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Gary Epler, M.D.

ABSTRACT

The fundamental principle of the Eplerian Life Philosophy is that people need to be their true authentic selves for optimal health and live a life filled with high energy, creativity, and enjoyment. Know who you are moment by moment which means know where you're thinking from, and that's who you are. Learn to stop thinking from your selfish head. The mind is not the brain. The mind is the universe outside the body with unlimited knowledge and information. Be your authentic self by thinking from the heart with kindness and from the mind with creativity to solve problems and help others, courage to be your authentic self, and inspiration to improve the world.

Keywords: eplerian life philosophy, authentic self, authenticity, heart, mind.

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ABSTRACT

The fundamental principle of the Eplerian Life Philosophy is that people need to be their true authentic selves for optimal health and live a life filled with high energy, creativity, and enjoyment. The philosophy is "know who you are moment by moment" which means know where you're thinking from, and that's who you are.

You can think from the head, heart, gut, body, and the mind. The mind is not the brain. The mind is the universe outside the body with unlimited knowledge and information. Think from the mind, not the brain. Have an impact on yourself and others, be your authentic self by thinking from the heart with kindness and from the mind with creativity to solve problems, courage to be your authentic self, and inspiration to improve the world.

Keywords: eplerian life philosophy, authentic self, authenticity, heart, mind, heal, self-compassion, self-awareness, well-being, creativity.

Author: Harvard Medical School, Boston, Massachusetts USA.

I. INTRODUCTION

"Know who you are moment by moment" are the seven words of the Eplerian Life Philosophy (ELP) (1). This means know where you're thinking from and that's who you are. The five locations to think from are the head, heart, gut, body, and the mind, which is outside the body. Being your true authentic self is the core principle. The objectives of this writing include showing the function and feelings associated with five locations to think from, the benefits of being your true self, and how to use ELP as a model to be your true authentic self by thinking from your heart and thinking from the mind.

Eplerian Life Philosophy: The idea of the Eplerian Life Philosophy is from the words carved in granite 3400 years ago, "Know Thyself" (1). Socrates expressed the virtues of this adage by writing "The unexamined life is not worth living," and Aristotle wrote "To know thyself is the beginning of wisdom." In the twentieth century, the Swiss Psychiatrist, Carl Jung wrote, "Your vision will become clear only when you can look into your own heart."

The benefits of being your true authentic self are limitless, but an easy, simple method for being your authentic self has not been developed. Innovative technology not available to Socrates or Aristotle provided me with the solution. Functional MRI (fMRI) technology shows where people think from (2). Early fMRI studies transformed my traditional teaching of thinking from a single brain concept to thinking from three primitive independent brain regions.

We can only think from one region at a time. These three regions include the amygdala anger center, cingulate stress center, and accumbens addiction pleasure center. Thinking from these three brain regions can be a powerful life-altering, devasting force in people's lives and needs to be stopped.

For the Eplerian Life Philosophy, there are five locations to think from that include the head for healthy social judgment, heart for kindness, gut for risk management, body for strength, and the mind for creativity.

The head. The amygdala anger center is an early development primitive brain region located in the base of the brain (3). Anger is defined as something being taken away usually in a personal or abusive way such as getting fired or being robbed, but more commonly taking away pleasure, opinions, or personal values. Anger is a

natural response from this primitive reptilian brain responding to a personal attack and can be modulated.

The anger center region functions by instinct to save your life, but there is no thinking from here, it's too slow. Therefore, to eliminate the anger response, no thinking. Do not think about the situation or the person, not a single thought. Instead 'feel' the anger, let it peak in six to eight seconds, and then the parasympathetic system will neutralize the cortisol sympathetic response restoring calm (4). The goal is to eliminate triggering the anger center through long-term conditioning.

The cingulate region is also an early development primitive brain region associated with the amygdala. Functional MRI studies regarding PTSD show that when individuals have thoughts about themselves, they're stressed (5, 6). For example, thinking about your problems causes stress and shows increased brain activity in the cingulate region; therefore, self-centered thoughts cause stress. If you're stressed, you're thinking about yourself. I call this 'selfish' brain region the 'stress center.'

As with the anger center, this cingulate region also functions by instinct to help you out of life-threating situations. This region is not for thinking about yourself because this causes stress. There are abundant thoughts that are self-centered, many that are subtle and obscure. For example, obvious thoughts include thinking about your problems while less obvious include comparing yourself to others, trying to be your job title, and pleasing others. Other self-centered thoughts include complaining, criticizing, and blaming. Worry and guilt are these types of thoughts. Obscure self-centered thoughts include controlling people and seeking power.

Thinking from the stress center needs to be eliminated as any self-centered thought will cause stress. There are several ways of doing this that include feeling the stress with no thinking, letting it peak in six to eight seconds, and the parasympathetic system will neutralize the stress response. Other ways include diverting this harmful thinking to thinking from the heart with kindness to yourself or distraction through exercise, a cold shower, upbeat music, or a positive conversation.

People need to live at zero-level stress. The average stress level in the general population is 5.0 and higher. This is the disease zone causing cortisol-induced inflammation, heart disease, and cancer, and responsible for more than five million deaths worldwide each year (7). These deaths can be prevented by the simple act of people not thinking about themselves from the cingulate stress region.

The accumbens brain region is located above these two regions and is triggered by the dopamine pleasure chemical. The sole function of this region is for human reproduction and continuation of the human species and not for the brief and fleeting dopamine pleasure from drugs, alcohol, or sugar. This also includes not thinking from this center for the four seconds of dopamine pleasure that self-centered, egocentric individuals experience by manipulating and hurting people or making them feel bad about themselves. You can only think from one location at a time; therefore, thinking from this chemical pleasure center causing an addiction at the expense of thinking from the heart with kindness.

There are four alternative locations for thinking and feeling that include the heart, gut, body, and the mind.

The heart. The function of the heart is to keep itself healthy and has millions of neurons and other defense cells to do this (8,9). The heart keeps itself healthy by making decisions and by positive feelings. If you have a life-changing decision such as a new job, a new house, or a new relationship, then unlike the indecision from the head, the heart will give an instant unilateral yes-and-no decision based on what's best for your health (10). This is related to authenticity because this takes you away from thinking from the primitive brain region which will lead you to making bad decisions for your health.

Feelings for keeping the heart healthy include kindness to yourself with self-compassion. Being kind to yourself fosters authenticity. Instead of

feeling sorry for yourself and blaming yourself for failures, use self-compassion to restore healthy feelings. Other feelings from the heart include unconditional giving, appreciation, gratitude, and empathy.

The gut is for nutritional guidance and risk management through the gut-brain connection (11, 12, 13). The origins of nutritional advice began with altering you to avoid poisonous liquid or food. Today, your gut is telling you 'no' when faced with a plate full of french fries, fried food, and a huge sugary dessert. Listen to your gut, it's good for your nutritional health. This guidance has expanded to risk management using fear as a warning to avoid hazardous situations.

Dysfunctional connection between the gut and the brain can cause irritable bowel syndrome and other gastroenterology illnesses. These can be managed and improved through neuro conditioning (13).

The body is for strength from the feeling of the muscles and joints (14). The good feeling from exercising can be used to enjoy and sustain a daily exercise program. Your exercise routine can include walking, running, elliptical, and swimming along with yoga stretches and weights.

Group classes can be helpful with the added benefit of social energy. For athletic performance, combining thinking from the body and the mind propels Olympic success because this shuts down negative thinking from the head.

The mind is not the brain. For centuries, the words 'brain' and 'mind' have been inter-changeable. They are opposites. The brain is an organ in the head. The mind exists outside the brain and the body. The mind is the universe surrounding the physical body.

Thinking from the brain is limited by inhibiting creativity, innovation, and performance. Thinking from the mind is unlimited connecting you to all information and knowledge in the past, present, and future.

Thinking from the brain is negative with thoughts of complaining, criticism, blame, and judgment. Thinking from the mind is positive with courage, total calmness, and unsurpassed joy.

Thinking from the brain is selfish. Thinking from the mind is inspirational with helping others and improving their lives.

Because the mind is outside the body, the mind cannot be accessed by the typical 14-cycles per second beta-brainwave state. The brainwaves need to slow to alpha at 10-cycles per second or theta at 7 cycles per second. This is initially developed through meditation training (15) and then continual practice enables instant access to the mind as needed.

The function of the mind is for creativity and innovation (16). Feelings from the mind include deep calmness, total acceptance and belonging without judgment, and joy beyond the waking beta brainwave state (17). Attention is from the mind.

Be your true authentic self: The expressions 'know thyself' or 'be yourself' are too general as people have many roles during the day. Therefore, I added 'moment by moment' for specification.

