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The use of African traditional medicines amongst Zulu women during childbearing in northern KwaZulu-Natal

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Abstract

In Africa, some women are still heavily depending on traditional medicine during childbearing to maintain healthy pregnancy, postpartum recovery and for infant care. This study was designed to assess the prevalence of traditional medicine use and associated factors of its use during childbearing. Data were collected using structured questionnaires and individual interviews were conducted with 140 women. The results indicated that majority of women (79%) were still using traditional medicine during childbearing for different purposes even with the availability of free health care services. The most commonly used traditional medicine used during pregnancy was *isihlambezo*. *Umhlabelo* herbal mixture was the most cited remedy used for post-partum recovery. For infant care, *imbiza* was the only used traditional remedy. The results of this study highlight the need for health care workers to be aware of this practice and be able to provide mediation during ante-natal care classes. *(Afr J Reprod Health 2022; 26[1]: 66-75).*

Keywords: Herbal mixtures, infant care, medicinal plants, Northern Maputaland, postpartum recovery, pregnancy

Résumé

En Afrique, certaines femmes dépendent encore fortement de la médecine traditionnelle pendant la grossesse pour maintenir une grossesse en bonne santé, la récupération post-partum et les soins du nourrisson. Cette étude a été conçue pour évaluer la prévalence de l'utilisation de la médecine traditionnelle et les facteurs associés à son utilisation pendant la grossesse. Les données ont été recueillies à l'aide de questionnaires structurés et des entretiens individuels ont été menés auprès de 140 femmes. Les résultats ont indiqué que la majorité des femmes (79%) utilisaient encore la médecine traditionnelle pendant la grossesse à des fins différentes, même avec la disponibilité de services de soins de santé gratuits. La médecine traditionnelle la plus couramment utilisée pendant la grossesse était l'ishihlambezo. Le mélange à base de plantes Umhlabelo était le remède le plus cité utilisé pour la récupération post-partum. Pour les soins aux nourrissons, l'imbiza était le seul remède traditionnel utilisé. Les résultats de cette étude mettent en évidence la nécessité pour les agents de santé d'être sensibilisés à cette pratique et d'être en mesure d'assurer une médiation lors des cours de soins prénatals. *(Afr J Reprod Health 2022; 26[1]: 66-75).*

Mots-clés: Mélanges d'herbes, soins aux nourrissons, plantes médicinales, Maputaland du Nord, récupération post-partum, grossesse

Introduction

In some rural areas of South Africa, several women are still using traditional medicines during pregnancy mainly because of the belief that these remedies can shorten labour[1]. In general, childbearing is categorized by physiological changes resulting in several symptoms such as morning sicknesses, indigestion and constipation amongst others. These conditions often cause women to opt for self-medication including the use of traditional medicines[2]. Traditional medicines are also used in women's health related conditions such as female fertility, menorrhea, birth control, pregnancy, birth (parturition), postpartum and lactation, including infant care in different African countries such as Nigeria[3], Uganda[4], Zimbabwe[5] and South Africa[6,7]. The use of traditional medicines during pregnancy is common in KwaZulu-Natal[8]. A study conducted in northern KwaZulu-Natal on the use of medicinal plants to treat various gynecological complains showed that these plants are widely used to induce abortion, for blood purification, to ease birth, for after birth pains, cervical dilation, prevention of miscarriage and lactation stimulation[7]. Another survey done in the Bohlabelo district in the Limpopo Province (South Africa) on pregnant women's reasons for not

attending antenatal clinics, also recorded the importance of traditional medicines for South African women[9]. Even though health care systems are available for free, women are still heavily dependent on traditional medicine because of easy accessibility[10]. The use of traditional medicine during pregnancy is culturally accepted as a primary source of health care in most parts of Africa[11]. In order to ensure that the health care system is sensitive to women's need, there must be a bridge between western and traditional medicinal systems[12].

