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Postpartum depression and its relationship with the positive and negative perfectionism

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Abstract:

BACKGROUND: Depression is a common mental disorder after childbirth, which has serious consequences for the mother, baby, and family. A wide range of causes, including some personality traits of mothers, are involved in its etiology. Therefore, this study was conducted aiming to determine the factors related to postpartum depression (PPD) and its relationship with positive and negative perfectionism in Qom, Iran.

MATERIALS AND METHODS: This cross-sectional analytical study was conducted on 162 mothers who had been referred to health centers in Qom during 6–8 weeks after normal vaginal delivery (NVD) in 2020. After randomly classifying the health centers, the convenience sampling method was carried out. Data collection tools included social–individual information form, Edinburg Postnatal Depression Scale (EPDS), and Positive and Negative Perfectionism Questionnaire of Terry-Short. The data were analyzed using the Chi-square and Pearson correlation tests and multivariate logistic regression analysis.

RESULT: The prevalence of PPD in this study was 29.6%. The results showed that with the increase in the negative dimension of perfectionism, the chance of PPD in people increases by 14% (OR = 1.14, CI = 1.06–1.21), while there was no significant correlation between the positive dimension of perfectionism and PPD (r = 0.006, $P > 0.05$). Furthermore, the chance of PPD was higher in student mothers, mothers who had a history of PPD, and unintended pregnancy. Moreover, some factors such as multigravidity, breastfeeding, and not worrying about body image reduce the chance of occurrence.

CONCLUSION: Since mothers' negative perfectionism is associated with PPD, it is recommended to identify perfectionist individuals during pregnancy and after delivery and provide counseling service to them.

Keywords:

Depression, Iran, perfectionism, postpartum

Introduction

Pregnancy and the postpartum period are considered very important due to the accompanying psychological and physiological changes. Sometimes, these changes cause mental disorders and can affect aspects of the mother's personal and social life.[1] Postpartum mental disorders, which constitute a wide spectrum, have been less studied compared with physical disorders of this period.[2] One of these disorders is postpartum depression (PPD), which is one of the most common and serious psychiatric disorders and affects 10–15% of mothers in developed societies. At the global level, its prevalence is reported between 0.5% and 60.8%.[3] Studies indicate that PPD has a high prevalence in the Middle East[3] and its prevalence in Iran has been reported between 7% and over 60%.[4,5]

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Women experience this disease mostly with symptoms such as low mood, anorexia, sleep disorder, feeling sad, suicidal thoughts, low sex drive, lack of enjoyment in life, negative thoughts, and guilt.[6,7]

PPD reduces the growth and development of the infant by disrupting the ability to perform daily activities, accept a new role, and interact between mother and infant.[7] The risk of the mother's depression in the future and the reduction in the mother's quality of life are other complications.[8] Although the main cause of this disorder is unknown, researchers have introduced it as a multifactorial disorder and have proposed two psychosocial and biological models for its etiology:[9] In the biological theory, genetic factors, sex hormones, stress hormones, the function of the immune system, and the endocrine system,[1] the type of nutrition, gestational diabetes, and the aging of the mother are emphasized.[7] In the psychosocial model, low social class, stressful life during pregnancy, difficulty in pregnancy and childbirth, history of mental disorders (anxiety and depression), unwanted pregnancy, history of sexual abuse, loss of social support from family and friends, conflicts with spouse, the infant's hospitalization, lack of exclusive breastfeeding nutrition, and worry about body image are proposed as predisposing factors.[1,10-12]

Another predisposing factor in the occurrence of depression that has been examined in studies is perfectionism. Perfectionism is one of the important risk factors in the occurrence of mental disorders, and various studies have reported a positive and significant relationship between perfectionism and the incidence of depression.[13]

Perfectionists strive for perfection, and by setting high standards for their performance, they are hypersensitive to their mistakes.[14,15] Perfectionism is actually a multidimensional personality trait for which some studies have considered three dimensions: self-oriented perfectionism, which is characterized by the standards that a person considers for himself; socially prescribed perfectionism, which is defined by the standards that the individual thinks society has set for them; and other-oriented perfectionism, which is defined by the standards that the individual has for others.[16] Smith *et al*. (2020) indicated that perfectionistic concerns are related to stress and depression through social disconnection.[17] Based on Winnicott's (1965) concept of the "good enough mother," perfectionist mothers are judging themselves and have unreasonable expectations of yourself in the care of their child.[18,19]

