attainment.[19,12]

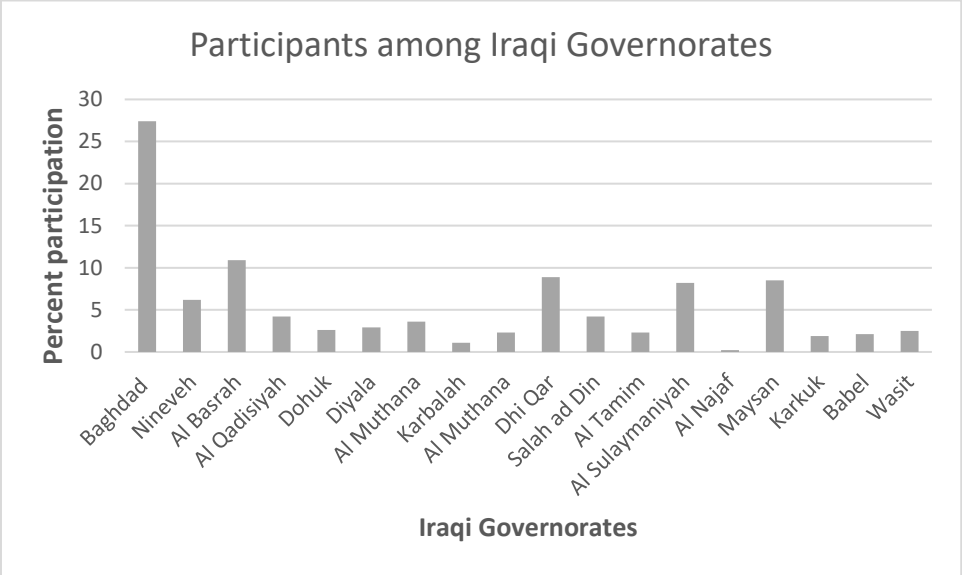

Figure 1: Distribution of study participants by governorate

Table 1: Socio-demographic characteristics of study participants [N=3417**]**

Variables	**No [%]**	
Residence		
City	2279	66.7
Outside city	1137	33.3
Age		
12-17	451	13.2
18-25	2421	70.9
26-35	39	1.1
36-45	488	14.3
45 &>	17	.5
Marital status		
Single	2721	79.7
Married	621	18.1
Others	74	2.2
Marriage relativity among married women n=695		
Relativity present	181	26
Relativity absent	514	73.9
Education level		
Primary	483	14.1
Secondary	2154	63.1
University	766	22.4
Postgraduate	13	0.4
Number of children [N=695]		
0	104	15
1-2	60	8.6
3-4	501	72
5 & >	31	4.4
Occupation		
Housewife	532	15.5
Students	2841	83.1
Employed	43	1.4

Iraq as a part of Arabic world influenced by predominant norms, religious beliefs, socio-cultural factors, which lack women's sexual and reproductive educational attainment nor from their mothers nor from schools.[20] This awareness campaign should be directed to every girls and women in reproductive age in the formal education to decrease future dissatisfaction.[21]

Moreover, very low score awareness was noticed among participants regarding pregnancy care. A study done in Al Anbar City/Iraq found the overall awareness of pregnancy risk and complications was 79.9 % of the participants. These differences could be due to scoring system, selection bias and sample size difference besides questions that related to knowledge of risk in pregnancy.[22] While Another study done in Al-Amara/ Iraq in 2019 shows a moderate level of awareness regarding pregnancy awareness.[23] On the other hand, contrary results were found in a study done in Lebanon which found high level of awareness, as they have implemented preconception health education in schools.[1]

Adequate awareness about preconception care, underage marriage, and breastfeeding awareness was present in a third of the participants, while sexually transmitted diseases including trans infection awareness and contraceptive methods awareness were adequate in [10%], and [20%] of the participants, respectively.

Table 2: Participants' awareness level of Sexual reproductive health determinants

SRH determinants	Adequate No [%]	Moderate No [%]	Low No [%]
Premarital care knowledge	1178 [34.5]	861[25.2]	1377[40.3]
Underage marriage forbidden knowledge	1214] 35.5[	557] 16.3[	1645] 48.2[
Pregnancy care knowledge	180] 5.3	849] 24.9[	2387] 69.9[
Breastfeeding knowledge	1082] 31.7 [	1350] 39.5[	984] 28.8 [
Vaccination knowledge	1502]44.0[	0	1914]56.0[
Sexually transmitted disease and trans infection knowledge	718]21.0[	775]22.7[	1923]56.3[
Contraceptive methods knowledge	356]10.4[	1121]32.8[	1939]56.8[
Menstruation knowledge	2227]65.2[	643]18.8[	546]16.0[
Healthy diet knowledge	1423]41.7[	1215]35.6[	778]22.8[
Sports knowledge and practice	293[8.6]	1015[29.7]	2108[61.7]
Healthy Sleeping pattern knowledge	921]27.0[	781]22.9[	1714]50.2[
Vitamins and supplements knowledge	1902[55.7]	481[14.1]	1033[30.2]
Use of health facilities knowledge	180]5.3[	849]24.9[	2387]69.9[
Stress effect knowledge	1628[47.7]	880[25.8]	908[26.6]

Table 3: Health facility visit among study participants

Type of health facilities	Regular visit No [%]	Moderate visit No [%]	[%] Low visit No [%]
Primary health care centers	292[8.5]	670[19.6]	2454[71.8]
Hospitals	181[5.3]	353[10.3]	2882[84.4]
Private clinic	641[18.8]	735[21.5]	2040[59.7]

