


Breaking the period product insecurity cycle: An observational study of outcomes experienced by recipients of free period products in the United States

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Abstract

Background: The United States is increasingly recognizing period product insecurity, insufficient access to menstrual products and limited private spaces for managing menstruation due to financial constraints, as an issue impacting the well-being and dignity of Americans. One strategy to address period product insecurity has been distributing free period products via period supply banks. The outcomes of period product distribution outside the school setting are absent from the literature.

Objectives: This study, a formative evaluation of the free period product distribution efforts of the Alliance for Period Supplies, aims to identify (1) characteristics of individuals receiving products from period supply banks and their experiences of period product insecurity and (2) health and social outcomes experienced by recipients of free period products.

Design: Survey data collection occurred at two points: baseline and one-year follow-up. All study participants provided verbal consent.

Methods: Between Fall 2018 and Spring 2020, 1863 baseline and 80 follow-up surveys were administered. Participants received free period products for themselves and/or a household member from one of 20 participating Alliance for Period Supplies period supply banks directly or from one of their 64 partner agencies.

Results: At baseline, 72.4% of participants had to choose between buying period products and another basic need. One year after accessing a period supply bank, 36.3% of participants reported this experience ($p=0.018$). Participants reported at baseline, on average, 7.8 days in the past year of avoiding seeing others, canceling appointments, or skipping work or school because they did not have access to period products. At follow-up, this was reduced to 1.2 days, on average, $t(68)=2.214$, $p<0.05$.

Conclusion: Period supply banks play an essential role in facilitating access to period products and the resulting benefits. Our study highlights the need for sustainable, well-funded policies and interventions to address period product insecurity effectively in society.

Plain Language Summary

How people in the United States benefit when they get free period products from a period supply bank

Why we did this study: In the United States, many individuals cannot afford to buy period supplies and the other stuff they need to live. Period supply banks want to help by giving them free period products. Researchers do not know if getting free period products is helpful for individuals.

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What we wanted to learn: The Alliance for Period Supplies is a membership program for period supply banks. We wanted to learn about the individuals who get free period products and whether getting them was helpful.

What we did: For a year, starting in Fall 2018, we asked 1863 individuals to fill out paper surveys. A year later, we asked 80 of those same individuals to fill out a second survey. We asked participants to take the survey if they got free period products from a period supply bank for themselves or someone they live with. Individuals only participated in the study if they told us they wanted to.

What we learned: Individuals who cannot afford period products must navigate difficult decisions between purchasing products or choosing other basic needs. Providing free products through a period supply bank has lessened the burden on these individuals, reducing the number who had to choose. Individuals unable to afford period products may sometimes opt out of going places they want to go for pleasure or miss important events, like work or school, because they do not have period products. Getting free period products has eased these challenges, letting individuals participate more fully in activities and engagements without worry about period products.

Why is this important: Period supply banks are essential places where individuals receive free period products. The period supply banks need more individuals, including our government, to donate period supplies or money to buy them so they can help more individuals.

Keywords

basic needs bank, menstrual health equity, period poverty, period product insecurity, period supply bank

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Introduction

The United States is increasingly recognizing period poverty, insufficient access to menstrual products and limited private spaces for managing menstruation due to financial constraints, as an issue impacting the well-being and dignity of Americans. Considering the challenges of affording period products, those experiencing period product insecurity may use a single product longer than recommended and/or use alternatives such as toilet paper, cloth, children's diapers, tissues, or paper towels instead of a disposable or reusable product explicitly manufactured for period management.¹ In recent years, rates of period product insecurity have increased, with 59.2% of respondents in a nationally representative sample of menstruators in the United States reporting a personal experience of period product insecurity.¹

The experience of period product insecurity has implications for adverse health outcomes. Despite numerous studies examining material hardship and food insecurity, few have focused explicitly on period product insecurity. Menstruation continues to be a subject shrouded in stigma, to the extent that only recently, a groundbreaking study was published, representing the first effort to investigate period products using genuine blood instead of water.² The emotional toll of period product insecurity leads affected individuals to report embarrassment, anger, and hopelessness.^{1,3-7}