Jackman *et al*. (2017) also reported that there is a significant relationship between self-oriented perfectionism and PPD. They maintained that because self-oriented perfectionists tend to set unrealistically high standards and criticize their own performance harshly, this leads to increased feelings of failure and depression. However, in general, their findings showed that perfectionism is not considered a risk factor for PPD.[16] From another point of view, many studies divide perfectionism into two dimensions: adaptive (positive) and maladaptive (negative). The adaptive dimension includes behaviors that lead a person to high-level goals and increase his desire to achieve success, while the maladaptive dimension is negative reinforcement, fear of failure, and efforts to achieve unrealistic standards. According to studies, the negative dimension of perfectionism is related to mental health disorders[6] and depression,[20] so the results of the study by Macedo *et al*. (2017) showed that cognitive-emotional disorders are related to negative perfectionism.[21] Also, in studies by Oddo-Sommerfeld *et al*. (2016) and Gelabert *et al*. (2012) there was a positive significant correlation between perfectionism and PPD. Moreover, Bull E *et al*. (2022) conducted a systematic review and meta-analysis of studies that examined depression and perfectionism in the perinatal period (third trimester of pregnancy to 12 months after delivery). They reported that in eight of the 10 articles reviewed, there was a significant correlation between perfectionism and perinatal depression. Finally, they suggested that professionals should consider perfectionism when developing depression prevention strategies using perinatal screening tools,[22] whereas the study of Jackman *et al*. (2017) showed that perfectionism is not considered a risk factor for PPD.

Therefore, considering the relatively high prevalence of PPD and the risks of this disorder to the health of mothers and babies, proper prevention is necessary by identifying predisposing factors. So, due to the conflicting results of the studies on the relationship between PPD and perfectionism dimensions of mothers and since despite the extensive search, no study with this subject was found in Iran, this study was conducted aiming to determine the factors related to PPD and its relationship with the positive and negative perfectionism in the city of Qom, Iran.

Materials and Methods

Study design and setting

This study is a cross-sectional analytical research that was conducted on 162 mothers aged 18–35 years who visited comprehensive health service centers in Qom City in 2020 to receive care for themselves or their babies within 6–8 weeks after giving birth.

Study participants and sampling

The research inclusion criteria include being Iranian and living in the city of Qom, having reading and

writing literacy, having consent to participate in the study, no history of infertility in a recent pregnancy, no acute physical or psycho-psychological illness, recent full-term and singleton pregnancy, recent normal vaginal delivery (NVD), and a healthy baby. The exclusion criteria include the unwillingness of the samples to continue participating in the research.

Considering the sample size formula for the qualitative response variable in the logistic regression model and the probability of the type I error equal to 5%, the power of 0.9, and the odds ratio equal to 2.35 based on previous studies,[23] the minimum sample size was calculated as 155, which was considered to be 162 considering the possible drop in the samples.

After the approval of the ethics committee of Qom University of Medical Sciences and obtaining the code of ethics and permission from the Provincial Health Vice-Chancellor, sampling was done. To this end, firstly, four health centers were randomly selected (one center was randomly selected from regions 2, 4, 6, and 8), and then, sampling was carried out in these centers based on the inclusion and exclusion criteria. After receiving written informed consent, explanations about the purpose of the research and the way of completing the questionnaire were given to the participants.

Data collection tool and technique

The data collection tools in this research included the researcher-made form of personal–social characteristics and fertility history, the Edinburg Postnatal Depression Scale (EPDS), and the Positive and Negative Perfectionism Questionnaire of Terry-Short.

The form of personal–social profile and fertility history includes information about age, occupation, education level, family income level, gender of the baby, satisfaction with the sex of the baby, the mother's skin-to-skin contact with the baby, the number of pregnancies, abortions and deliveries, the intended or unintended pregnancy, having family support for baby care, intensity of anxiety during pregnancy, marital satisfaction, and worry about body image after delivery.