Several traditional medicines are used in Zulu culture during pregnancy for different purposes and the most commonly used remedies are *imbiza, isihlambezo* and *inembe*[13,14]. *Imbiza* herbal mixture, it is said to facilitate pregnancy by preparing the uterus to accept the foetus. Thus it is mostly used in a cleaning process during pregnancy[13]. *Isihlambezo* is taken only during the last three months of pregnancy in order to ensure easy confinement and healthy foetal growth[15]. *Inembe* is only taken when labour pains begins because it is believed to cause the uterus to contract and promote rapid delivery. In most cases it is used when labour proves to be difficult[16]. Some women use *isihlambezo* and *inembe* together as they believe that it becomes more powerful[16]. There are many closely guarded ingredients that are used to prepare these traditional medicines and the recipe also vary depending on factors such as the traditional healer consulted, the general health state of the woman, the geographic area or the tribal community[14].

Therapeutic effects of some South African traditional medicines has been investigated and showed some harmful effects[13,17]. For example, studies conducted amongst Zulu and Xhosa cultures revealed complications during labour that are caused by consumption of traditional medicines during pregnancy[13,18]. Another recent study done in Durban (KwaZulu-Natal), indicated that one-third of the participants were still using herbal remedies during pregnancy with the belief that it aids towards better pregnancy and good outcome. This study also reported a high rate of caesarean delivery and perinatal mortality among pregnant women that are using herbal remedies[19].

Limited research has been conducted to examine traditional medicinal practice during childbearing amongst Zulu women and especially during postpartum recovery and infant care. The purpose of this study was to explore traditional medicinal uses and reasons provided by women for using traditional medicines during childbearing. Identifying the types of traditional medicines used during childbearing can add to the existing knowledge. Understanding the uses of traditional medicines and the reasons behind the usage of these remedies amongst rural Zulu women from a cultural perspective will support health care workers to provide acceptable care and mediation to improve maternal-child health.

Methods

Study area

Research of this study was conducted in an area commonly known as northern Maputaland which is mostly dominated by isiZulu speaking people. Northern Maputaland is a rural locality in KwaZulu-Natal (South Africa), found in the north-eastern part of the province sharing its border with Mozambique. The study area consists of 99% informal settlements with livelihoods mostly gained from subsistence farming[20] and falls under the uMhlabuyalingana Local Municipality. Many people in this area are financially challenged, where 47% of the population is without formal income[21]. This region has two hospitals and seventeen clinics.

Data collection

A structured questionnaire was used to collect data. This questionnaire was designed in English and translated to the local isiZulu language. Data was collected between 2017 and 2020. One hundred and forty women between the ages of 18 and 90 were interviewed. Women above 50 years were included in the current study in order to determine if there is any loss of traditional knowledge between different generations. Women were individually interviewed and the interviews were held at homesteads, schools and a cashew nuts farm. Permission to conduct the

study in this area was granted by the Mashabane Traditional Council. The study was aimed to identify traditional medicines used during childbearing. Most importantly, one of the authors have conducted ethnobotanical surveys for approximately 15 years in the same community and was able to build a rapport with the community. The current study was approved by the University of Zululand Research Ethics Committee (UZREC 171110-030). Data were collected with full agreement of the participants and a consent form was issued to them prior to the interview. The participants decided voluntarily whether to participate in this study or not. They were also made aware of the confidentiality and anonymity of all their personal information. Purposive sampling was used in this study, and the participants were selected in terms of their knowledge, experience on childbearing and also their willingness to share information. The questionnaire collected the following information: social demographic information of the participants (age, religion, educational background as well as their attendance of antenatal clinics), and the use of traditional medicines during pregnancy, postpartum recovery and infant care. Descriptive statistics was used to analyse data.

Results

Socio demographic information

The results indicated that women older than 50 years holds more traditional medicine knowledge compared to those who were younger than 50 years. The majority of participants were unemployed (52%) followed by those who were employed (39%) and those who were self-employed (9%). Educational qualification of the participants included primary (18%), secondary (45%) and tertiary level (21%), where the remaining 16% did not receive any formal education. Although it is a rural area, 96% of the participants in the current study were attending antenatal clinics during their pregnancy. Ninety-one percent of the participants were Christians, however, very few of them mentioned that they do not believe in the use of traditional medicine.

Adherence to cultural beliefs and practices

All the participants in the current study knew about traditional medicine that is used during childbearing and 79% of them used these remedies during childbearing. The reasons for the 21% of the participants who did not use traditional medicine was that: the use of these remedies are just fairy tales with no scientific basis; their Christian religion does not allow them and they prefer modern health care.