You can know who you are moment by moment because it's where you're thinking from. During infancy, instinctive reactions from primitive brain regions are needed for survival such as a cry for food or a cry for a diaper change, but these regions are not needed after that as thinking from these regions causes anger and stress. This is reptilian thinking and does not represent the true human self.

Benefits of being the authentic self: It's freedom to be who you are without having people or society telling you who to be. You are your own person. There is no need to try to be someone else and compare yourself to others. There is no need for complaining, criticizing, blaming, or excuses.

You take responsibility for your actions, and you accept the occasional bad outcome. You have no negative thoughts about yourself. You have no negative thoughts about the past or the future. You have no guilt or worry. You have zero-level stress because you have eliminated self-centered

thoughts. You think from your heart with kindness and the mind with creativity.

Reasons why people are not their true authentic selves: (1) People don't think they are smart enough (2) People fear the consequences of being their true selves. People don't want to experience failure, criticism, or ridicule. However, these are life's events regardless of whether you're being your true self or not, and more common if you're trying to be someone else. If you are being your authentic self, failures are learning experiences, and criticism and ridicule are empty words not applying to you as a person. This fear must be overcome by accepting the consequences for a few seconds and moving on. (3) People may want to be their authentic selves but don't know how. A simple, easy solution has not been available until ELP which now serves as a model: stop thinking about yourself and think from your heart and the mind. (4) There is a small dysfunctional group of people who do not want to be their authentic self because their deviant behavior of lying and manipulation gets them everything they want.

This is addicting behavior because they receive a 4-second burst of dopamine pleasure from the accumbens pleasure center when they treat others badly to get what they want. They will go into a rage at the suggestion of abandoning this behavior, not willing to accept and replace the 4-second pleasure with pleasure from thinking from the heart with kindness and giving that lasts a lifetime.

Three fundamental health requirements for being your true self: (1) Live a healthy nutrition lifestyle which is eating the right foods (no added sugar, no added salt, no processed foods) in the right amount at the right time and prepared in a healthy manner. (2) Eight hours of sleep is needed every night which includes six hours for recharging the brain energy and two hours of dream sleep for feelings of kindness from the heart and enabling a peak functional prefrontal lobe for appropriate social judgment. (3) One hour of exercise every day is needed for energy and body strength by mixing it up with walking, running, treadmill, elliptical, or swimming along with weights, yoga stretches, and group sessions.

Implementation of these three health requirements will provide the energy, resilience, and discipline to be your true authentic self and follow the principles of ELP. A healthy nutritional lifestyle will prevent inflammation and disease. Sleep will provide peak functioning prefrontal cortex for healthy social judgment. Exercise will provide energy for the day.

ELP model for being your authentic self by thinking from your heart: The ELP is knowing where you're thinking from and provides a model for being your authentic self. Think from your heart with kindness to yourself. If people make a mistake or fail, then they criticize themselves or wallow in self-pity. These self-destructive thoughts are stress, which is unproductive because if you're stressed you can't think from the mind to create solutions to help yourself or help others. Self-compassion is always there especially during downtimes, while the popular term, self-esteem will abandon you during troubling times.

Giving with expecting nothing in return is from the heart and is being your authentic self. On life's success ladder, givers are on the top with takers or head thinkers far below; however, givers are also on the bottom because they give without considering their own self-interests. This can be prevented by first reviewing your situation and balancing this with giving. Other feelings include appreciation and gratitude. It feels good to be grateful for the people in your life who take nothing from you and for the positive experiences in your life. Forgiving comes from the heart and eliminates stress by stopping the anger loop.

Finally, empathy comes from the heart because it's a healthy response to consider other people's perspective rather than the self-centered response from the stress center.

Here are examples showing the difference between non-human reptilian thinking and human thinking from the heart. You're excited about an upcoming special event, and you want to share this with your spouse or friend. They respond with an instant angry attack "NO" because they don't like the idea. You're left speechless and want to run away.

You're relaxing with friends having a coffee, when your family member disrupts the enjoyment by yelling, "You ruined by life." Media blasts you and makes you feel guilty and bad about yourself claiming you did an injustice 200 years ago.

Where does this self-serving behavior come from? It's not a human response from the heart. It's an instinctive crocodile response from the head amygdala anger center and the cingulate stress center. You respond from the same primitive brain region, instinctively wanting to get away.

A healthy response for the first example is from the heart by sharing the excitement and exploring the details with enthusiasm. You may not want to do this eventually, but you will have a positive conversation about it that will last indefinitely instead of being left with anger and not wanting to talk to the person ever again.

The response to the media blast is to be your true authentic self and not believing these words, and know these words have nothing to do with you as a person. This is taking the negative consequence of being yourself and letting empty threatening words move beyond you.

Be your authentic self. Think from the heart, not from the head. Be a heart-thinker, not a head-thinker. The takeaways for thinking from your heart and being your authentic self include being kind to each other and considering the other person's situation. This means being kind to yourself and appreciation for what people do for you and for the positive people in your life who take nothing from you. This means being grateful, content, and happy with what you have in the moment.

The ELP model for being your authentic self by thinking from the mind: In the context of ELP, the brain and the mind are two separate locations. The brain is the physical organ in the head. The mind is the universe outside the brain and the body. The brain is for life-saving instinctive reactions in a severe automobile accident or a fallen tree. The mind is for creativity and innovation. The mind is for attention and courage. The brain is limited. The mind is unlimited. The brain is selfish. The mind is inspirational.

The brain has primitive thinking with anger and self-centered thoughts causing stress, and the brain operates in the beta-brainwave state at 14-cycles per second and cannot access the mind.

The human brain can connect with the mind in the normal waking beta 14-cycles-per-second brainwave state. However, the human brain can connect with the mind in the slow alpha 10-cycles-per-second or theta 7-cycles-per-second brainwave state, separating itself from all other living beings.

These brainwave states occur during sleep; therefore, you need to learn to be in these brainwave states while awake to use the mind. Learn the feeling of this slow brainwave state through traditional transcendental meditation or eyes-open meditation. Once you recognize the alpha state, then use this to explore the mind on an as needed basis to solve problems, innovation, and help others as well as to experience the deep feelings of calmness, total acceptance, and exuberate joy.

II. CONCLUSION

The Eplerian Life Philosophy (ELP) is a model for people to be their true authentic self. ELP is knowing who you are moment by moment which means know where you're thinking from one of five locations, head, heart, gut, body, or the mind, which is outside the body. To always be your true authentic self means thinking from your heart with kindness and giving; and thinking from the mind with creativity to solve problems and help others, courage to be your true self, and inspiration to improve the world. Eliminate thinking from the head anger center and head stress center. The head is selfish. The heart is kind. The mind is inspirational for making the world a better place.

Conflicts of Interest: The author declares no conflicts of interest.

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Virtual Autism and the Influence of Screens on Children's Development

Gesika Vianna Amorim, Mariana Fernandes Ramos dos Santos, Pietro Amorim Cavichini & Viviani Borges Martins.

ABSTRACT

The growing abusive use of screens, such as smartphones, tablets and computers, has increased during and after the pandemic, raising concerns about its impact on children's healthy development. This scenario is a concern in contemporary society, especially when evaluating its potential impact on children. This article addresses the implications of excessive screen use on child development, including its relationship with Autism Spectrum Disorder (ASD). Excessive time spent on electronic devices has been linked to negative effects on social skills.

Keywords: screens. human development. autism. social skills.

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Virtual Autism and the Influence of Screens on Children's Development

Autismo Virtual E a Influência Das Telas No Desenvolvimento Da Criança

Gesika Vianna Amorim[α], Mariana Fernandes Ramos dos Santos[σ], Pietro Amorim Cavichini[ρ] & Viviani Borges Martins[ω]

RESUMO

O crescente uso abusivo de telas, como smartphones, tablets e computadores, tem aumentado durante e após a pandemia, gerando preocupações sobre seu impacto no desenvolvimento saudável das crianças. Este cenário é uma inquietação na sociedade contemporânea, especialmente quando se avalia seu potencial impacto nas crianças. Este artigo aborda as implicações do uso excessivo de telas no desenvolvimento infantil, incluindo sua relação com o Transtorno do Espectro Autista (TEA). O excesso de tempo gasto em dispositivos eletrônicos tem sido associado a efeitos negativos nas habilidades sociais. Além disso, o uso intensivo de telas pode atrasar o desenvolvimento da linguagem, afetando negativamente as habilidades de comunicação em crianças de 6 a 24 meses. Outrossim, o uso excessivo de telas pode prejudicar habilidades cognitivas, tais como atenção, memória e função executiva, e apresenta também problemas relacionados ao sono, devido à exposição à luz azul que afeta a produção de melatonina, um hormônio regulador do sono. Os achados sugerem que o uso excessivo de telas pode levar a alterações no desenvolvimento do córtex pré-frontal, uma área crucial para funções executivas. No contexto do TEA, o uso excessivo de telas pode agravar os sintomas, incluindo sensibilidade sensorial, sobrecarga sensorial, comportamentos estereotipados e distúrbios de atenção. Para promover um uso saudável de telas, é fundamental que os pais estabeleçam limites apropriados, monitorem o conteúdo acessado e incentivem atividades físicas, sociais e educacionais fora do ambiente digital, somado à busca de orientação profissional com avaliação individualizada e o desenvolvimento de estratégias equilibradas para o uso de telas, garantindo o bem-estar geral das crianças em seu desenvolvimento cognitivo e social.