EPDS consists of 10 multiple-choice items, which are graded from 0 to 3. For items 1 and 2, the scoring method is from 0 to 3, and for other items, it is from 3 to 0. The minimum score in this tool is zero, and the maximum score is 30. In this study, a cutoff point of 10 is considered the presence of PPD, a score of 10 and below indicates a better condition of the person, and a score above 10 indicates the possible presence of PPD disorder.[16] This tool is a valid questionnaire to measure PPD. The Iranian version of this questionnaire is acceptable, and its validity and reliability have been checked in various studies. The sensitivity of this questionnaire is 93.5%, its specificity is 87.9%, and its reliability is 93%.[24]

Positive and Negative Perfectionism Questionnaire of Terry-Short contains 40 items and consists of two 20-item subscales that measure positive and negative perfectionism. The subject answers his level of agreement based on a 5-point Likert scale (completely agree = 5, agree = 4, neither agree nor disagree = 3, disagree = 2, completely disagree = 1). 20 items measure positive perfectionism, and 20 items measure negative perfectionism. The range of scores of each subject in this scale is 20 to 100 for each dimension. The cutoff point for people with a negative perfectionism subscale is 69 and above. This questionnaire was validated by Besharat in Iran. The coefficient of internal consistency of positive and negative perfectionism is reported as 0.90 and 0.87, respectively, and it is a valid tool. Besharat (2009) reported the retest reliability coefficient of this questionnaire as 0.86.[25]

Data analysis

Finally, the data were analyzed using Statistical Package for the Social Sciences (SPSS) software version 22. The statistical tests used included Chi-square, Pearson's correlation, and multivariate logistic regression tests. A significance level of $P < 0.05$ was considered.

Ethical considerations

This study was approved and supported by Qom University of Medical Sciences, in 2021 (Ethics Committee Code: IR.MUQ.REC.1399.117). The authors certify that they have obtained the appropriate patient consent form. In the form, the patients have given their consent for clinical information to be reported in the journal. The patients understand that their names and initials will not be published. Moreover, participants could leave the study at any time.

Result

The average age of the research subjects was 28.89 ± 5.3 with a range of 17–42 years, and the highest frequency was related to the age group of 25–35. 47.5% of mothers had secondary–high school diploma education ($n = 77$), and most of them were housewives ($n = 134$, 82.7%). 70.7% ($n = 144$) of the mothers reported that the household income was sufficient for living expenses. Most of the mothers ($n = 145$, 89.5%) were satisfied with the gender of the baby at birth. Skin-to-skin contact after delivery and breastfeeding was performed in 76.5% ($n = 124$) and 93.8% ($n = 152$) of the cases, respectively. 82.1% ($n = 133$) had family support to take care of mother and baby. 15.4% ($n = 25$) among the mothers of the second pregnancy and above mentioned the PPD. The frequency of PPD was 29.6%. Positive perfectionism had a high

average in research subjects. Other studied information is presented in Table 1.

According to the results of the Pearson correlation test, there was a direct correlation between the mean score of PPD and negative perfectionism, so with the increase in the score of negative perfectionism, the score of PPD in mothers also increases (r = 0.36, $P < 0.001$). However, there was no statistically significant relationship between the mean score of PPD and positive perfectionism (r = 0.006, $P > 0.05$) [Table 2]. According to the regression test, the equation is given as follows:

Negative perfectionism x 0.36) + 0.063 = PPD score

Based on the results of the logistic regression test, with an increase in the negative perfectionism score and by controlling the effect of other variables, the chance of PPD increases by 14% (OR = 1.14, CI = 1.21–1.06) [Table 3].

The chance of PPD in student mothers and mothers who had an unwanted pregnancy increased by 7% and 65%, respectively. Also, the chance of infection in women with a history of PPD and without a history of PPD was 12% and 63% higher, respectively, than women who had their first delivery. For one unit increase in the number of pregnancies, the chance of PPD decreases by 60%. Breastfeeding and positive self-image regarding physical fitness after delivery reduce the chance of occurrence of PPD by 0.93 and 82%, respectively. In mothers who reported very severe and severe pregnancy anxiety, the odds ratio of PPD decreased by 0.99 and 0.96, respectively [Table 4].