Medicinal plants, herbal mixtures and animal products used during childbearing

Vernacular plant names, its uses and herbal mixtures use during pregnancy are recorded in Table 1. All the medicinal plants and herbal mixture mentioned to be used during pregnancy were recorded to be taken orally from the beginning of pregnancy until delivery to maintain a healthy pregnancy. Most common reasons mentioned for the use of these remedies included that they ease birth/labour pain, ease/fasten delivery and reduce amniotic fluids.

After delivery, women continue to use medicinal plants, herbal mixtures and animal products mostly to heal the caesarean wound, treat afterbirth pains and to clean their system (Table 2). For infant care, *imbiza* was the only mentioned herbal mixture to be use to drain all the dirt in the baby's stomach; helps with the healing of baby's belly button; to harden the baby's skull; and to get rid of the red spot on the baby's head.

Discussion

The age group of 50 years and above holds more traditional medicine knowledge compared to those who were younger than 50 years. This is contradicting to a study done in Nigeria where, the increased use and knowledge of traditional medicine was amongst pregnant women aged between 20 – 30 years[22]. In Zambia, there was no difference in age of women who were using traditional medicine during pregnancy[23].

Table 1: Traditional medicines used during pregnancy

Education background						
None n = 23	**Grade 1-7 n = 24**	**Grade 8-12 n = 63**	**TEd n = 30**	**Total n = 140 (%)**	**Traditional medicines used**	**Reason (s)**
9	14	37	20	**80 (57)**	*Isihlambezo* (herbal mixture)	To kill the plate that block the child during delivery; limit complications during birth; maintain healthy pregnancy; for easy delivery; to clean the womb; clean the blood; prevent miscarriage; protect the baby from evil spirits; clean the water inside the womb so that the baby will not come out dirty or with dry skin; clean the system so that the baby will stay in clean environment
1	5	9	1	**16 (11)**	*Inembe* (herbal mixture)	Ease labour pains; easy delivery; clean the system
	2		2	**4 (3)**	*Imbiza* decoction (herbal mixture)	To speed up labour; prevent the baby from having visible veins; reduce stretch marks; prevent miscarriage
2	1	1		**4 (3)**	*Umkhawulagazi* leaves (*Bridelia cathartica* G. Bertol)	Boil and drink to clean the blood; relief pain during pregnancy; stop blood flow after giving birth
1	2	1		**4 (3)**	*Umthombo* (*Cissampelos torulosa* E.Mey. ex Harv.)	Reduce and clean amniotic fluids; detaches the baby from the uterine wall; reduce labour pains

n = Number of participants responded; Grade = refers primary and secondary school classes (grade 1-12); TEd = Tertiary Education

All participants in the current study were equally using traditional medicines irrespective of their employment status. Also in Zambia, there was no difference in income of women who were using traditional medicine during pregnancy[23]. Difference on traditional medicine use between participants who received formal education and those who did not receive it, were insignificant in the current study. Also in Zambia, there was no difference in education of women who were using traditional medicine during pregnancy[23]. In Kenya, the proportion of participants who used traditional medicine during pregnancy decreased with the level of formal education[24]. In Nigeria, the highest use was among participants with no formal education, while the least use was among participants with tertiary education[22]. Participants who were attending antenatal classes during their pregnancies were also receiving some conventional medications to maintain a healthy pregnancy. Evidence from the current study showed that the use of traditional medicine co-exist with the use of modern health care services. A study done among Xhosa women (Eastern Cape, another province in South Africa), indicated that women did not consider the prenatal services provided at the clinics as adequate to meet their spiritual interpersonal needs during pregnancy[25]. This could also be the reason for women in the current study to continue to use traditional medicines even though health care is provided. However, in a study done in Kenya, the high use of public health facilities presented an opportunity to discuss the use of traditional medicine with women while attending antenatal care or even during delivery[24].

High level of traditional medicine use aligns also with other studies that were conducted in Limpopo province in South Africa[9,26]. Although the reasons behind the usage of traditional medicine mentioned in the current study does not have a scientific basis, it could possibly be having beneficial effects in preserving pregnancy. Limited studies have been done in South Africa focusing on the use of traditional medicines during childbearing.