Furthermore, research has established a clear connection between period product insecurity and adverse health outcomes, such as depression⁸ and a diminished overall quality of life.^{4,8,9} Personal safety is also compromised, as unhoused individuals often feel stigmatized when

seeking menstrual products and struggle to find safe restroom facilities for managing menstruation.^{3,10} Women experiencing homelessness have reported fear of using public toilets at night due to concerns about potential assault.^{3,11} Many women in a focus group disclosed that they waited all night to change pads and tampons until they could access a safe location in a public restroom, day shelter, or soup kitchen during daylight hours.³ Access to clean and private restrooms is associated with confidence in menstruators' perception of their abilities to manage menstruation.¹²

A lack of access to period products imposes limitations on community participation. Period product insecurity is associated with increased school absences⁵⁻⁷ and reduced engagement in work and other activities.^{10,13} Estimates suggest that between 14% and 60% of school-age individuals with periods will encounter period product insecurity as students.⁶⁻⁸ Moreover, many menstruators frequently miss multiple days of school each month due to their inability to afford period products.⁶⁻⁸ Those experiencing period product insecurity may miss up to one-fifth of a school year.^{7,10} For low-income women and girls, schools serve as a protective factor, offering access to school counselors and social workers to help manage stress.^{14,15} Strong peer relationships in school can also be a source of support for adolescents dealing with traumatic grief.¹⁵ Skipping school due to a lack of access to period products could further heighten the vulnerability of those affected.

One strategy to address period product insecurity is distributing free period products via period supply banks. The Alliance for Period Supplies, a National Diaper Bank Network program, seeks to expand and strengthen the network of period supply banks across the United States.¹⁶

Although outcomes experienced by recipients of other hygiene product distribution programs are documented, the outcomes of period product distribution outside of the school setting are absent from the literature.^{5,7,17,18} This study, a formative evaluation of the period product distribution efforts of the Alliance for Period Supplies program, aims to identify (1) characteristics of individuals receiving products from period supply banks and their experiences of period product insecurity and (2) health and social outcomes experienced by recipients of free period products.

Methods

The Alliance for Period Supplies is a National Diaper Bank Network program. This US-based nonprofit organization is a nationwide network of more than 300 basic needs banks working to distribute material necessities to individuals, children, and families through schools, shelters, food pantries, and other community-based agencies (also called “partner agencies”). Established by the National Diaper Bank Network in 2018 to organize and support a growing community of period supply banks, the Alliance for Period Supplies provides training in nonprofit and program capacity building, assessment and evaluation, and opportunities for peer networking. As of 2023, over 140 Alliance for Period Supplies member organizations are working in 40 states and Washington, D.C., to collect, warehouse, and distribute period supplies at no cost to individuals who need them.

Period supply bank distribution models

While each period supply bank must address a unique set of challenges formed by its geographic region and populations, different models are employed to deliver solutions. Most period supply banks distribute menstrual products through partner agencies, such as food pantries and schools. Via this partnership model with community-based organizations, period product recipients receive free products alongside the partner agency’s material support, services, and resources. Other period supply banks provide direct service to individuals in need, often delivering support services alongside period products. A second distinction in models involves how target populations are identified. Basic needs banks typically define their service areas geographically and strive to serve all populations that lack access to the items they provide. However, some period supply banks focus on one specific population within the geographic territory, such as students or unhoused individuals. A third distinction involves how period supply banks approach solutions to ending period product insecurity. All period supply banks collect and distribute free period supplies; however, some focus heavily on raising public awareness, organizing communities, and mobilizing action around legislative solutions.

Responding to community needs. Period supply banks strive to consistently meet the needs and preferences of the populations they serve while efficiently managing the community inventory of supplies and anticipating future needs. The target population’s range of ages, cultural diversity, and living situations may determine which products are distributed. The place and time of distribution may further dictate how much or what type of product can be made available. For example, distribution through schools may provide individual pads and tampons in bathroom dispensers, and other partner agencies may offer more extensive packages for multiple menstruators in a family or to last multiple menstrual cycles. In addition to pads, tampons, and liners, many period supply banks provide reusable menstrual products; some provide other items such as underwear, leggings, wipes, and over-the-counter pain relievers, all at no cost to the recipient.

Study design

This observational study with a repeated measures component was a formative evaluation of the Alliance for Period Supplies program to assess the implementation of period product distribution via period supply banks. Data collection occurred at two points: baseline and one-year follow-up. The study included repeated measures, with a small subset of participants completing surveys at both baseline and one-year follow-up.