Discussion

The present study was conducted with aiming to investigate PPD and its relationship with the dimensions of perfectionism. The results of the present study showed that 29.6% of the participants in the survey had PPD, which is a significant figure. Hahn-Holbrook *et al*. (2018) reported a global prevalence of PPD of 17.7% in a systematic review and meta-analysis of 56 countries.[26] The prevalence of PPD in different societies shows great diversity, so the lowest prevalence (8%) is reported in Europe and the highest prevalence in the Middle East (26%).[27] Studies indicate that the prevalence of PPD in poor and middle-income countries is higher than in rich countries. In Asian countries, the prevalence of this disorder ranges from 7 to 33%.[28] Afshari *et al*. (2019) also reported the prevalence of PPD in Iran (Ahvaz City) as 38.8% from 2 weeks to 6 months after delivery.[29] Zakari *et al*. (2022) in a cross-sectional study among Iranian women reported the prevalence of depression 3 days and 6 months after giving birth to be 24.2% and 3.2%, respectively.[28] So, the more days pass after childbirth, the prevalence of depression decreases significantly. However, in another study (2020) that investigated the prevalence of PPD in one of the cities of Iran (Natanz), the overall prevalence of PPD during two weeks to two months after delivery was reported as 7.1%.[5] The large variation in the prevalence of PPD in studies can have various reasons, including cultural differences, differences in study time, PPD assessment method, cutoff point for the score obtained from the questionnaire, sample size, and research method.[28] The present study investigated PPD in women using the EDPS and a cutoff point of 10. Therefore, one of the reasons for the high prevalence of PPD in the present study may be its cutoff point because some studies have considered a higher cutoff point (cutoff point: 13) for PPD.[28,30] Regardless of these cases, in general, PPD seems to have a high prevalence in Iran. Habibzadeh (2016) also

Table 1: Frequency of demographic characteristics, postpartum depression (PPD), and perfectionism

Variable	Rank	*n* (%)	Variable	Rank	*n* (%)
Age (year)	≤25	36 (22.4)	Delivery	Vaginal	78 (48.1)
	25–35	101 (62.7)		Cesarean section	83 (51.2)
	35–45	24 (14.9)	Prenatal anxiety	Never	30 (18.5)
Occupational status	Housewife	134 (82.7)		Mild	44 (27.2)
	Student	16 (9.9)		Moderate	69 (42.6)
	Employed	11 (6.8)		Severe	15 (9.3)
Gravidity	1	59 (36.4)		Very severe	3 (1.9)
	2	43 (26.5)	Marital satisfaction	Very much	79 (48.8)
	≥3	58 (37)		Much	52 (32.1)
Abortion	Yes	125 (77.2)		Somewhat	27 (16.7)
	No	35 (22.8)		Low	2 (1.2)
Pregnancy status	Wanted	119 (73.5)		Very low	1 (0.6)
	Unwanted	27 (16.7)	Worry about body image	Yes	78 (48.1)
	Unplanned	15 (9.3)		No	83 (51.2)

Variable	Mean±SD	Min	Max
PPD	6.91±5.23	0	21
Positive perfectionism	79.4±10.4	56	100
Negative perfectionism	62.9±12.6	36	97

Table 2: Relationship between the mean score of positive and negative perfectionism with postpartum depression (PPD)

	Perfectionism	
	Positive (M±SD)	Negative (M±SD)
	79.09±10.03	62.94±12.61
PPD (*r*, *P*)	0.006, 0.94	0.36, 0.000

Table 3: Multivariate logistic regression model: the relationship between perfectionism and postpartum depression

Variable	B	Odds ratio	95% CI	*P*
Negative perfectionism	0.13	1.14	1.06-1.21	0.000
Gravidity	1.15	3.17	1.35-7.44	0.008
Occupational status				
Housewife	-3.17	0.042	0.003-.635	0.022
Student	-6.14	0.002	0.000-.128	0.003
Pregnancy status				
Unintended	1.97	7.189	1.10-46.94	0.039
Worry about body image	1.72	5.58	1.37-22.70	0.016
Prenatal anxiety				
Very severe	5.18	177.95	1.31-24147.00	0.039
Severe	5.29	198.59	8.56-4603.02	0.001
Postpartum bolus history				
Yes	-3.43	0.032	0.003-.320	0.003
No	-3.98	0.019	0.002-.166	0.000

reported the prevalence of PPD in this city as 40.83% in a cross-sectional study they conducted in Qom. Moreover, other studies in Iran have reported the prevalence of PPD higher than our study and even higher than 60%.[4]