Table 2: Traditional medicines used during postpartum recovery

Education background						
None n = 23	**Grade 1-7 n = 24**	**Grade 8-12 n = 63**	**TEd n = 30**	**Total n = 140 (%)**	**Traditional medicines used**	**Reason (s)**
3	5	11	8	**27 (19)**	*Umhlabelo* (from traditional doctor - herbal mixture)	Drink or eat only soft porridge to heal caesarean section wound from the inside; clean the blood; to speed up the healing process
6	4	7	3	**20 (14)**	*Igobho* (*Gunera perpensa* L.)	Drink or as an enema to clean the system and the spinal cord
	1	4	5	**10 (7)**	Python fat	Applied on the wound to heals the caesarean section
	3	1	3	**7 (5)**	*Imbiza* (herbal mixture)	To release blood after given birth in hospital which is held inside by the injection; for after birth pains; to clean the system; helps with healing of C-section wound; to clean the blood
1	2	3		**6 (4)**	*Ilala* palm stem/root (*Hyphaene coriacea* Gaertn.)	Prevent prolonged labour; to treat after birth pains; to release left over blood in the uterus
1	3	1	1	**6 (4)**	Gall/bile of the chicken on the wound	To heal the caesarean section; prevent pain
		4		**4 (3)**	*Inkomfe (Hypoxis hemerocallidea* Fisch., C.A.Mey. & Ave-Lall)	Reduce amniotic fluid; release blood that is clogged after delivery
1	1		1	**3 (2)**	Onion under the foot	Prevent evil spirits
	2	1		**3 (2)**	Black coffee or tea	To treat after birth pains
	1	2		**3 (2)**	Crocodile fat	Applied on the wound to heals the caesarean section wound
					Plant uses during the postpartum period by the baby	
1		2	1	**4 (3)**	*Imbiza* (herbal mixture)	To drain all the dirt in the baby's stomach; help with healing of baby's belly button; the baby drink it to hardens the skull; to get rid of red spot

n = Number of participants responded; Grade = refers to the primary and secondary school classes (grade 1-12); TEd = Tertiary

Our study differs from the previous studies because it focuses also on postpartum recovery and infant care. Previous ethnobotanical studies done in this region has highlighted the importance of traditional medicine in the primary health care within this rural area[7,27,28,29,30]. Although health care facilities are provided (two hospitals and 17 clinics), women in this region still prefer to use medicinal plants to treat various ailments including gynecological complains[7]. *Isihlambezo* (herbal mixture) was the main decoction taken as a multipurpose remedy during pregnancy (57%) in the current study. The ingredients that are used to prepare this remedy are not known by the interviewees as this remedy is prepared by the traditional healers and the formula also depends on the availability of the plants in the particular area. This herbal mixture has also been reported to reduce swelling, which is common during the late stages of pregnancy, reduce the amount of vernix that the baby is born with, stimulate contractions and augment labor[31]. Women drinks *isihlambezo* whenever they are thirsty and it is also used as a vaginal douche[15]. Mitri *et al.*[32] found that foetal meconium passage was more common in black South African women who had taken *isihlambezo*. Another study also reported that

the use of *isihlambezo* during pregnancy may lead to fetal distress as indicated by high frequency of meconium-stained liquor and high caesarean section rate among the women who were admitted[18]. A review done by Veale *et al*.[15] documented 75 different plants that are used by black South African women during pregnancy and childbirth. The review further indicated that amongst these plants, 16 of them were reported to be toxic. The majority of these plants are used in some of the recipes to formulate *isihlambezo* or *inembe*. Pregnant women need to be cautioned about the potential danger of using this herbal remedy during pregnancy.

The second most mentioned herbal mixture during pregnancy was *inembe* which was believed to ease labour pains and delivery; and also clean the system. Most of the lay people do not know the ingredient used to formulate this remedy as they always get it from the herbalists. *Inembe* is a herbal mixture which is used to induce or augment labour, postnatal medication to expel the afterbirth, abortifacient and also administered to animals to expel the placenta[33]. Some herbalist does not recommend this herbal mixture due to its potential toxicity[13]. Thus the safety of this herbal mixture should be evaluated particularly because the women in the current study reported to be using this herbal mixture throughout pregnancy.