Period supply banks were instructed to complete all baseline survey administration within a 30-day window to ensure that period product recipients were not invited to participate more than once if they received period products during consecutive months. As the present evaluation was implemented at the launch of the Alliance for Period Supplies Network in 2018, no patterns had yet been established for the number of recipients served, nor any literature published about period product recipients, the research team did not know a priori how many potential study participants would be eligible to participate at baseline or at one-year follow-up.

Baseline. At baseline, individuals age 18 and older receiving free period products from a period supply bank for themselves and/or a household member were asked to complete a written survey when they received the products. The period products could have been provided via any of the previously described period supply bank distribution models.

Each survey was identified with a unique survey number. Period supply banks and their partner agencies were asked to maintain a secure list of participant names and corresponding survey numbers only if two criteria were met: (1) The baseline survey was completed the very first time the participant was receiving period products from the agency and (2) There was any possibility that the

participant might also receive period products from the agency in one year. As period supply banks utilize various distribution models including the distribution of period products via partner agencies that do and do not have ongoing relationships with clients, the research team anticipated only a small cohort of potential participants would be eligible for participation at one-year follow-up.

One-year follow-up. One year after the baseline survey administration period began, period supply banks and their partner agencies who distributed the baseline survey were asked to invite period product recipients to complete a one-year follow-up survey only if the recipient had completed a survey at baseline and their unique baseline survey number was known by the agency.

Data collection

Between Fall 2018 and Spring 2020, 1863 baseline and 80 follow-up surveys were administered. Data collection during the one-year follow-up phase of our study was halted abruptly due to the onset of the COVID-19 pandemic. Survey participants received free period products for themselves and/or a household member from one of 20 participating Alliance for Period Supplies period supply banks directly or from one of their 64 partner agencies. The period supply banks, including their partner agencies, spanned 14 states (Alabama, California, Connecticut, Florida, Illinois, New Jersey, North Carolina, Maine, Missouri, Ohio, Oklahoma, Pennsylvania, Texas, and Wisconsin). Among the participants, 83.4% completed the surveys in English, while 16.6% chose to complete them in Spanish.

Measures

All participants were instructed to skip any questions they did not want to answer. Recipients receiving period products only for themselves did not receive any special instructions as they could opt to skip questions that did not apply to their situation or to answer questions from their own experience, if applicable. It is unknown but possible that some individuals getting products for someone else did not have a need for period products at the time of data collection (e.g. due to pregnancy, lactation amenorrhea, or perimenopause) but had experienced period product insecurity in the past year.

Sociodemographic characteristics. Participants self-reported the following characteristics and identities: gender, race and ethnicity, age, household composition, participation in policy benefit programs, and employment status.

Period management. Spending on disposable period products was assessed via the question, “*On average, in the*

past year, how much did you spend on disposable period products (tampons, pads, liners) each month?” Participants were given a list of disposable and reusable period products and asked to indicate their “preferred method of period control.”

Period product insecurity. Participants reported how often they did not have access to period products via the question, “*In the past year, about how often did you find yourself unable to get the period products you need?*” Subsequent survey questions captured strategies participants deployed to cope with experiences of period product insecurity, emotions felt due to not having access to period products, and opportunities and events that may have been missed due to a lack of access to period products. To quantify the number of days of missed participation in scheduled activities, participants were asked to respond to the question, “*On average, in the past year about how many days a year have you missed going somewhere you needed to go because you did not have period products when you needed them?*” To capture decision-making around the purchase of period products in the context of spending on other basic needs, participants were asked, “*In the past year, have you had to make a choice between buying period products and buying something else you or your family needed?*” Participants who did report this experience were then presented with a list of other basic needs and asked to indicate which they had to choose between.

Accessing period products. Participants were asked how they initially learned about their local period supply bank. Those who completed surveys at two time points were asked how often they had accessed the period supply bank in the past year. Additional services, goods, or programs accessed while receiving the period products were assessed, as well as any positive benefits experienced because of receiving the free period products.

Statistical analysis

SPSS Statistics version 29.0 was used for statistical calculations¹⁹; we then calculated the frequency and percentage of categorical variables. A paired sample *t*-test and two-sided McNemar chi-square test were conducted to assess the comparison of dependent variables at baseline and one-year follow-up. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines were followed when preparing this article.

Results

Period product recipient households

Period product recipients lived in households in which they were the only adults (27.2%), one of two adults

Table 1. Product preferences for period management.

