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Equity Lens to Physical Activity Counseling in Pediatrics

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Physical Activity Prescriptions – Medicine of the Future

Physical activity plays a pivotal role in children's physical and behavioral health – setting the stage for lifelong bone, metabolic, cardiovascular, and mental health [1]. Seventy percent of youth are not meeting recommended physical activity guidelines [2]. A recent American Academy of Pediatrics Clinic Report provides clinicians guidance to help children achieve recommended physical activity [1]. The report recommends pediatricians prescribe physical activity to patients including the type, duration, and intensity of activity [1]. There is a small but growing body of studies assessing "physical activity prescriptions" [3-5] and "park prescriptions" [6-9]. Physical activity prescriptions have been used for some time in adults [10] and in children with congenital heart disease [11,12], and are gaining acceptance among pediatric providers.

When prescribing physical activity, it is imperative that we strive to understand the historical inequities that propagate disparities in physical activity. Health is often erroneously presumed to be a choice. Understanding how access to resources underlies access to active lifestyles builds empathy and rapport with patients that will ultimately lead to more effective solutions.

Historical Context

Systemic racism has deprived many Black, Indigenous, and People of Color (BIPOC) from access to nature and safe spaces for active play. Where people live has been shaped by a long history of racism in redlining, forced migration, and lack of investment. Redlining maps originated in the wake of the great depression, when the federal government evaluated riskiness of mortgages in major metropolitan areas. Maps were color-coded, with green neighborhoods (Grade A) deemed "best", blue (Grade B) "still desirable", yellow (Grade C) "definitely declining," and red (i.e. redlined; Grade D) considered "hazardous". The racial composition of these neighborhoods was a key component of this rating – and enabled banks to legally discriminate against ethnic and racial minorities by not offering them loans [13].

Cities invested more heavily in improving the Grade A areas – and often neglected the Grade D (redlined) areas. Lack of investment has led to fewer parks and paths and increased toxic exposures to mold, lead paint, and pollution from nearby industry (https://www.nationalgeographic.com/science/article/how-nature-deprived-neighborhoods-impact-health-people-of-color). A study of 72 urban areas in the U.S. found that historically redlined neighborhoods have reduced present-day green space [14]. Moreover, seventy-four percent of communities of color and seventy percent of low-income communities in the U.S. live in areas deprived of nature and all its benefits [15].

In 2014, a dispute over who got to play on a soccer field in San Francisco's historically Latinx Mission District highlighted how gentrification and city policy control access to safe spaces to play. A video of the incident (https://www.youtube.com/watch?v=awPVY1DcupE) went viral. The video captured a handful of tech company employees - mostly white men - approach a group of local Latinx teenagers playing on the field and ask them leave, stating that they had paid to reserve the field. One of the pickup players explained that the mission playground field had always been used for pickup, seven-on-seven, and that people wait their turn to play.

Schools provide many opportunities for physical activity through physical education, after school programs and safe spaces to play during recess, before and after school [1]. Increased distance from home to school is correlated with decreased physical activity [16]. Higher-resource schools are more likely to have better facilities and longer recess [17]. Physical activity disparities have been exacerbated during the COVID-19 pandemic with curtailed access to opportunities through school [18].

Given this disparate landscape, it is not surprising that low-income and BIPOC youth are less physically active and less likely to participate in sports [19-24]. We must collaborate with community organizations, schools, city leaders, and lawmakers to increase opportunities for physical activity for

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all children.

Patient-Centered Approach

Historical context is relevant to physical activity counseling on a one-on-one level. Recognizing factors out of an individual's control is paramount to problem-solving around the factors that one can control. Motivational Interviewing (MI) is a patient-centered counseling style that strengthens "personal motivation for and commitment to a specific goal by eliciting and exploring the person's own reasons for change within an atmosphere of acceptance and compassion" [25]. There is considerable evidence that MI is an effective way to promote behavior change in adults and growing evidence in pediatrics [26-28].

A health equity lens can be applied to the four fundamental processes of MI

1. Engage: Carefully listen, to accurately reflect an individual's experience, affirm their strengths, and support their autonomy. Assess and acknowledge barriers to physical activity. Learn what safe spaces are available, what transportation is accessible, and what other responsibilities they may have. Each individual is an expert in their life.

2. Focus: Guide an individual to a shared purpose that aligns with their motivations and health. Clarify and negotiate "what" are specific attainable and incremental goals.

3. Evoke: Help a person develop their own "why" of change.

4. Plan: Explore "how" they can achieve their goal. In a park prescription intervention in a low-income urban community, knowing where to go increased the likelihood that participants visited parks [9]. Have available maps and websites of outdoor spaces in different neighborhoods, as well as information on community sports programs. Resources should be available in multiple languages.

Youth live within the context of their community. It follows that individually-focused interventions that incorporate families and schools are the most effective at increasing youth physical activity [29,30].

Conclusion

It would be remiss to give a patient an exercise prescription without exploration of the potential systemic and institutional barriers to them fulfilling it. Educating ourselves on the inequities at the root of physical activity disparities is the first step to better serving our patients and communities.