The findings of the present study showed that there is a direct and significant correlation between negative perfectionism and PPD. So, by increasing the score of negative perfectionism and by controlling the effect of other variables, the chance of getting PPD increases by 14%. In this study, the Positive and Negative Perfectionism Questionnaire Terry-Short was used to check perfectionism. Along with our study, Oddo-Sommerfeld *et al*. (2016) in a study on 266 mothers during 12 weeks after giving birth in Germany concluded that perfectionism, especially its maladaptive (negative) dimension, is an important risk factor for PPD. In fact, perfectionism predicts PPD in women.[31] Unhealthy perfectionism increases the worries of not fulfilling the perfectionist's standards in the individual, and this worrisome condition makes the person feel helpless and as a result unable to use effective coping strategies.[32] These individuals often report rumination related to failure, which is associated with not reaching their personal goals and standards. However, depressed patients often mentally struggle with past losses, analyzing past mistakes and comparing themselves with others, and these thoughts often include why questions, for example, why did this happen, why I cannot do things right, and why I feel this way. This process of random, unwanted, and repetitive thoughts that a person cannot control makes a person feel depressed.[33]

Other studies have been conducted on the relationship between PPD and perfectionism dimensions using other perfectionism questionnaires. For example, Gelabert *et al*. (2012) conducted a case–control study and investigated the dimensions of perfectionism using the Frost Multidimensional Perfectionism Scale (FMPS). They concluded that high levels of perfectionism and high concern about mistakes are significantly higher in people with severe PPD.[23] Moreover, Jackman *et al*. (2017) examined the dimensions of perfectionism using the Hewitt and Flett Multidimensional Perfectionism Scale (HP-MPS (and showed that there is a significant relationship between self-oriented perfectionism and PPD. However, in general, the result of their study showed that perfectionism is not considered a risk factor for the development of PPD, which is inconsistent with our findings.[16]

It seems that the consistency of the findings of most studies conducted on the existence of a relationship between perfectionism and PPD can be justified with the acceptance of the mother's new role, so that in the postpartum period, the perfectionist mother evaluates herself according to her and others' high standards regarding a good mother and wife, and considering the conditions of life after giving birth and accepting new roles, the possibility of depression will be higher in them. However, since the biggest anxiety in every woman's life is pregnancy and childbirth, and the presence of anxiety during this period and especially after childbirth is more in perfectionist mothers,[32] it can play a role in their depression.[34]

Furthermore, the results of the present study using multivariate regression test showed that the chance of PPD in student mothers is higher than in working or housewife mothers. Studies show that anxiety, stress, and depression are very common among students. Therefore, it can be stated that since students experience many stressful events (examinations, doing course projects, etc.) during their studies, the possibility of depression increases in them.[35,36] Zakeri *et al*. (2022) also indicated that mothers who experience more anxiety are more likely to suffer from PPD.[28]

In addition, the results of the current study demonstrated that mothers who have an unintended pregnancy and women with a history of PPD have a higher chance of having PPD. Studies indicate that one of the most important factors associated with PPD is a history of depression during or before pregnancy.[29,37] Unintended pregnancy can have negative effects on women's

Table 4: Multivariate logistic regression model: risk factors for PPD (PPD score >10)

Variable	B	Odds ratio	95% CI	*P*
Occupational status				
Housewife	1.66	5.26	0.86-32.15	0.07
Student	3.79	44.07	2.8-933.41	0.02*
Employed				
Gravidity	-0.91	0.40	0.20-.81	0.001*
Delivery				
Vaginal	-0.91	0.40	0.14-1.15	0.09
C/S				
Pregnancy status				
Unplanned	-0.79	0.45	01-2.0	0.29
Unintended	1.89	6.65	1.14-38.87	0.03*
Wanted				
Worry about body image				
Yes	-0.17	0.188	0.06-.58	0.004*
No				
Prenatal anxiety				
Very severe	-4.52	0.01	0.00-.41	0.015*
Severe	-3.22	0.04	0.005-.32	0.003*
Moderate	-1.09	0.33	0.06-1.93	0.221
Mild	-0.44	0.64	0.09-4.83	0.668
Never				
Marital satisfaction				
Very much	1.42	4.15	0.93-18.45	0.06
Much	-0.57	0.75	0.13-2.52	0.46
Somewhat				
Postpartum bolus history				
Yes	1.96	7.12	1.21-41.77	0.03*
No	2.81	16.63	2.86-96.89	0.002*
Primiparous				
Breastfeeding				
Yes	-2.72	1.24	0.00-.75	0.03*
No				