Product type (select all that apply)	% who preferred this product
Menstrual cup	2.9 (n = 53)
Menstrual sponge	1.4 (n = 26)
Pad	82.0 (n = 1,482)
Period underwear	4.6 (n = 83)
Reusable menstrual cloth	3.9 (n = 70)
Tampon	39.9 (n = 722)
Anything available	11.9 (n = 216)

(43.5%), or one of three or more adults (29.3%). Most households had an adult employed at the time of survey completion (56.2% of households had one working adult, 20.8% had two or more working adults, and 23.1% did not have an adult who was currently working). Recipients reported one (64.6%), two (23.7%), or more than two (11.7%) individuals using period products in their homes.

Most period product recipients lived in households with children (93.9%). Of those households with children under age 18, on average, 2.6 children lived in each home. Household members qualified for a variety of policy support programs, including the Special Supplemental Nutrition Program for Women, Infants, and Children [WIC] (71.8%), Supplemental Nutrition Assistance Program [SNAP] (72.0%), Medicaid (80.0%), and Temporary Assistance for Needy Families [TANF] (18.3%).

The majority of recipients received period products only for themselves (93.5%), while a small portion of recipients received products for themselves and someone else in their family (4.2%), or only for a family member (2.3%). The age range of recipients getting products only for someone else only ranged from 22 to 68 years. Of these recipients: 88% lived in homes with children, 75% lived in homes with other adults, and 90% identified as female.

Period product recipients

Period product recipients ranged in age from 18 to 80 ($x=33.5$). Recipients identified as female (98.1%), male (1.4%), transgender (< 1%), or with another gender identity (< 1%). Recipients identified as Latino or Hispanic (46.5%), Black or African American (20.9%), White (20.2%), Asian (3.5%), American Indian or Alaska Native (1.8%), with two or more racial or ethnic identity groups (5.9%), or with another racial or ethnic identity (1.1%).

Period product preferences. Period product recipients were asked to select all items they preferred for period management from a list of period products (see Table 1). Nearly half of recipients preferred pads only (46.6%, $n=868$), 20.6% of recipients preferred pads or tampons only ($n=384$), and 9.8% of recipients preferred tampons only ($n=182$).

Annual spending on disposable period products. Period product recipients reported spending a variable amount of money monthly in the past year on disposable period products such as tampons, pads, or liners (quartile 1 = US\$8.33 monthly per person; quartile 2 = US\$12.50; quartile 3 = US\$20.00; quartile 4 = US\$83.33). The average amount spent per person was US\$16.89 per month ($n=1583$) at baseline and US\$16.00 per month ($n=78$) at one-year follow-up. A paired sample *t*-test comparing spending on period products among individuals who responded to this question at both time points reported that recipients spent, on average, US\$9.49 less per month on period products at follow-up compared to baseline, ($t_{73}=2.923$, $p<0.01$). A few recipients reported spending no money on period products over the past year (baseline: 1.7%, $n=27$; one-year follow-up: 2.5%, $n=2$).

Experiences of period product insecurity

Recipients indicated that in the past year, they found themselves unable to get the period products they needed once or twice (30%), every few months (42.6%), or monthly (27.4%). During times when they did not have access to period products, recipients reported managing their periods by asking a friend, family member, or neighbor for period products or money to buy them (39.8%, $n=607$), accessing products from an agency other than a period supply bank (3.9%, $n=60$), using something other than a period product such as toilet paper, paper towels, or a cloth (51.6%, $n=787$), or using no period product at all (4.3%, $n=66$).