In the current study, *imbiza* decoction (herbal mixture) was also reported to be used during pregnancy to speed up labour, prevent the baby from having visible veins, reduces stretch marks and to prevent miscarriages. *Imbiza* is a general term for a class of purgative medicines which promote internal cleaning, administered as a drink, emetic or vaginal douche. It is often prescribed as a blood purifier for chest complaints, scrofula and women fertility problems. *Imbiza* was also reported to be used in a study done at the Bertha Gxowa Hospital (Gauteng Province) for a quick and easy delivery by inducing labour; protection of the baby against witchcraft and evil; prevent complications; decrease swelling and drain water; decrease labour pains as well as cleaning the womb[14]. The safety and efficacy of this herbal medicine has not been established in the literature.

Bridelia cathartica G. Bertol is one of the medicinal plants used during pregnancy to clean the blood, relieve pains during pregnancy and stop blood flow. The roots of *B. cathartica* was previously documented to be used in combination with the roots of *Rhoicissus digitata* (L.f.) Gilg & M. Brandt, *Commiphora neglecta* I.Verd., *Grewia occidentalis* L., *Ochna natalitia* (Meisn.) Walp., *Garcinia livingstonei* T.Anderson and *Crotalaria monteiroi* Taub. ex Baker f. var galpinii Burtt Davy ex I. verd. to prevent pre-mature birth and clean the blood when pregnant[7]. The remedy was also reported to be used as a medicine for pre-natal care[34]. Although the uterotonic effect of this plant has not been established, the toxicity profile of this plant has been previously studied. *Bridelia cathartica* has been found to have non-toxic effects on brine shrimp lethality assay[35]. However, another study indicated that this plant was found to be toxic using the same assay[36]. Thus it is important to further analyse the *in vivo* toxicity potential associated with the consumption of this plant before recommending it for use during pregnancy.

In the current study the plant *Cissampelos torulosa* E.Mey. ex Harv. was mentioned to reduce and clean amniotic fluid; detaches the baby from the uterine wall; and reduce labour pains. This plant was previously documented to be taken by pregnant women to make labour pains easier[37]. According to Veale *et al*.[15], *C. torulosa* is part of the formulation of *isihlambezo* and *inembe*. The efficacy and safety of this plant has not been established in the literature.

Child birth is described as dangerous times for women, leaving a woman's body very damaged, weak and soft[38]. After delivery, women continue to use traditional medicine mostly to heal the caesarean wound, treat afterbirth pains and to clean their system. In the Bapedi culture, after delivery, dried indigenous vegetables (*mukhusu*) is boiled and its water is consumed to treat afterbirth pains[26]. Not much research has been done in South Africa focusing on the use of traditional medicines during postpartum recovery particularly in the Zulu culture. For postpartum recovery, *umhlabelo* herbal mixture was the most cited remedy used in the current study. This herbal mixture is taken to heal

the caesarean section wound from the inside; clean the blood; and to speed up the healing process. The ingredients used for the preparation of this remedy are not known by the participants as the remedy is bought from traditional healers or traditional pharmacies. *Umhlabelo* was also reported to be used among Zulu and Xhosa cultures to treat sprains, fractures and painful bones; and snakebites[39,40]. Although *umhlabelo* is the most commonly used remedy to heal caesarean wounds, nothing could be found in the literature that support the claim of its ethnobotanical use, efficacy and safety. Thus this herbal mixture should not be recommended for postpartum use particularly in a state where women are fragile.