References

1. Lobelo F, Muth ND, Hanson S, Nemeth BA. Physical activity assessment and counseling in pediatric clinical settings. Pediatrics. 2020;145(3):e20193992.
2. Kann L, McManus T, Harris WA. Youth risk behavior surveillance - United States, 2015. MMWR Surveill Summ. 2018;67(8):1-479.
3. Stoner L, Beets MW, Brazendale K, Moore JB, Weaver RG. Exercise dose and weight loss in adolescents with overweight-obesity: A meta-regression. Sports Med. 2019;49(1):83-94.
4. James AK, Hess P, Perkins ME, Taveras EM, Scirica CS. Prescribing outdoor play: Outdoors rx. Clin Pediatr (Phila). 2017;56(6):519-24.
5. Christiana RW, Battista RA, James JJ, Bergman SM. Pediatrician prescriptions for outdoor physical activity among children: A pilot study. Prev Med Rep. 2017;5:100-5.
6. Zarr R, Cottrell L, Merrill C. Park prescription (DC Park Rx): A new strategy to combat chronic disease in children. J Phys Act Health. 2017;14(1):1-2.
7. Uijtdewilligen L, Waters CN, Aw S, Wong ML, Sia A, Ramiah A, et al. The park prescription study: Development of a community-based physical activity intervention for a multi-ethnic Asian population. PLoS One. 2019;14(6):e0218247.
8. Cohen DA, Han B, Nagel CJ, Harnik P, McKenzie TL, Evenson KR, et al. The first national study of neighborhood parks: Implications for physical activity. Am J Prev Med. 2016;51(4):419-26.
9. Razani N, Hills NK, Thompson D, Rutherford GW. The association of knowledge, attitudes and access with park use before and after a park-prescription intervention for low-income families in the U.S. Int J Environ Res Public Health. 2020;17(3):701.
10. Lee PG, Jackson EA, Richardson CR. Exercise prescriptions in older adults. Am Fam Physician. 2017;95(7):425-32.
11. Callaghan S, Morrison ML, McKeown PP, Tennyson C, Sands AJ, McCrossan B, et al. Exercise prescription improves exercise tolerance in young children with CHD: A randomised clinical trial. Open Heart. 2021;8(1):e001599.
12. Harkel AD, Takken T. Exercise testing and prescription in patients with congenital heart disease. Int J Pediatr. 2010;2010:791980.
13. Mitchell B, Franco J. HOLC "redlining" maps: the persistent structure of segregation and economic inequality. NCRC.
14. Nardone A, Rudolph KE, Morello-Frosch R, Casey JA. Redlines and greenspace: The relationship between historical redlining and 2010 green space across the United States. Environ Health Perspect. 2021;129(1):17006.
15. Landau VA, McClure ML, Dickson BG. Analysis of the disparities in nature loss and access to nature. Conservaton Science Partners. 2020.
16. Cohen DA, Ashwood JS, Scott MM, Overton A, Evenson KR, Staten LK, et al. Public parks and physical activity among adolescent girls. Pediatrics. 2006;118(5):e1381-9.
17. Milteer RM, Ginsburg KR. The importance of play in promoting healthy child development and maintaining strong parent-child bond: focus on children in poverty. Pediatrics. 2012;129(1): e204-13.
18. Browne NT, Snethen JA, Greenberg CS, Frenn M, Kilanowski JF, Cleveland BG, et al. When pandemics collide: the impact of COVID-19 on childhood obesity. J Pediatr Nurs. 2021;56:90-8.
19. Hyde ET, Omura JD, Fulton JE, Lee SM, Piercy KL, Carlson SA. Disparities in youth sports participation in the U.S., 2017-2018. Am J Prev Med. 2020;59(5):e207-10.
20. Johnston LD, Delva J, O'Malley PM. Sports participation and physical education in American secondary schools: current levels and racial/ethnic and socioeconomic disparities. Am J Prev Med. 2007;33(4 Suppl):S195-208.
21. Sallis JF, Prochaska JJ, Taylor WC. A review of correlates of physical activity of children and adolescents. Med Sci Sports Exerc. 2000;32(5):963-75.
22. Gordon-Larsen P, Adair LS, Popkin BM. Ethnic differences in physical activity and inactivity patterns and overweight status. Obes Res. 2002;10(3):141-9.
23. Kimm SY, Glynn NW, Kriska AM, Barton BA, Kronsberg SS, Daniels SR, et al. Decline in physical activity in black girls and white girls during adolescence. N Engl J Med. 2002;347(10):709-15.
24. Turner RW, Perrin EM, Coyne-Beasley T, Peterson CJ, Skinner AC. reported sports participation, race, sex, ethnicity, and obesity in US adolescents from NHANES Physical Activity (PAQ_D). Glob Pediatr Health. 2015;2:2333794X15577944.
25. Miller WR, Rollnick S. Motivational interviewing: Helping people change. 3rd Ed. Guilford Press. 2013.

26. Vallabhan MK, Jimenez EY, Nash JL, Pacheco DG, Coakley KE, Noe SR, et al. Motivational interviewing to treat adolescents with obesity: A meta-analysis. Pediatrics. 2018;142(5):e20180733.

27. Gagneur A. Motivational interviewing: A powerful tool to address vaccine hesitancy. Can Commun Dis Rep. 2020;46(4):93-7.

28. Gourlan M, Sarrazin P, Trouilloud D. Motivational interviewing as a way to promote physical activity in obese adolescents: A randomised-controlled trial using self-determination theory as an explanatory framework. Psychol Health. 2013 Nov;28(11):1265-86.

29. Physical Activity Guidelines Scientific Advisory Committee. Physical activity guidelines advisory committee report. Washington, DC: US Department of Health and Human Services; 2018.

30. Elinder LS, Patterson E, Nyberg G, Norman Å. A Healthy School Start Plus for prevention of childhood overweight and obesity in disadvantaged areas through parental support in the school setting - study protocol for a parallel group cluster randomised trial. BMC Public Health. 2018;18(1):459.