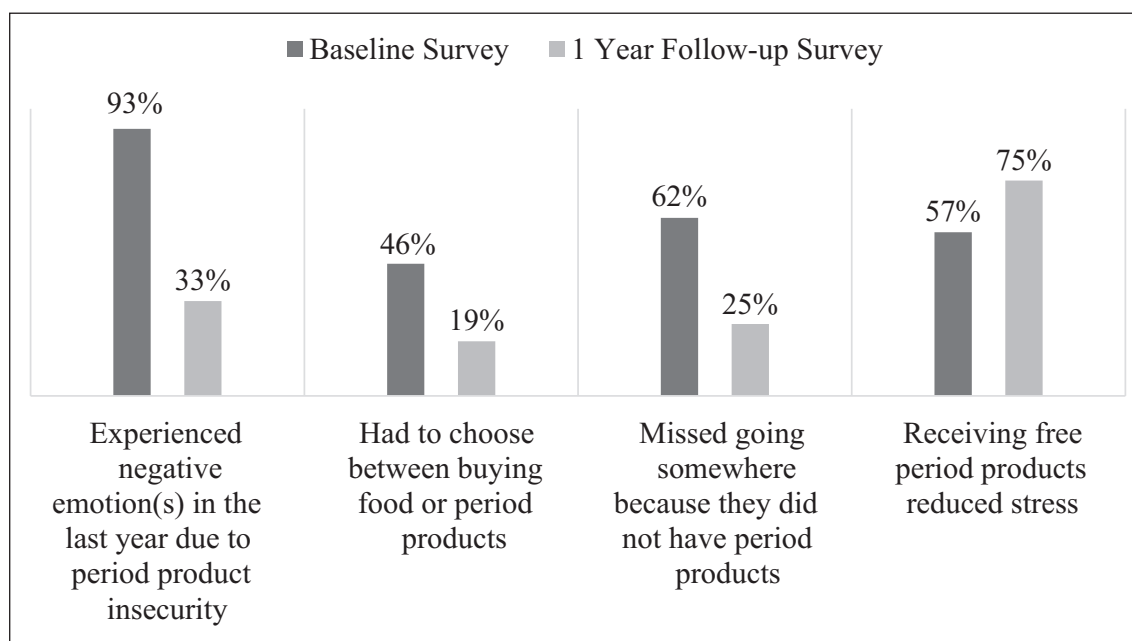
In addition, 72.4% ($n=1292$) reported that in the past year, they had had to choose between buying period products and something else needed for themselves or their families. Recipients with this experience reported choosing between purchasing period supplies and spending money on other basic needs (see Table 2, Figure 1). Among recipients who completed surveys at baseline and one year later, 36.3% ($n=29$) reported having to make this choice at follow-up. The reduction in the portion of recipients who had to choose between spending on period products and other basic needs after receiving free period products was statistically significant using McNemar's Test ($p=0.018$) compared to before receiving free period products.

Table 2. In the past year, period product recipients had to choose between buying period products and spending money on other basic needs.

Basic need	% who had to choose to spend on this basic need or period products; Baseline (n = 1785)	% who had to choose to spend on this basic need or period products; 1-year follow-up (n = 75)	Comparison of baseline and follow-up responses within subjects; McNemar's Test 1-year follow-up (n = 75)
Car payment	12.8 (n = 228)	2.7 (n = 2)	p = 0.687
Clothing	25.8 (n = 461)	10.7 (n = 8)	p = 0.043*
Food	45.7 (n = 816)	18.7 (n = 14)	p = 0.030*
Gas for vehicle	33.7 (n = 602)	6.7 (n = 5)	p = 0.267
Medicine or healthcare	16.7 (n = 298)	0 (n = 0)	p = 0.016*
Other hygiene items (e.g. soap, toilet paper, toothpaste)	37.1 (n = 662)	24.0 (n = 18)	p < 0.001*
Rent or housing	29.4 (n = 525)	6.7 (n = 5)	p = 0.180
Utilities	27.7 (n = 494)	8.0 (n = 6)	p = 0.049*

*p < 0.05.

The bold-face values in table are statistically significant per the convention p < 0.05.

**Figure 1.** Period product recipient reported experiences and outcomes.

Missed days of participation. At baseline, many period product recipients (62%, n = 933) reported missing going somewhere they needed to go because they did not have period products when they needed them. The number of days missed per year ranged from 1 to 60. On average, 7.8 days were missed per year by those who did not have access to period products when needed. The median number of days missed was 5 per year. Opportunities or experiences were missed when recipients needed access to period products (see Table 3).

One year following baseline, 25% (n = 79) of recipients reported staying home from somewhere they needed to go

on one or more days over the past year because they did not have period products. On average, 1.2 days were missed that year. There was a statistically significant reduction in the number of days missed after a year of opportunities to access their local period supply bank ($t_{68} = 2.214, p < 0.05$).

Emotions about lack of access. Period product recipients shared a range of emotional responses about not having access to period products when they needed them (see Table 4). At baseline, nearly all recipients (92.9%, n = 1554) reported experiencing at least one negative emotion in the

Table 3. Opportunities missed due to period product insecurity.