Considerando que, apesar de as telas oferecerem oportunidades educacionais, seu uso deve ser equilibrado com interações sociais presenciais, que são fundamentais para o desenvolvimento saudável das crianças.

Palavras chave: telas. desenvolvimento humano. autismo. habilidades sociais.

ABSTRACT

The growing abusive use of screens, such as smartphones, tablets and computers, has increased during and after the pandemic, raising concerns about its impact on children's healthy development. This scenario is a concern in contemporary society, especially when evaluating its potential impact on children. This article addresses the implications of excessive screen use on child development, including its relationship with Autism Spectrum Disorder (ASD). Excessive time spent on electronic devices has been linked to negative effects on social skills.

Additionally, intensive screen use can delay language development, negatively affecting communication skills in children aged 6 to 24 months. Furthermore, excessive use of screens can impair cognitive abilities, such as attention, memory and executive function, and also presents problems related to sleep, due to exposure to blue light that affects the production of melatonin, a sleep-regulating hormone. The

findings suggest that excessive screen use can lead to changes in the development of the prefrontal cortex, an area crucial for executive functions. In the context of ASD, excessive screen use can worsen symptoms, including sensory sensitivity, sensory overload, stereotypical behaviors, and attention disorders. To promote healthy screen use, it is essential that parents establish appropriate limits, monitor the content accessed and encourage physical, social and educational activities outside the digital environment, in addition to seeking professional guidance with individualized assessment and the development of balanced strategies to the use of screens, ensuring the general well-being of children in their cognitive and social development. Considering that, although screens offer educational opportunities, their use must be balanced with face-to-face social interactions, which are fundamental for the healthy development of children.

Keywords: screens. human development. autism. social skills.

I. INTRODUÇÃO

O uso abusivo de telas tem se tornado uma preocupação crescente na sociedade contemporânea, especialmente quando se trata do impacto que isso pode ter na vida das crianças. À medida que a tecnologia se torna cada vez mais presente em nosso cotidiano, é importante compreender os possíveis efeitos negativos que o uso excessivo de telas pode ter no desenvolvimento infantil, incluindo a relação com os sintomas do Transtorno do Espectro Autista (TEA).

O uso abusivo de telas tem se tornado cada vez mais comum durante e pós Pandemia, trazendo consigo uma série de preocupações em relação ao seu impacto no desenvolvimento saudável. O tempo excessivo gasto em frente a dispositivos eletrônicos, como smartphones, tablets, computadores e televisões, tem levantado questões sobre os possíveis efeitos negativos nas habilidades sociais, cognitivas e emocionais das crianças. Além disso, existe uma discussão em andamento sobre a relação entre o uso de telas e o Transtorno do Espectro Autista (TEA), uma condição neurológica que afeta a interação social, a comunicação e o comportamento.

O TEA é uma condição neurodesenvolvimental caracterizada por dificuldades na interação social, comunicação e comportamentos repetitivos ou estereotipados. Embora a causa exata do TEA ainda seja desconhecida, sabe-se que fatores genéticos e ambientais desempenham um papel significativo em seu desenvolvimento. Nesse contexto, os pesquisadores têm explorado a possível relação entre o uso de telas e o aumento dos sintomas associados ao TEA.

Nesta perspectiva, este texto explora as preocupações em relação ao uso abusivo de telas na vida das crianças, bem como os medicamentos frequentemente associados ao TEA. É importante lembrar que o objetivo deste texto é fornecer informações introdutórias sobre o assunto, e que uma avaliação completa e um acompanhamento especializado são essenciais para compreender melhor o impacto específico do uso de telas em cada criança e lidar com o TEA.

1.1 As Telas E Os Comprometimentos No Desenvol- vimento

O uso de telas não é somente direcionado a estimular a cognição, e, aplicativos que geram o contato e, a inserção do foco da pessoa desde pequeno, algumas descobertas atuais indicam preocupações perigosas, sendo fundamente que sejam consideradas, bem como também levar em conta outros fatores e o equilíbrio geral do ambiente de uma criança.

O uso excessivo de telas pode impactar o desenvolvimento da linguagem em crianças, mas especificadamente, um atraso. Um estudo publicado na revista JAMA Pediatrics em 2017 analisou a exposição de crianças a dispositivos eletrônicos em diferentes faixas etárias. A pesquisa descobriu que o uso frequente de dispositivos eletrônicos estava associado a um maior risco de atraso na aquisição da fala em crianças de 6 a 24 meses de idade (MADIGAN et al., 2017).

Nas habilidades cognitivas foi apontado prejuízo, onde, evidências sugerem que o uso excessivo de telas pode afetar o desenvolvimento de habilidades cognitivas, como atenção, memória e função executiva. Um estudo publicado na revista JAMA Pediatrics em 2019 mostrou que o uso excessivo de dispositivos eletrônicos em crianças de 2 a 5 anos estava associado a resultados superiores em testes de desenvolvimento de habilidades de linguagem expressiva e recepção, alfabetização precoce e funções executivas (CHONCHAIYA et al.,2019).

Estudos têm demonstrado que o uso excessivo de telas pode estar associado a prejuízos no desenvolvimento cognitivo, como déficits de atenção, memória e habilidades de resolução de problemas (LILLARD, AS, LI, H., DRELL, MB, RICHEY, EM, BOGUSZEWSKI, K., & SMITH, ED, 2015).

Outro estudo investigou a relação entre o uso de telas (TV e videogames) e o desenvolvimento de problemas de atenção em crianças. Os resultados sugerem que altos níveis de exposição podem contribuir para a ocorrência de déficits de atenção (SWING, EL, GENTILE, DA, ANDERSON, CA E WALSH, DA, 2010).

Apresenta também problemas de sono, justificado pela exposição à luz azul nas telas antes de dormir, podendo afetar a qualidade e a duração do sono das crianças. A luz azul surpreende a produção de melatonina, um hormônio que regula o sono. Um estudo publicado na revista Pediatrics em 2015 demonstrou que a exposição noturna à luz conectada por dispositivos eletrônicos está associada a uma maior dificuldade em adormecer, uma menor duração do sono e pior qualidade do sono em crianças e adolescentes (FALBE et al., 2015).

Outra pesquisa relata que a exposição à luz azul restrita pelas telas pode afetar o sono das crianças. Estudos mostram que o uso de dispositivos eletrônicos antes de dormir está associado a dificuldades para dormir e distúrbios do sono em crianças (HALE, L., GUAN, S., E GRUPO DE TRABALHO SOBRE TEMPO DE TELA E SONO, 2015). Essa revisão sistemática de estudos destaca a associação entre o uso excessivo de telas e distúrbios do sono em crianças e adolescentes.

Ainda sobre os impacto na qualidade do sono, pesquisas indicam que o uso de telas antes de dormir pode interferir na qualidade do sono das crianças, devido à exposição à luz azul restrita pelas telas (HIGUCHI et al., 2015). Isso pode resultar em dificuldades para dormir, distúrbios do sono e sonolência diurna.

Dentro destes fatores, foca-se a atenção no aumento do risco de problemas de saúde mental, onde alguns estudos sugerem que o uso excessivo de telas está associado a um maior risco de problemas de saúde mental em crianças e adolescentes. Um estudo publicado no periódico JAMA Psychiatry em 2019 mostrou que o uso de mídias sociais estava associado a um aumento significativo nos sintomas de depressão em adolescentes. Além disso, o uso de dispositivos eletrônicos por mais de uma hora por dia foi associado a um aumento no risco de TDAH em adolescentes (TWENGE et al., 2019).

O uso excessivo de telas pode afetar a socialização das crianças. A interação face a face é essencial para o desenvolvimento de habilidades sociais, como a comunicação não verbal, a empatia e a capacidade de estabelecer relacionamentos saudáveis. O uso excessivo de telas pode substituir ou limitar essas emoções, provocadas em dificuldades sociais, isolamento e menor competência social (UHLS et al., 2014).

Outra pesquisa que enfatiza as habilidades sociais e emocionais afirma que o uso excessivo de telas pode interferir no desenvolvimento das habilidades sociais e emocionais das crianças, prejudicando a empatia, a interação social presencial e a interpretação das emoções (MCHALE, SM, DOTTERER, AM, & KIM, J.-Y, 2009)

Um estudo realizado por Uhls e colegas (2014) examinou os efeitos do uso de dispositivos eletrônicos em um acampamento de cinco dias sem acesso a telas. Os resultados apreciaram que os participantes que passaram menos tempo em telas entusiasmaram maior habilidade de

decodificar emoções não verbais em comparação aos que passaram mais tempo em telas.