The motivation for exclusive breastfeeding enforced by UNICEF's efforts, with their actions to deliver micronutrient supplementation training programs still unsatisfactory to reach the goals even with cooperating with the Iraqi Ministry of Health. These efforts aim to nutrients available to people to diminish the insufficient feeding practice for infants and children which affects their growth. This unsatisfactory Iraq's current state of not fulfilling the standard feeding practice is attributed to [19.6%] of bad post-natal nursing practices as these babies receive additional milk and other liquids quickly after birth.[24]

Findings from research conducted in the Iraqi province of Al-Nasiriyah, conclude that women have extremely little awareness of STIs that are spread during intercourse.[25] This is contrary to more than half of the participants in Ethiopia who have a positive view regarding SRH.[26] The highest rate of underage marriage within Arab nations in 2014 was in Iraq. However; according to data, [5%] of Iraqi girls married prior to the age of fifteen, while about [22%] of Iraqi girls married before they reached eighteen.[27] As unregistered marriage by religious persons continued with a lack of people awareness, the persistence of traditional culture with the modernized culture and economic constraints for the families superadded by displacement contributed to an increase the underage marriage in recent years to reach [28%] below 18 years with 7% below the age of 15.[28,30]

These customs lead to having children at a young age which renders females more exposed to violence done by their partners. In sequence, this affects the education and health of the children that they had and impacts their capability to maintain their living or education.[31] Improve awareness of couples attending premarital clinics using an educational program still of limited actions.[32] In Oman, a study done in primary health centers found that unwillingness of the premarital test was prevalent in a third of the participants which was attributed to the female gender, younger age, unmarried, less education, and higher income.[33] The covering of menstruation in secondary school in the Iraqi education curriculum has an impact on the acceptable awareness among participants regarding this subject. The attendance of women at primary health care centers in Iraq remains unsatisfactory, as the current study revealed that adequate awareness of using health facilities was only [5%] of the participants. A study in Baghdad, Iraq, in 2021 revealed that [40%] of participating women thought that regular checkups during pregnancy are unnecessary and the pregnancy should pass smoothly with no harm.[34]

Table 4: Association of the level of awareness to the level of education among participants

Level of education	Low awareness	Moderate awareness	*Adequate awareness	Total
Primary	461	15	7	483
Secondary	779	1012	363	2154
University	196	370	200	766
Postgraduate	1	6	6	13
Total	1437	1403	576	3416

Women rely most on rumors that spread among the general public, rather than accept the facts that are based on science and need regular health checks to address any health-related questions. More than half of the participants express low awareness regarding contraceptive use. Family planning is a vital constituent of prenatal care, including care provided immediately after delivery and during the first year after delivery.[35] A study done in Basrah, Iraq shows that [53%] of the participants use contraceptives of any method. Some factors may contribute to reluctant to use as those related to health causes, husband objections, and high cost.[36] In China, a study revealed low SRH awareness, significant unmet demand for contemporary contraception, and a high frequency of unintentional pregnancy among teens.[37] The current study's findings show that [41%] of participants only have appropriate awareness about healthy lifestyles, which means that more than half have little or no awareness of it. Evidence-based effect of a healthy lifestyle effect on preventing the emergence of diseases has been documented in many studies.[38],[39] Pregnant women should be aware of better choices of diet and lifestyle that help to influence effectively in improving good nutrition in pregnancy. Energy need during pregnancy is increased due to compensating eating for two instead of one. Maternal diet has a remarkable effect on offspring in various aspects of health.[40] This study revealed that adequate awareness regarding different SRH is still unsatisfactory, and to contribute in achievements of the sustainable development goals and "health for all" strategy, the governments need to raise target population awareness to adequate level of at least over 80% which could ensure wellbeing of healthy family. This study can be distinguished to be the first study to measure (in new robust methods) most of the SRH determinants among Iraqi women. The researcher tried to include most of the important factors that contribute to the welfare of women's sexuality and reproductive health. The possibility of recall bias was still present in the study, as most of the answers depend on the participant's opinion or gave information guided by nearby friends or family which led to overestimating their level of awareness.

Conclusion

This study gives a recent insight of current Iraqi women's SRH awareness, despite the expansion of technology and a wealth of educational resources, is still unsatisfactory. Limited awareness was encountered in this study regarding premarital care, the forbidden of early marriage, and pregnancy signs and symptoms. A very small number of participants received information regarding the types and prevention of sexually transmitted diseases. Similarly, awareness regarding sports and healthy sleeping patterns. Only menstrual awareness, a healthy balanced diet, supplement intake, and stress effect on health show an average range of awareness. Only [5 %] of the participants have regular attendance at health facilities. These findings are important because they highlight one of the barriers that hinder progress toward achieving the sustainable development goals and "health for all" strategy. The governments need to raise target population awareness to an adequate level of at least over [80%] which could ensure the well-being of healthy families. Education about SRH should therefore be combined with basic academic education to release women from social constraints and taboos in cultural norms. Further researches are needed to explore the effect of digital health platforms and applications on mobile in disseminating sexual and reproductive health knowledge.

Competing interest

The author has no competing interests to declare that are relevant to the content of this article. The author certifies that they have no involvement in any organization or entity with any financial interest or

non-financial interest in the subject matter or materials discussed in this manuscript.

Ethical approval

The study was performed by the ethical standards as laid down in the 1964 Declaration of Helsinki and it was approved by the medical research ethics committee by no. (UOM/COM/MREC/21-22(53) in 25/4/2022). Before the start of data gathering, each participant was well-versed either verbally or written in their consent to participate in the study.

Author contribution

The author conceived and designed the study, conducted research, provided research materials, and collected and organized data. The author analyzed and interpreted data and also wrote the initial and final draft of the article, and provided logistic support. The author has critically reviewed and approved the final draft and is responsible for the content and similarity index of the manuscript

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