Gunnera perpensa L. was also reported in the current study to be used for postpartum care to clean the system and the spinal cord. Although the participants in the current study had limited knowledge about any other medicinal uses of this plant, it has been extensively documented and studied to be used for various reasons other than those mentioned in this study. The plant has been reported to be taken regularly during pregnancy to ensure an easy childbirth[37]. *Gunera perpensa* was also reported to be used to induce or augment labour and as an antenatal medication to tone the uterus[41]. The decoction may be taken for menstrual pain; can be used in large dosages as powerful oxytocic, causing the uterus to contract; and is administered during postpartum period to expel a retained placenta[42]. This plant was also reported to be one of the ingredients that are used in the formulation of *isihlambezo* and *inembe*[37,42]. The plant was likewise reported to be used in Lesotho to tone the uterus; treat colic in pregnant women; and expulsion of placenta in both women and animals[43]. The uterotonic effect and toxicity profile of this plant has been extensively studied. Studies done by Khan *et al*.[44] and Simelane[45] indicated that the plant extract stimulated a direct contractile response and induce a state of continuous contractility of the uterus. Dube[46] also reported that the plant extract evoked significant increases in the rate and force of uterine muscles contractions. Administration of the plant extract was also found to stimulate milk production on lactating rats[45], hence this also support the ethnobotanical uses of this plant during postpartum period. However, the extracts of *G. perpensa* were reported to be toxic against brine shrimp larvae[47]. Another cytotoxicity study done on two human cell lines (HEH293 and HEPG2) indicated that the degree of lethality was directly proportional to the different concentration of the extracts[45]. Ndhlala *et al*.[48], also investigate the mutagenic effect of this plant and their results indicated that the extract was non-mutagenic towards *Salmonella typhimurium* strain TA98. *Gunnera perpensa* was also evaluated for potential acute, sub-acute and chronic toxicity in rats. Acute toxicity results indicated that utilization of the plant for a short period of time is not associated with toxicity. The findings of sub-acute and chronic toxicity indicated 20% mortality rate, thus the plant is potential toxic if used for several consecutive days[49]. Women need to be cautioned about the potential toxicity effects of this plant when used for a longer period of time.

In South Africa, it is not a strange concept for women to use animal products during pregnancy and postpartum period. A study done amongst the Xhosa culture reported that women also consume horse womb during pregnancy to protect the mother and unborn baby. They also drink baboon urine to help ease the delivery[50]. In the current study, python fat was one of the animal product to be used if a woman delivered through a cesarean section as it is believed to heal the wound. Python fat was also reported in a study done in the Limpopo Province (Venda culture) to be used on burned skin and wound healing and to remove the scars[51]. The fat has been shown to decrease the collagen concentrations in the keloids (raised scar) tissues by increasing the collagenase activity thus it can be regarded as anti-keloidal agent[52]. Crocodile fat was also mentioned to be used for wound healing in the current study. Crocodile fat has been found to enhance cutaneous burn wound healing and reduce scar formation[53]. The efficacy studies done on the python and crocodile fats support their medicinal uses. However, the question would be how the participants get regular supplies of these fats; as pythons in southern Africa are protected and classified as "Vulnerable" in the latest South

African Red Data Book, and may not be captured or killed[54]. For infant care, *imbiza* (herbal mixture) was the only mentioned herbal mixture to be use. To the best of our knowledge, nothing could be found on the literature on the use of *imbiza* for infant care.

Conclusion

Some women residing in northern KwaZulu-Natal still hold a number of cultural beliefs regarding the use of traditional medicine during childbearing. About 79% of the participants in the current study were using traditional remedies during childbearing. Older women hold more knowledge compared to the younger generation. A wide range of traditional medicines were cited by the participants, with the most commonly used being *isihlambezo*, *umhlabelo* and *imbiza.* Previous studies have also demonstrated that traditional medicine plays an important role in this region, thus it is important that more research should be done to document these remedies. Even with the availability of free health care systems in South Africa, cultural beliefs still compel some women to use traditional medicine to preserve pregnancy. Thus health care workers should be aware that women, particularly in rural areas are still heavily depending on traditional medicine during childbearing. Traditional medicines have numerous ingredients, some of which are kept secret by the formulators and taking these remedies is risky particularly during pregnancy. Thus there is a need to document the efficacy and safety of all plant related medicine. The majority of participants attended antenatal clinics and received allopathic medication, but they used these medications in conjunction with traditional medicines. It is also important for these traditional medicines to be further analyzed for herb-drug interaction that may occur during dual therapy. Pregnant women should be discouraged from taking traditional medicine as some of the remedies documented in the current study has not been evaluated for safety and efficacy and also more attention has to be paid on pharmacological studies.

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Authors contribution

HDW conceptualized and fund the study from her personal generated research funds. MR and NRN carried out the field work; MR and HDW wrote the manuscript. All author's read and approved the final manuscript.

Consent for the publication

The authors give their consent for publication of this manuscript.

Data availability

All data are included in the manuscript.

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Competing interests

The authors declare no conflict of interest.

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