Há evidências de alterações também neuropsicológicas por conta do uso das telas, podendo destacar o córtex pré-frontal como a área que desempenha um papel crucial no desenvolvimento das funções executivas, que inclui habilidades como controle inibitório, planejamento, tomada de decisão e regulação emocional. O uso excessivo de telas pode interferir nesse desenvolvimento, uma vez que o cérebro infantil é altamente plástico e suscetível a influências ambientais.

Pesquisas sugerem que o uso excessivo de telas pode levar a um menor desenvolvimento do córtex pré-frontal. Estudos de neuroimagem funcional apreciam que crianças com maior exposição a telas apresentam uma redução na atividade do córtex pré-frontal durante tarefas de controle inibitório e tomada de decisão (GIANOTTI et al., 2018; LIN et al., 2015).

Além disso, a exposição excessiva a estímulos rápidos e altamente atrativos das telas pode levar a um ambiente de superestimulação, afetando a observação a autorregulação e a capacidade de concentração, que são fundamentais para o desenvolvimento do córtex pré-frontal (GENTILE et al., 2012).

É importante ressaltar que essas descobertas são preservadas em estudos observacionais e correlacionais, o que significa que não é possível estabelecer uma relação de causa e efeito direto entre o uso de telas e esses comprometimentos. Outros fatores, como o conteúdo acessado nas telas e o contexto em que são usados, também podem influenciar os efeitos. Portanto, é essencial adotar uma abordagem equilibrada e consciente ao uso de telas, levando em consideração o bem-estar geral da criança.

1.2 Os Agravamentos de Crianças e Adolescentes com TEA

As crianças com TEA geralmente enfrentam desafios na interação social e na comunicação. O uso excessivo de telas pode agravar essas dificuldades, o que repercute em uma interação social limitada, uma vez que pode substituir as sociais face a face, consideradas essenciais para o desenvolvimento de habilidades sociais e de comunicação. Estudos mostram que crianças com TEA que passam longas períodos em frente às telas podem apresentar um menor envolvimento social e menor interação com os outros (KUO, ORSMOND, COHN, & COSTER, 2014).

O TEA está associado a uma maior sensibilidade sensorial em relação a estímulos visuais, auditivos e táteis. O uso prolongado de telas, que muitas vezes envolve estímulos visuais intensos, sons altos e interação tátil com dispositivos eletrônicos, pode contribuir para uma sobrecarga sensorial em crianças com TEA. Isso pode levar ao aumento da ansiedade, irritabilidade e dificuldades de autorregulação (AMERICAN ACADEMY OF PEDIATRICS, 2018).

Algumas crianças com TEA podem exibir comportamentos estereotipados, como movimentos repetitivos ou fixação em padrões visuais específicos. O uso excessivo de telas pode agravar esses acontecimentos, uma vez que a interação com dispositivos eletrônicos pode se tornar uma fonte de estímulo repetitivo ou de interesse obsessivo. Embora o uso de tecnologia possa ter benefícios terapêuticos em algumas circunstâncias, é importante garantir um equilíbrio saudável e supervisionar o uso das telas (MAZUREK, SHATTUCK, WAGNER, & COOPER, 2012).

Num estudo de revisão de literatura, o autor explora a relação entre o uso de telas e problemas de atenção em crianças com TEA. Os resultados indicam que os efeitos do uso da mídia digital nas habilidades de atenção podem variar entre os indivíduos com TEA (FERGUSON, CJ, 2015).

É essencial que as famílias de crianças com TEA busquem orientação profissional especializada, como de terapeutas ocupacionais, fonoaudiólogos e psicólogos, para avaliar e gerenciar o uso de telas de acordo com as necessidades individuais de cada criança.

Um dos principais efeitos do uso abusivo de telas na vida da criança é a diminuição do tempo dedicado a atividades físicas, sociais e cognitivas

essenciais para um desenvolvimento saudável. A exposição prolongada a dispositivos eletrônicos pode levar a um distanciamento social presenciais, prejudicando o desenvolvimento de habilidades sociais e de comunicação. Além disso, o uso excessivo de telas tem sido associado a atrasos na linguagem e na comunicação, dificuldades na regulação emocional, comportamentos estereotipados e alterações nos padrões de sono (CHONCHAIYA et al., 2018; MAZUREK et al., 2012).

No estudo realizado em investigaram o uso de mídia por crianças com TEA e seus irmãos sem TEA. Os resultados apreciaram que as crianças com TEA tendem a usar mais mídia eletrônica, incluindo telas, em comparação com seus irmãos (MAZUREK, MO, & WENSTRUP, C., 2013).

Num estudo sobre as famílias de adolescentes e adultos jovens com TEA relataram preocupações sobre o uso excessivo de laptops, indicando que isso poderia sentir o envolvimento social e a interação familiar (ORSMOND, GI, KUO, HY, & SELTZER, MM , 2009).

No contexto do TEA, alguns estudos sugerem uma possível associação entre o uso excessivo de telas e agravamento dos sintomas característicos da condição. Considerando que, crianças com TEA podem apresentar maior sensibilidade sensorial, e o uso prolongado de dispositivos eletrônicos, que frequentemente estimulam visuais intensos e sons altos, podem contribuir para uma sobrecarga sensorial. Além disso, o uso de telas pode intensificar comportamentos repetitivos e estereotipados observados em indivíduos com TEA (MAZUREK et al., 2012).

No estudo apresentado, embora não se concentre especificamente em crianças com TEA, este estudo examina os efeitos dos videogames no comportamento agressivo e pode ter uma compreensão intuitiva dos possíveis efeitos do uso de telas em crianças com TEA (ANDERSON, CA, & DILL, KE, 2000).

Já, no estudo realizado em comparação com o público infanto juvenil, foi constatado que crianças e adolescentes com TEA apresentam maior uso de mídias em tela, como computadores e videogames, em comparação com seus pares típicos (MAZUREK, MO, SHATTUCK, PT, WAGNER, M., & COOPER, BP, 2012)

No artigo escrito pela Academia Americana de Pediatria aborda as recomendações específicas relacionadas ao uso de telas em crianças com TEA. Ele destaca a importância de monitorar e limitar o tempo de tela, levando em consideração as necessidades individuais de cada criança (ACADEMIA AMERICANA DE PEDIATRIA, 2016).

É importante ressaltar que a relação entre o uso de telas e o TEA ainda é objeto de estudo e não há consenso absoluto na literatura científica. Mais pesquisas são necessárias para compreender plenamente essa associação e seus sentimentos subjacentes. No entanto, é recomendado que os pais e cuidadores adotem práticas saudáveis de uso de telas, estabelecendo limites apropriados e promovendo um equilíbrio entre o tempo de tela e outras atividades importantes para o desenvolvimento infantil.

II. CONSIDERAÇÕES FINAIS

Em conclusão, o uso de telas para crianças é um tema complexo e ambivalente. Embora as telas possam oferecer benefícios cognitivos, como acesso a informações educacionais e desenvolvimento de habilidades digitais, também é evidente que seu uso excessivo pode ter consequências negativas, principalmente no desenvolvimento das habilidades sociais.

É importante reconhecer que as telas não devem ser vistas como inerentemente prejudiciais ou tolerantes, mas sim como uma ferramenta que deve ser utilizada com equilíbrio e sabedoria. O impacto das telas varia de criança para criança, e cada indivíduo tem necessidades e características únicas.

Para garantir um uso saudável das telas, é essencial que os pais e cuidadores estabeleçam limites apropriados, monitorando o tempo e o tipo de conteúdo acessado. Além disso, promover a participação em atividades físicas, sociais e educacionais fora do ambiente digital é fundamental para o desenvolvimento global da criança.

Embora as telas possam oferecer oportunidades educacionais e de entretenimento, é essencial que sejam equilibradas com expressões sociais presenciais. As habilidades sociais são fundamentais para o sucesso na vida cotidiana e para o desenvolvimento de relacionamentos saudáveis e duradouros.

Em última análise, o uso de telas pelas crianças é um fenômeno atual e em constante evolução. É necessário um equilíbrio entre os benefícios cognitivos e as consequências potenciais para as habilidades sociais. Um acompanhamento profissional adequado, como o de um neuropsicólogo, pode auxiliar na avaliação individualizada do impacto das telas e no desenvolvimento de estratégias saudáveis para o uso dessas tecnologias, garantindo o bem-estar global da criança em seu desenvolvimento cognitivo e social.