What did you do when you didn't have enough period products in a given month? . . . (select all that apply)	% with this experience; Baseline (n = 1524)	% with this experience; 1-year follow-up (n = 78)	Comparison of baseline and follow-up responses within subjects; McNemar's Test 1-year follow-up (n = 65)
Avoided seeing other people	27.0 (n = 412)	11.5 (n = 9)	p = 0.011*
Canceled appointments	27.0 (n = 411)	9.0 (n = 7)	p = 0.077
Stayed home from school	11.6 (n = 177)	3.8 (n = 3)	p = 0.453
Stayed home from work	19.1 (n = 291)	1.3 (n = 1)	p = 0.006*
Stayed home from somewhere else needed to go	33.9 (n = 517)	12.8 (n = 10)	p = 0.002*
Used something other than a period product like toilet paper, paper towels, or a cloth	51.6 (n = 787)	20.5 (n = 16)	p = 0.001*

*p < 0.05.

The bold-face values in table are statistically significant per the convention p < 0.05.

Table 4. Feelings identified about the experience of period product insecurity.

Not having period products when I need them makes me feel . . . (select all that apply)	% who identified this feeling; Baseline (n = 1673)	% who identified this feeling; 1-year follow-up (n = 78)	Comparison of baseline and follow-up responses within subjects; McNemar's Test 1-year follow-up (n = 70)
Alone	13.9 (n = 233)	6.4 (n = 5)	p = 1.000
Angry	21.1 (n = 353)	9.0 (n = 7)	p = 0.424
Ashamed	38.6 (n = 646)	6.4 (n = 5)	p < 0.001*
Disappointed	28.1 (n = 470)	7.7 (n = 6)	p < 0.001*
Embarrassed	46.5 (n = 778)	12.8 (n = 10)	p < 0.001*
Hopeless	17.3 (n = 289)	3.8 (n = 3)	p = 0.092
Sad	24.1 (n = 404)	14.1 (n = 11)	p < 0.001*
Stressed	58.2 (n = 973)	21.8 (n = 17)	p < 0.001*
Unclean	56.0 (n = 937)	9.0 (n = 7)	p < 0.001*
Unhealthy	29.1 (n = 487)	10.3 (n = 8)	p = 0.002*
Unsafe	13.8 (n = 231)	3.8 (n = 3)	p = 0.109
None of the above	7.1 (n = 119)	66.7 (n = 52)	p < 0.001*

*p < 0.05.

The bold-face values in table are statistically significant per the convention p < 0.05.

past year due to period product insecurity. At follow-up, the number of individuals reporting any negative feelings about the experience of period product insecurity and the number of individuals reporting specific emotions decreased among individuals who had received free period products over the past year. These reductions were statistically significant (see Table 4).

Accessing period products

Period product recipients initially learned about local period supply banks by various means. Recipients learned that they could receive free period products from a partner agency of a period supply bank via a friend (18.8%, n = 311), a family member (9.3%, n = 153), a neighbor (4.4%, n = 73), calling 211 (4.7%, n = 78), online (3.5%,

n = 58), or from someone at the agency where the products were distributed (57.7%, n = 954). The recipients who completed surveys both at baseline and one year later reported receiving products with varying frequency over the past year, including 1 to 3 times (46.2%, n = 37), 4 to 6 times (25.0%, n = 20), 7 to 9 times (5.0%, n = 4), and 10 to 12 times (23.8%, n = 19).

Outcomes of accessing period products. While visiting a period supply bank or partner agency to receive period products, recipients accessed other resources, including food (39.9%, n = 599), diapers for an infant or toddler in their family (48.7%, n = 731), adult incontinence supplies for someone in their family (3.9%, n = 59), or signing up for a class, program, or other service offered by the agency (14.3%, n = 214). Recipients reported many positive outcomes experienced

Table 5. Benefits from accessing free period products.

Receiving these period products from this agency allows me to . . . (select all that apply)	% with this experience; Baseline (n = 1673)	% with this experience; 1-year follow-up (n = 72)
Feel cleaner	73.4 (n = 1307)	71.3 (n = 57)
Feel comfortable to carry on my daily activities	63.5 (n = 1131)	70.0 (n = 56)
Feel healthier	46.5 (n = 828)	58.8 (n = 47)
Go to school regularly	12.6 (n = 225)	11.3 (n = 9)
Go to work each day	27.6 (n = 491)	33.8 (n = 27)
Leave my home	44.9 (n = 800)	53.8 (n = 43)
Reduce stress	56.9 (n = 1013)	75.0 (n = 60)
Spend money on something else I need	58.7 (n = 1045)	76.3 (n = 61)

because of receiving free period products from a period supply bank. Outcomes included mental health benefits and opportunities for community participation (see Table 5).