health. Women whose pregnancies are unwanted are more likely to receive inadequate prenatal care, have thoughts of abortion, smoke, and use alcohol and illegal drugs during pregnancy. Also, unintended pregnancies are related to the mother's mental health, including depression during different periods of pregnancy, especially after delivery.[11] Afshari *et al*. showed that unintended pregnancy[4,29] and a history of PPD increase the probability of PPD in women.[29] Qiu *et al*. (2020) also concluded that unintended pregnancy is significantly associated with the risk of PPD in a meta-analysis of 30 studies.[11] However, Mahdavi *et al*. (2020) showed that whether the pregnancy was intended or unintended did not have any relationship with the mother's PPD.[5]

Moreover, the results of the present study showed that factors such as increasing the number of pregnancies and breastfeeding reduce the chance of PPD. In line with the results of the current study, Rukh *et al*. (2013) indicated that PPD is more common in nulligravid women than multigravid women.[38] Besides, Alimi *et al*. (2022) in their systematic review and meta-analysis showed that women who do not exclusively breastfeed their babies have an 89% higher chance of PPD.[10]

According to the findings of the current study, those who did not worry about their body image after giving birth had 82% less chance of having PPD. In fact, during pregnancy, women experience rapid and unique changes in body weight, shape, and size in a relatively short period of time. Some studies show that although women tend to adapt to new body conditions, when this adaptation does not occur, body image dissatisfaction may develop, and various studies show that this body image dissatisfaction increases the chance of developing PPD.[12,39]

Limitations and suggestions

One of the research limitations in this work was the use of self-assessment tools, which can be affected by human factors to some extent. Also, the time limit of 6–8 weeks is another limitation of the present study. In addition, this study was conducted on urban women, and since rural women endure different cultural factors and environmental stress, the level of PPD and related factors may be different in this group. Therefore, it is suggested that future studies consider these women as well and longer time for examining PPD.

One of the strengths of this study was the detailed examination of the relationship between perfectionism and PPD by controlling the effect of a large number of variables with a multivariate regression test to detect the real relationship between these two variables.

Conclusion

Due to the considerable prevalence of PPD and its serious risks to the health of the mother, child, and family, special attention should be paid to this disorder, especially in groups at risk. Considering that the negative aspect of perfectionism can be related to the occurrence of PPD, and given that, perfectionism is a fundamental belief that its correction requires psychological training, it is recommended to hold educational workshops to correct perfectionism, especially during pregnancy and after childbirth. Also, to ensure the generalization of this model to other populations and considering the prevalence of depression in general and psychiatric hospitals, it is suggested to conduct more research on clinical populations.

List of abbreviations

Postpartum depression (PPD), Edinburg Postnatal Depression Scale (EPDS), normal vaginal delivery (NVD).

Declarations

Ethics approval and consent to participate

The study was approved by the Ethics Committee at Qom University of Medical Sciences and was carried out with the financial support of the Deputy of Research. The researchers obtained written informed consent from each participant as one of the criteria for them to join the study. The consent form outlined that participation is voluntary, participant anonymity will be protected, and participants may withdraw their participation whenever they desire with no repercussions. All methods were carried out in accordance with relevant guidelines and regulations.

Availability of data and materials

The datasets used and/or analyzed during this study are available from the corresponding author upon reasonable request.

Authors' contributions

HR involved in the literature search, prepared the proposal and design of the study, and gathered data. FSM conceived and designed the study, interpreted the data, drafted the manuscript, and submitted the manuscript. SAR involved in the literature search, drafted the manuscript, and revised the article. ZKH designed the study and revised the article. FKH analyzed the data and interpreted the data. All authors have read and approved the final manuscript.

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Conflicts of interest

The authors declare no conflicts of interest.

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