As pesquisas aqui apresentadas, destacam algumas das preocupações relacionadas ao uso excessivo de telas e fornecem insights sobre os possíveis comprometimentos que podem afetar o desenvolvimento das crianças. É importante ressaltar que o campo de pesquisa está em constante evolução, e mais estudos são necessários para uma compreensão.

Contudo, é importante ressaltar que a relação entre o uso de telas e o TEA ainda não está completamente compreendida, e mais pesquisas são necessárias para esclarecer essa questão. O uso de telas pode ter efeitos variados em diferentes crianças com TEA, uma vez que cada indivíduo é único em seu perfil de desenvolvimento. É fundamental buscar uma avaliação profissional adequada para compreender as necessidades individuais de cada criança e implementar estratégias para equilibrar o uso de telas com outras atividades importantes para o seu desenvolvimento saudável.

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Bodily Pain as an Organiser of the Early Self: Apropos a Series of Seven Typical Cases

Rainer Krause, Lutz Goetzmann, Barbara Ruettner & Adrian M. Siegel

University of Lübeck

ABSTRACT

Based on a series of clinical experiences characterised by patients' attempts to prevent the examination of parts of their body experienced as the cause of chronic pain, we speculated as to what dynamics might be behind this conflict. It was postulated that, if not moderated by the mother, early pain is linked with this very same maternal introject and must be preserved as the sole remaining organising core to prevent fragmentation. These pains, which we understand as early bodily sensations, evaluate a symbolically, imaginarily or asymbolically organised phantasm that is in many cases purely phenomenal, i.e., pre-propositional.

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Rainer Krause[α], Lutz Goetzmann[σ], Barbara Ruettner[ρ] & Adrian M. Siegel[ↀ]

ABSTRACT

Based on a series of clinical experiences characterised by patients' attempts to prevent the examination of parts of their body experienced as the cause of chronic pain, we speculated as to what dynamics might be behind this conflict. It was postulated that, if not moderated by the mother, early pain is linked with this very same maternal introject and must be preserved as the sole remaining organising core to prevent fragmentation. These pains, which we understand as early bodily sensations, evaluate a symbolically, imaginarily or asymbolically organised phantasm that is in many cases purely phenomenal, i.e., pre-propositional.

Morgenthaler's model of a filling formation was used here as a theoretical framework. Generalising, reference is made to the coupling of drive actions and affect, according to which a drive action that is inappropriate for the affect serves to sedate the very same affect that points to a usually traumatic situation.

Author ρ: Correspondence address: Department of Psychology, MSH Medical School Hamburg, Am Kaiserkai 1, 20457 Hamburg, Germany; barbara.ruettner@medicalschool-hamburg.de
α: German Psychoanalytic Society, Saarbrucken Germany.
σ: University of Lübeck, Clinics for psychosomatics, psychiatry and psychotherapy.
ↀ: Department of Neurology, University Hospital Zurich.

THE EPIGENETIC LANDSCAPE (SPITZ)

The 'Cone' Model

In this paper, we deal with the question of how very early childhood experiences are depicted in adulthood, especially in analysis. We assume that the relationship and attachment experiences of the small child lead to specific formations of the synaptic connections long before the existence of anything like stable mental representations.

Nevertheless, all the experts assume that these apparently unrepresented experiences have a profound specific influence on later psychological life (Braun *et al.* 2002). One might also postulate the existence here of a massive non-representable influence on the immune system, for which there are numerous highly valid indications. Whether the failure of the immune system has an unconscious or conscious correlate must remain open to debate. If it does at all, it consists of retroactive constructions centred around the phenomenon of having no boundaries (e.g. no skin).

From a biological perspective, we assume that these early synaptic impressions experience a new affective-cognitive transcription or formulation with each development, specifically, while preserving the essence of the previous development. We take our cue *inter alia* from Spitz's theory of the so-called "epigenetic landscape" (1972). In this theory, human development is represented as a cone projected into a landscape. The time around birth is the culmination:

> The first organiser is found in unstable equilibrium on the tip of the topmost cone; it can roll down the outer surface of the cone somewhere within a 360degree radius to come to rest at a particular point on the periphery of the circle that forms the base of the cone. There it becomes a second-order organiser, the point where it forms irreversibly determining some of the further developmental lines (Spitz 1972, p. 51 f.). *Figure 1* depicts such a developmental landscape:

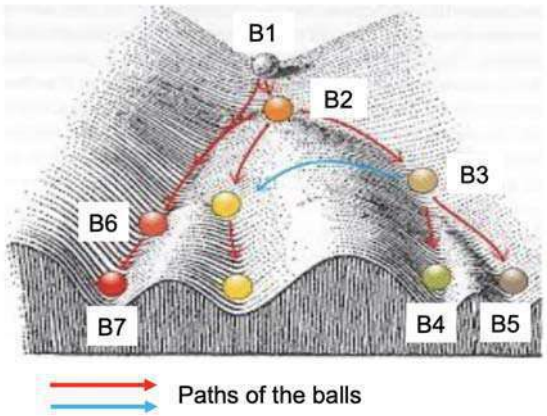

Figure 1: 'Epigenetic' landscape (adapted from Mueller & Hassel, 2018)

> The development is described as a traversing of paths, or, if you will, sunken paths. At any given time, the individual can only be on one of the paths. The stretches traversed imbue the individual with his characteristics, and the depth of the sunken paths represents the difficulty experienced by the individual in abandoning one path for another. Once traversed, a trajectory defines the next routes that are possible in principle. It is not possible to retrace one's steps on such routes. The interactions of the genetic and peristatic conditions, i.e., the interactions of the psychobiological conditions, determine which route is traversed. The consecutive 'paths' correspond to the various 'motivational systems', particularly to the attachment/ security system, the relationship controls associated with the latter (in the sphere of autonomy, but also in the sphere of desire, i.e., of eroticisation and seduction).

Before we come to pain as an organiser of the early self, let us visualise this complex process of the various reworkings using the example of a set of fetishistic symptoms. The following case histories are clearly connected with an early disorder. Even so, the sexual impetus and the striving for autonomic regulation are unmistakable. The fetish forms an agglomeration of various forms of representation that are ready to be summoned as a highly stable part of the personality.

Case History 1: Mr M. and the Life Jacket

When Mr M. was 4 years old, he discovered – whilst going through an oedipal reorganisation – the life jacket as a perverse fetish. In Spitz's model (see Fig. 1), the ball B assumes specific positions over the course of development, on which early and current forms of representation solidify in the life jacket fetish. The ball B1, which marks the tip of the cone, consists e.g., in the experience of 'drowning' without the mother's support. The child is helpless. He cannot be without the mother. In a birth experience, this state would be one of complete helplessness. According to Winnicott (1974), B1 could be the state of a breakdown. Thus, the life jacket (B2) is the new version of a mother without whose physical presence survival cannot be ensured. When the jacket is fastened, it is supportive and lifesaving.

It was then supposed to have a particular smell, which would remind him of his earlier childhood world. Later, in adulthood, further paths are covered; the ball then assumes the B3–B5 positions. The life jacket now becomes a fetish that his partners wear: it keeps his partner alive.

It is a means of autonomic regulation or an instrument of domination that shackles and holds the object tight, and is ultimately a tremendously stimulating, visually sexual representation of a part of the body when it is worn during coitus *a tergo* by his partner and her head protrudes like a glans from the skin-like jacket.

We are therefore dealing with an invention that is re-illustrated and redevised at each of the outlined developmental stages (B2–B5). Any object that becomes associated with this invention and its variants is built into their structure. Sexuality only becomes involved over the course of oedipal

development. In the earlier phases (B1, B2) it is a wholly existential matter, e.g., it concerns the integrity of the body image or the granting of a fundamental autonomy.[1]

II. PAIN AS AN EARLY ORGANISER OF THE SELF

We applied this logic of the translation of early experiences into other, 'higher' forms of representation to explain a number of clinical constellations that will be described below.

Case Histories 2–5

Mr K., a very gifted, professionally competent man, was unshakeably convinced that he had a brain tumour, which triggered the severest of symptoms such as episodic visual impairment, shortness of breath, headaches and thought disorders. He was a member of the profession. There was no reason to assume that he was faking the symptoms, or that they were driven by a conversion-like dynamic. Nevertheless, at no time was he prepared to be seen by an expert diagnostician.

Ms G. could detect a very painful lump in her left lower abdomen which at bad times she assumed with certainty to be a malignant growth. The existence of this growth seemed as certain to her as her will not to have it examined. She had developed a very pronounced panic reaction to doctors which had nearly led to hospitalisation in the psychiatric ward, since both the experts and her husband were of the opinion that this symptom needed to be examined.