Discussion

The findings of this study shed light on the multifaceted issue of period product insecurity, revealing the experiences of period product recipients and the outcomes facilitated via access to these essential items. Period product insecurity is a complex challenge, and understanding its dimensions is crucial for developing effective interventions, support systems, and policies.²⁰ Period product recipients reported canceling commitments, avoiding other individuals, and skipping places they needed to be due to a lack of access to period products. This startling finding further renders the consequences of period product insecurity invisible when individuals are missing from places they intended to be for more than a week each year. Period product recipients were missing from their classrooms, workplaces, community events, missing from events with friends and family, and missing from places they wanted to be. This highlights the impact on individuals' daily lives and opportunities. A year after accessing free period products via their local period supply bank, the number of missed days dropped drastically, rendering the provision of period products a deeply impactful strategy for addressing period product insecurity.

The positive outcomes of accessing free period products, as reported by recipients, emphasize the tangible benefits of period product distribution programs. Improved mental health, greater comfort in daily activities, and stress reduction speak to the transformative potential of providing consistent access to period products. These findings underscore the importance of continued support for such initiatives and the potential for positive societal impact. The range of product preferences reported among period product users highlights the importance of offering recipients choices when distributing period products. Managing one's period with the preferred products is vital for

upholding dignity. Funding for community-based period supply banks via policy action is needed to ensure that they can continue serving their communities, expand their outreach, and offer resources tailored to how individuals with periods know it is best to manage their menstrual cycles.

Another recent survey underscores the intersectionality of period product insecurity and food insecurity, revealing that 64% of low-income women experiencing food insecurity also face challenges affording period products.³ It is critical to recognize that period product insecurity is not merely an issue of access to hygiene products but also a broader societal concern affecting households' abilities to meet other basic needs. Many of the organizations that initially joined the Alliance for Period Supplies Network were basic needs banks serving their communities as diaper and period supply banks. This may explain the large portion of recipients in our sample who lived with children. The fact that most period product recipients' households included children and one or more other adults, coupled with the finding that three-quarters of recipients reported having to choose between purchasing period products or spending money on another basic need, reinforces the negative impact of period product insecurity on household members who themselves may not use period products. The reduction in the portion of recipients who reported that they had to make difficult choices about the allocation of household finances after one year of accessing their local period supply bank reinforces the significant impact that providing free period products can have on an entire household of individuals. Similar findings have been reported by recipients of other hygiene products, confirming the vital role of basic needs banks, including period supply banks, in facilitating positive economic benefits for households experiencing product insecurity.¹⁷

The distribution of period products via period supply banks is only one strategy for addressing period product insecurity. Providing free period products in public restrooms has been documented as less costly than spending on other public restroom supplies such as toilet paper

and paper towels.²¹ Stocking public restrooms with period products is also cost-effective to communities compared to the cost of medical treatment in the event of infection from using an alternative item as a period product or a single period product longer than recommended due to period product insecurity.²¹ Recent commentary by Miller et al.²² emphasizes that healthcare providers must inquire about period product insecurity, acknowledging the limited but significant findings linking financial struggles with access to period products. Destigmatizing menstruation requires offering resources to address period product insecurity in varied settings as an essential step toward enhancing the well-being and dignity of those affected by this issue.²³

Implications

This study compellingly demonstrates the effectiveness of period supply banks in reducing period product insecurity and underscores the necessity of strategic policy and practical interventions. By documenting a notable reduction in the number of days individuals missed important activities due to lack of access to period products, the research clearly shows that investment in period supply banks significantly enhances the daily lives and opportunities of affected individuals. This highlights the impactful return on policy dollars when allocated toward these initiatives, emphasizing the need for continuous support through increased donations of supplies and financial contributions, particularly from governmental entities. Such policy measures could ensure the sustainability and expansion of period supply banks, extending their reach to a broader segment of diverse communities, thus proving to be a judicious use of public funds.

Moreover, the findings reveal the interconnected nature of period product insecurity with broader socioeconomic issues, such as household economic stability and access to other essential needs. Many participants reported choosing between purchasing period products and other critical needs, which significantly impacts household welfare. Addressing this issue requires a multifaceted strategy that expands access to social safety nets to alleviate financial pressures on households, thereby mitigating the need for such difficult choices. This approach not only addresses the immediate needs related to menstrual health but also contributes to the overall economic stability of households.