Mr. M., a 45-year-old former sportsman of great talent who now weighed 140 kg, had put on an enormous amount of weight following two accidents from which he had not recovered. At the time of treatment, he was scarcely able to walk. He had severe abdominal pains, especially when he was trying to sleep. His body grumbled with mysterious ailments and he was oppressed by dreadful aches and pains, especially when he was inactive, which because of his weight was the usual case. With all the technology at their disposal, including a stomach MRI, the doctors were unable to find a somatic correlate or reason for the pain, which distressed the patient, particularly since creating an image of his body had entailed huge effort and expense.

Ms P. was born shortly after the parents of her mother – a minor – had passed away within a few months of one other. The baby had been completely unplanned, effectively an "accident" in a conservative rural Alpine region. The mother was completely overwhelmed, and scarcely took care of the unwanted child, either during the mourning period or later, when she moved to the next town. In her first year, Ms P. was taken care of by an aunt on a neighbouring farm. The mother rejected the child, blaming her for her early unhappiness. As far back as the earliest years of her childhood ("as far back as I can remember"), Ms P. could recall the feeling of an inner emptiness and lifelessness. Later, Ms P. made every effort to secure her mother's love with over-the-top behavioural adjustments. Often, however, she felt depressed. She tried to ignore her emptiness with non-stop work (as an architect), but this strategy was destined to fail over the long term. She had a breakdown, suffered from a number of medical issues, some of them very serious, including a stroke, and had to give up her job. The only thing that remained was the pain. As soon as she woke, the pain would be there. Everything ached: her connective tissue, her periosteum, her head. She lived on a disability pension in the suburb of a fairly large town, in one of the conurbation's typically grim blocks of flats. Possibly, even as a baby that feels abandoned, unloved and helpless, she would have experienced bodily pain of this kind, from the

[1] Thus, in the phases focused on at the start of analysis, Mr M. had developed a toilet ritual in which he stimulated his prostate by placing a finger up his rectum to produce pleasurable convulsive discharges until he was "empty and clean". Since it was he, who pleasured himself in this fashion, he had created the fiction of producing seemingly female orgasms for himself as a man. This was a great narcissistic achievement, corresponding to an integration of the female and male parts on and in his own body. By doing this, he simultaneously emptied himself of a 'bad' introject that he had associated with faeces. He felt clean in the truest sense of the word. However, he was sure that he had induced a malignant growth through excessive stimulation of his rectum. All these acts with curative connotations at the same time possess a highly destructive potential.

muscular tension and the desperate turmoil of the autonomic nervous system. Perhaps the pain had then become the core of her self, whose gravitational field held the other layers of the self together. But then Ms P. managed to find other solutions: mature relationships, her profession. It is possible, however, that the non-represented condition of pain remained in her core, continuing to serve the purpose of cohesion.

During the 'breakdown', now an adult, her body again collapsed. Lacan (2006, p. 78) speaks of a "fragmented body" (*corps morcelé*) when the body, despite having passed through the entire mirror stage, fragments once again. In this crisis situation, the pain stood out more distinctly. That very pain, as an organiser of the self, now strode onto the stage of representation.

Case History 6 (Research Interview)

As part of a qualitative research project, we asked hospitalised patients with somatoform pain to take part in two interviews and to paint a total of three pictures in the interval between the interviews. Among others, the theme of floodgate of feelings was suggested. In the first interview – in other words, before painting the three pictures – one of the participants reported on her first few days in the clinic, while she was suffering from great loneliness and was worrying about the breaking-off of various relationships[2]:

> Ms A.: So, I was sweating from the pain. And one morning I actually cried with rage, you know, lying on my back. Although I take Doxepin, so, that's always been a great help to me, at home I only needed one tablet, and here, I've noticed, I don't know, it may be the surroundings, it's a change, isn't it? No family here, and everything's new, the people are new, uh, I've naturally brooded a great deal and thought about things and simply couldn't put an end to my thoughts.

Interviewer (L.G.): What were you thinking about?

> Ms A.: Oh, it's, it's small stuff (laughs). So, um, I'll, I'll tell you what I think about at home, I always think about things that could happen. When this and this happens like, like I'd like it to, then that can happen, or, or if my daughter, for example, doesn't get home promptly, or my partner, or I can't reach my friend, then I always think she's been in an accident, and then I'm practically (laughs), in quotation marks, right, tearing my hair out, because I'm thinking that something has actually happened to them. I always get quite aggressive at home then, you know?

She then painted the following picture:

Figure 2: 'Floodgate of Feelings' (Case history 6)

In the second interview, which was conducted after the three pictures were painted, Ms A. reported on the various instances of mental and physical abuse, undermining and humiliation that she had experienced since early childhood. She related that she had been raised by her grandmother for the first few years of her life; her parents had no interest in her. Although we do not know what the grandmother felt about the baby, Ms A. forms a positive figure in her memory. The Interviewer (I.) enquires:

> I: "May I ask you, does it also hurt physically, when your mother…" (Ms A. interrupts him)
>
> Ms A.: Of course (with emphasis). So, the emotional is transferred to the body, isn't it, and, uh… it's simply, it also hurts, when… - it's just so tense, that also hurts physically.

[2] For the methodology of the study, the consent of the Ethics Committee (University of Lübeck) and further results see Ruettner *et al.* (2021).

The above picture (in *Figure 2)* was seen in our group of researchers (cf. Ruettner *et al.*, 2021) as the expression of a state of intense pain (since it shows a figure that is burning). Ms A. commented on her work thus:

> Ms A.: I wish I were like that! (laughs)
> I.: In what way?
> Ms A.: Yes, well, I, hm, I think, I'm standing totally (stresses the word) on the ground, with both feet, right? Um, my hands stretched out, straight, and I'm letting, like, I want to say, my aura, I don't know how I should express it.
> I.: Hm, I understand.
> Ms A.: Right? And, um...
> I: And the orange here...
> Ms A: I, I, yes, yes, um, it also had a lot [to do] with love (stresses the sentence), right? And, and, um, yes, I'm just, that's me, and everyone is, everyone will be alone at some stage, will simply die, right? So, I'm responsible for myself, and I intend to do something for myself, and, and as I said, I need to sense this aura, and, um, yes... (Pause)...
> I.: Are you looking to the back here, or into the picture?
> Ms A.: Right, no, into the picture.
> I.: And why is it lighter here and darker here?
> Ms A: No idea, because I, sort of, hm, yes, because I'm perhaps blazing. This is fire, yes, yes, yes, and sometimes one burns.

In her picture and explanations, it seems to us, the utter painfulness of this patient's physical and emotional state is represented: A human being that is burning – and who looks into the fire, into the fiery hell, it would appear, but the fire (pain) keeps her upright: as if it were in fact the organiser of the self, so that the patient can laugh and say "I wish I were like that!" (just like Ms P. in the previous case history sees only – emotional – death as an alternative to pain).

Of course, the phenomena that patients experience and feel have a physiological and physical correlate; it's just that they cannot be associated with a known causal theory of illness.

Mr M. was not consciously aware of any mental fantasies about the origin of his pain or any mental correlates of the pain, outside of the fact that there was something there that hurt. It was liquid or gaseous. Admittedly, when asleep he had a whole host of highly extended persecution fantasies that seemed far more dreadful to him than the pain, so that we can say that the pain protected him from the dreams. In all these cases we may observe that there is a dialectical tension between having the pain on the one hand and the panic-stricken fear of objectivising this pain on the other. The panic feeds on two sources: firstly, on the fear that there might actually be an illness or disease, i.e., that something is wrong with the body; and secondly, on the fear of giving up the (life-preserving) pain. Let us now consider the unconscious mechanisms underlying this tendency.

III. PAIN AS AN ORGANISER OF THE PROTOSELF

As part of a provisional heuristic, the hallucinated infliction of pain on oneself or others may be understood, within the meaning of Morgenthaler, as the filling of a gap, as with a sexually perverse act (Morgenthaler 1984). That is 'nothing'. And this nothing is filled with pain, since emptiness would be unbearable. The emptiness is filled with a physical sensation, and this physical sensation can be pain. The psychosomaticist Sami Ali assumes an emotional-physical whole that he calls a "psychosomatic totality" (Sami Ali, 2006, p. 15 ff., see also Leiser, 2007, p. 183). The basis of this totality is the "imaginary body" which develops in an "imaginary space" and later centres this space, i.e., becomes its constitutive focus. It arose through early mirror experiences between the child and the primary object: through mirror effects that lend this space its imaginary quality.

Widmer (1997, p. 30) points to the multiplicity of the imaginary mirror forms, ranging from the sensory perception of the mother's breast and skin, and her warmth and smell in general, to the intonation of her voice, all the way to her gaze.

Into this space the child now projects its real, previously unconscious bodily experience.

Because the projection serves to help create its *own* self, we speak – with reference to Lacan's idea of intimacy / extimacy – of an intimate projection. But the mother too will not only return to that space – ideally in a processed manner – that which she receives from her child, but – now via an extimate projection – her own contributions: her own affect, but also her own bodily states. Thus, the pain constituting the core of the infant protoself can stem from the child as well as the mother – or, as an amalgam, from both. This protoself, which develops via mirror effects and projections, contains early experiences of warmth, security, stability, well-being, but also of coldness, emptiness, pain or excruciating excitation. Damasio (2011, p. 33 ff.) speaks of a "bodily protoself" whose further development follows the "core self" (with emotional qualities in particular) or the in-cognitive-terms more highly structured, affectively differentiated "autobiographic self" that tends to belong to the symbolic order. This protoself survives as a living, or even as a wounded, damaged, dead core of the self: a core of events of bodily states that implicitly reminds us and can be updated repeatedly throughout one's lifetime. *Figure 3* shows the mirroring and projective effects for the creation of the protoself.

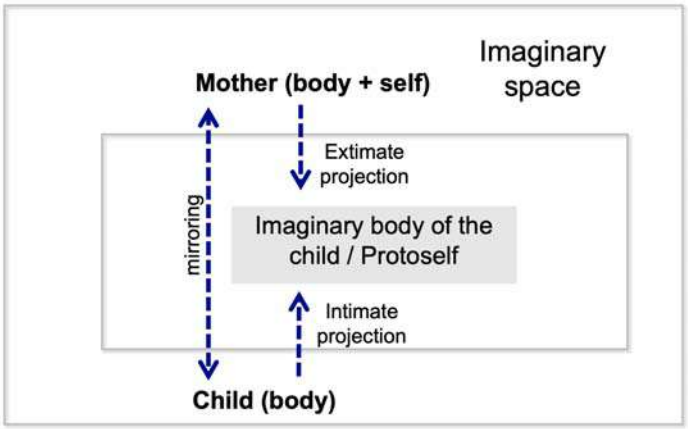

Figure 3: Origin of the Protoself

These mirroring and projection processes can be understood by invoking the concept of a reflective mirror function, which Lacan described *inter alia* in his Seminar X (2010, p. 68). At a formal-logical level, Marc Heimann (2022, 2023) introduced the concept of the 'mirror operator', which explains how mirror relationships function between logical spaces.[3]

In Seminar X, Lacan (2010, p. 69) distinguishes between a 'perverse' and a 'neurotic' structure, in which a mirror operation of this sort takes place. The 'perverse' subject knows nothing about object a but the voice or gaze of the Other.[4] This subject is split ($) insofar as object a is completely unconscious. This mirror relationship can be described as follows (Lacan, 2010, p. 69; Heimann, 2022 and 2023):

$$A \quad a \mid \$$$

In this formula, a denotes the real object a, and $\mid$ denotes the mirror operator. A denotes the mirror, $ is the split subject. The mirror operator

[3] In the case of the mirror operator, the mirror is not an imaginary one. Nor is it material. From a mathematical perspective, an 'operator' is first of all a function acting upon certain variables in one space in order to generate variables in another space. The mirror operator is the symbol denoting the operation taking place between these spaces. As part of a logical operation, it is actually symbolic, i.e., as part of the logical operation it belongs to the symbolic register. The mirror operator denotes the procedural operation connecting the 'original' with its 'mirror image', i.e., it organises the process of signification.

[4] 'Object a is an internal object that exists in the real Unconscious. Originally conceived as imaginary, i.e., as a mirror effect having its origin in the Other, over the course of Lacan's thinking object a increasingly contains a real, i.e., unconscious, non-represented character, despite the fact that Lacan never completely gives up the original idea of a mirroring between the Other and the unconscious of the subject (Evans, 2002, p. 205).

causes the real object a (e.g., pain) to be 'built into' the Protoself. This is the situation of the early breakdown (*in Figure 1:* B1). It is possible that this Real (i.e., Non-represented) is, so to speak, carried along in the further development of the personality, i.e., in a personality that is increasingly mature and capable of behaving more or less autonomously in relationships. In this case, the real object a could be translated into the Imaginary-Phantasmic. If object a is 'translated' into the Imaginary, Lacan (2010, p. 69) then speaks of a 'neurotic structure'. In this sense, a (in our case, pain) is real in the 'perverse structure' formula, whilst a in the following 'neurotic structure' formula is imaginary, i.e., the subject (S) is aware of the pain (or experiences the pain as part of his body image).

$$A \quad S \mid a\,\$$$

This formula states that the subject S contains both the unconscious object a and the split subject \$. 'Subject S' means a subject that corresponds to the interpretation of idealist philosophy in terms of an undivided autonomy (Heimann, 2022). In the event of a further breakdown (e.g., as part of Ms P's professional and personal crisis), pain, which is revealed in the imaginary body image, will once more have the task of organising a collapsed body. Hence, Ms. P's statement: "If I don't *feel* any pain, I'm dead."

We assume that pain constitutes a possible original form of a 'representation', long predating the development of more-mature representations. These effects are already possible in the prenatal period, assuming that babies already possess a phenomenal consciousness (Goetzmann & Janus, 2023). Here, the meaning of the picture should be noted: Olfactory and auditory perception are short and fleeting, and require endless repetition until they become one object, and then another object that is independent of the experiencer.[5] By contrast, the mother's image can be stable when the infant looks at her. If conditions are favourable, the image of the mother's face can moderate, modify and comment on physiological processes, including that of pain. It can calm these physiological processes. If the mother is absent, i.e., if there is no meeting at the visual level and the child does not succeed in finding itself in its mother's gaze, then the pain is not moderated or modified sufficiently. If the mother is actually present but is also depressive, i.e., casts a numb, lifeless look at her child, pain may be associated with the image of this (emotionally) "dead mother" (Green 1983). Above all, however, pain – despite its dreadfulness – is possibly the most suitable physical-emotional experience for guaranteeing the child's survival. Pain becomes a lifejacket, long before the child knows what pain or lifejackets are. Pain fills the vacuum, the emptiness, it fills the hole, and it becomes, so to speak, the grain of sand around which the protoself develops with the absent or non-reacting 'dead mother'. The ball at the tip is emptiness, and on its further trajectories, this ball is filled with pain. The deep unconscious will to first hallucinate pain, then hold on to it with all one's strength, may derive its impetus from this. Another possibility is that the pain replaces the 'dead' introject of the mother. At later stages of development, it remains a not-(yet) representable introject that is in search of a sensory medium of representation, which it sometimes even finds.

In some of the cases we have described, pain is a representation of the dreadful-yet- stabilising maternal introject. Then, as shown by Novick and Novick (1991), taking on the pain of others could even be built into one of the highly archaic fantasies of grandeur that function according to the model of "when I 'have' my mother, she is freed from it". Pain is then an 'extimate symbol' (Niendorf & Goetzmann, work in preparation), i.e., a symptom whose origin is to be located in the unconscious of the Other. In this respect, it is 'ex-centred' (Lacan 2019a, p. 12). To a certain extent, the flip side of this is inflicting pain onto another; through this act, the patient has disposed of this 'dreadful' mother into another body, in an 'act of divine creation'.

Just as the fetish is an inanimate object between body and drive into which life is breathed in the sexual act, the creation of pain in one's own body is a process akin to a perversion which puts an

[5] Our thanks to PD Dr. Med. Alf Gerlach for the following thoughts.

end, at least in the short term, to the dreaded near-psychotic fear of complete loss of autonomy, to the feeling that one is fragmenting. In this context, initiating and feeling pain, and even taking part in the pain inflicted on others, could be a royal road to the temporary recovery of a narcissistic balance through feeling 'self-inflicted' bodily pain. This pain needs no more be 'real' than the fetish is animate. The key issue is what affect accompanies this pain.

IV. PAIN, AFFECT AND DRIVE ACTION

Pain can be associated with various affects. The following vignette may serve as an example:

Mr X. was nearly 50 and married with children. To his own surprise, he had a very intense coming out as a "homosexual". Within the context of a passionate sexual relationship, the patient increasingly engaged as a passive partner in the technique commonly referred to as 'fisting' – allowing himself to be penetrated by the fist and forearm of his partner. In the normal course of things, one would expect this practice to be associated with pain. However, Mr X. described it as a "peak experience" that caused him no pain whatsoever. No conscious fantasies fuelling such behaviour could be found.

In Mr X.'s case, however, the following may be important as context: orientation towards his own sex was not associated with the renunciation of women; rather, he was turning in a masochistic-symbiotic manner to his mother, who at this time had a bowel obstruction and was noticeably declining. In identifying with his mother, it is possible that Mr X. experienced this sexual practice as a vital healing of his gravely ill parent. The obstructed bowel was transformed into a vagina that was capable of sensation. The pain of the fisting was transformed into pleasure. The dead mother, who had declined irreparably, was transformed via identification into a female being who revelled in sex. Krause (2012) has described in detail such new creations – McDougall (2001) speaks of "neosexualities" – in their consolidative capacity. We assume that this high consolidation applies both to sexual enactments and to the experience of pain as an enactment of earlier traumas.