In addition, the study emphasizes the importance of destigmatizing menstruation and promoting menstrual health equity. Providing free period products and fostering open discussions about menstrual health can help dismantle the stigma and embarrassment associated with menstruation. Policy initiatives should aim to integrate menstrual health education into school curricula and ensure the availability of free period products in public restrooms, promoting a more inclusive and equitable approach to menstrual hygiene.

For practical applications, the findings of this study serve as a model for similar interventions in other regions or settings grappling with period product insecurity. The Alliance for Period Supplies Network formed from the infrastructure established by the National Diaper Bank Network's network of basic needs diaper banks, which allowed for the quick scale-up to address period product insecurity and in doing so has provided a roadmap for others to join the network as stand-alone period supply banks, broadening the reach beyond partner organizations serving families and individuals with young children. The versatility of a national infrastructure of basic needs banks facilitates the sharing of best practices and enhances collaborative efforts to address period product insecurity on a broader scale to reach individuals not currently served while providing a foundation for addressing other unmet hygiene product needs for individuals and families.

Overall, the study highlights how sustained support for period supply banks and broader policy initiatives address the inequities of period product insecurity. This investment in menstrual health initiatives offers substantial social and economic benefits, making it an essential and highly effective allocation of policy resources.

Limitations

Our study faces certain limitations due to its reliance on participants who obtained period products through specific distribution channels, which may introduce sampling bias. As previously noted, this method excludes those who do not use these distribution channels, limiting the generalizability of our findings to the entire population affected by period product insecurity. In addition, the demographic makeup of our participants may not fully represent the diversity of those experiencing period product insecurity across the United States. The sample predominantly includes individuals from specific distribution points, potentially missing the perspectives of difficult-to-reach groups. Power analysis to determine sample size was not calculated a priori as previously described, as no prior literature documents the outcomes of period product recipients nor details the number of individuals served by period supply banks.

Furthermore, the study included a 1-year follow-up period, which might not be sufficient to observe long-term effects or changes in the participants' experiences over time. A longer follow-up would provide deeper insights into the enduring impacts of access to free period products on individuals' well-being and behaviors. Unfortunately, the data collection during this phase was prematurely terminated due to the COVID-19 pandemic.

Future research is needed to overcome these limitations. Research priorities include developing and validating reliable tools for accurately measuring period product insecurity and its effects, implementing and evaluating additional

evidence-based interventions to increase access to period products, and evaluating policies implemented for period product access. These efforts would enhance our understanding of the prevalence, severity, and consequences of period product insecurity among diverse groups, and the outcomes of increasing access to period products.

Despite the study's limitations, this study makes several significant contributions to menstrual health research. This study is among the first to attempt to quantify period product insecurity, offering a novel and crucial methodology that can guide future research in this field. While the demographic composition of the study might not fully capture the entire spectrum of individuals affected by period product insecurity, the diverse range of ages and backgrounds included provides valuable insights that enhance understanding of the issue across different demographics. This study establishes a foundation for future investigations, which can build on these findings to further explore and address period product insecurity. Future research could include extending follow-up periods to better understand long-term impacts and broadening the participant base to enhance the generalizability of the results.

Conclusion

Experiencing period product insecurity impacts interpersonal relationships, health, household finances, education, employment, community participation, and overall well-being. Period supply banks are essential in facilitating access to period products and the positive benefits that result. To effectively address period product insecurity, society must prioritize sustainable, well-funded, and comprehensive interventions, thereby enhancing the well-being and dignity of those affected by this pervasive issue.

Declarations

Ethics approval and consent to participate

The study was approved following an expedited review by the Human Subjects Committee of the Yale University Institutional Review Board [IRB], Protocol #2000023459. The IRB granted a waiver of written informed consent as the surveys were anonymous and a signed consent form would have disclosed the identity of participants. All participants provided verbal informed consent before participation. Each participant received a study information sheet describing the study activities, the voluntary nature of participation, and listing contact information for the research team.

Consent for publication

Not applicable.

Author contribution(s)

Kelley E. C. Massengale: Conceptualization; Formal analysis; Methodology; Writing – original draft.

Kelsey M. Bowman: Formal analysis; Writing – original draft.

Lynn H. Comer: Conceptualization; Data curation; Project administration; Writing – review & editing.

Susan Van Ness: Conceptualization; Project administration; Writing – review & editing.

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Availability of data and materials

The raw data are available from the corresponding author upon reasonable request.

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Supplemental material

Supplemental material for this article is available online.

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