On the Internet there are a wealth of recordings, primarily of lesbian couples, that clearly contradict the assumption that this practice must be associated with pain; however, there is scarcely a description that does not allude to great trepidation, at least with regard to the initiation.

When the experience is a success, one finds descriptions like the following: "It was a peak experience to feel her so deep inside me, each finger movement triggered an orgasm." At the same time, the visual perception of the excitement of the lover being penetrated by one's arm is described as "tremendous", or in any case as very intense. This "pleasure-pain" could be compared to Lacan's female *jouissance*: to a traumatic enjoyment that is constitutive for the subject's self-organisation. In situations where there is an extreme threat of fragmenting, the *jouissance* becomes an organiser of the self.

V. PAIN AND UNPLEASURE

In early psychoanalysis, the avoidance of sensations of unpleasure and the maximisation of the opposite, namely, sensations of pleasure, were understood as a basic anthropological constant of human regulatory processes. Pleasure was defined as the result of the reduction of drive stimuli, *inter alia* pain. Unpleasure would then be the opposite, namely an increase in drive stimuli. The idea of the avoidance of unpleasure became key, right down to the understanding of dream events, since dream work, after all, aimed to maintain the conflict-ridden but pleasurable drive satisfaction through the process of deciphering. This did not work in practice, however. Total freedom from drive stimuli is unpleasurable, and pain and feelings of unpleasure that even Freud was not able to understand as pleasure-concealing techniques make an appearance in the traumatic dreams.

Thus, when the dreams of accident neurotics regularly lead patients back into the setting of the accident, they are not serving the purpose of wish fulfilment in doing so. These dreams seek to catch up on stimulus mastery during the development of anxiety, the omission of which has become the cause of the traumatic neurosis (Freud 1920, p. 32).

This is a very exciting idea, in which Freud maintains that the reason for the repetition is not the trauma per se, but the lack of protection from the stimulus, for example in the form of anxiety development during the traumatisation. The people are, so to speak, taken by surprise, and something along the lines of a dissociation could then occur. Subsequently, they develop an anxiety as a coping mechanism.

VI. SYMBOLIC CONVERSION

Where unconscious fantasies are fuelling or even causing the bodily process, we may be dealing with a symbolic conversion. In the classic interpretation of conversion, "unconscious internal conflicts that are meant to be relieved by a body-language symptom" (Egle 1996, p. 352) are assumed. By definition, conversion as a defence mechanism requires at least one further defence process, namely that of making the conflict unconscious. Usually, 'displacement' is invoked for this. On this basis, hysteria was conceptualised early on as a disease entity with a special potential for explaining psychogenic pain (Freud 1895). The fact that bodily symptoms could be an expression of an unconscious, e.g., oedipal, conflict tends to be overlooked in the "age of the post-oedipal society" (cf. Soiland, Frühauf & Hartmann, 2022).

In the above-mentioned study (Ruettner *et al.*, 2021) it was shown that the threat of castration from a third party (regardless of whether this be the mother or father) is especially likely to be expressed in physical neurosis conversion disorders. The greater the likelihood of a traumatic vulnerability, the more severe the experience of the castration threat, which can then manifest mainly as physical disorders, e.g., pain (ranging from fibromyalgia and abdominal pain all the way to urethral disorders in both sexes). We could well imagine, within the context of Spitz's landscape, that early bodily pain that had led to the organisation of the early self is now used as symptoms to express aspects of a psychoneurotic conflict.

VII. METATHEORETICAL CONSIDERATIONS

In phylogeny, affects arose as non-specific appetences leading to definitive or final drive actions. In Pavlov's dog, salivation is the affective anticipation of the act of eating. Internally, this can probably be depicted as desire and appetite. In any case, based on this 'reflex', which is actually not a reflex, the animal can be conditioned – though only when it is 'in the mood to eat'. If another 'mood' – or, if you will, another drive – for example the removal of an enemy, rival or obstacle – is relevant to the action, the appetence affect is rage, and this in particular can also be used for conditioning, but only when the subject is in a mood of rage. The salivation reflex cannot be activated in this mood; in other words, the affect must match the drive or mood. Thus, sexual copulation as a consummatory action generally assumes bonding and courtship behaviour and hence positive affects: otherwise, the two would not come together. We have attempted to show here that a series of 'solutions' employed by patients consists in their trying to control or sedate an affect that they find unbearable – for example, grief or fear (usually about the loss of the object) – by mobilising a drive action that is not actually compatible with the affect (Krause 1993, p. 192). A similar consideration was developed not long ago by Grossman (2015). He postulated that, in addition to everything else, sadism, masochism and sadomasochism above all have an "object-preserving" function (Grossman 2015, p. 644).

Thus, a series of combinations that are actually unforeseen, like anxiety–appetite, rage–appetite, disgust–appetite and grief–appetite can arise. One of the problems of these solutions is that the drive assumes the quality of the affect. Drives are switched off by consummatory actions. For affects, there is no closing signal. After the consummatory action the anxiety / disgust / grief has increased rather than decreased, because it is now associated with contempt and revulsion, since the patient in fact knows that the action was harmful. This can be the basis for an addictive development.

Pain, as we have tried to show, can be associated with very different affects, and it is always available or involved in the form of one's own bodily experience. Hence, pain must intrinsically be experienced as an exclusively negative feeling. Pain can also be seen as the archetype of perversion. The delusional element can also attach itself to the body or the periphery of the body, for example, thinking that one is too fat, or being certain that one has scars on one's face, breasts that don't match, or too small a penis. Thanks to modern technology, surgical correction of the delusion is not associated with pain, although surgical slimming can be borderline. Like all perverse acts, however, the correction is only temporarily effective, since the unbearable affect of emptiness cannot be avoided in this way and the behaviour develops into an addiction, with the need for ever-greater doses.

In former times, the culture supporting such phantasms would always have taken this sort of pain in children in its stride; one need only think of the crippling of girls' feet or the deformation of infants' skulls in many of the world's cultures. The sexual significance of this fetishisation of body parts remained unconscious. It was probably more a question of beautification. The enforcement of this cruel beautification, which not least of all took its lead from masculine desire, was left to women. What this means for women among themselves remains to be researched. R.K. vividly remembers the mixture of rage and despair expressed by an intellectual mother, a teacher from Bougoni in Mali, when, during the holidays and without her knowledge, her daughter was taken by her mother – i.e., by the child's grandmother – for genital cutting.

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Stress Level in Parents with Premature Children Hospitalized in the Neonatal Intensive Care Unit in Hospital Del Niño Dr. José Renán Esquivel During the Month of July 2022

Cano, Mariam, Linero, Karen, Coronado, Luis & Herrera, Daniel

ABSTRACT

Introduction: A premature birth is an unexpected event for the parents, generating fear, anxiety and guilt, due to the culmination of the pregnancy and the condition of the baby. mothers with a premature child are three times more likely to have postpartum depression.

Advances in technology have increased the chances of survival in premature infants, but they are prone to complications in the medium and long term.

Materials and methods: An observational, descriptive study was carried out, applying a survey to 52 parents with premature infants less than or equal to 36 weeks of gestational age (SEG), who remained 7 or more days hospitalized in the Neonatal Intensive Care Unit (NICU). in the Neonatology Unit of the Dr. José Renán Esquivel Children's Hospital, during the month of July 2022, transferred from the Santo Tomás Hospital.

Keywords: neonatal intensive care unit, premature babies and stress level.

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Stress Level in Parents with Premature Children Hospitalized in the Neonatal Intensive Care Unit in Hospital Del Niño Dr. José Renán Esquivel During the Month of July 2022

Nivel De Estrés en Los Padres Con Hijos Prematuros Hospitalizados en La Sala De Cuidados Intensivos Neonatal Del Hospital Del Niño Dr. José Renán Esquivel Durante El Mes De Julio Del 2022

Cano, Mariam[α], Linero, Karen[σ], Coronado, Luis[ρ] & Herrera, Daniel[Ω]

RESUMEN

Introducción: Un parto prematuro es un acontecimiento inesperado para los padres, generando miedo, ansiedad y culpa, por la culminación del embarazo y la condición del bebé. La madre con un hijo prematuro es tres veces más propensas a tener una depresión post parto.

El avance de la tecnología ha aumentado las probabilidades de supervivencia en los prematuros, pero son propensos a tener complicaciones a mediano y largo plazo.

Materiales y métodos: Se realizó un estudio observacional, descriptivo, aplicando una encuesta a 52 padres con prematuros menor o igual a 36 Semanas de Edad Gestacional (SEG), que permanecierón 7 o más dias hospitalizados en Unidad de Terapia Intensiva Neonatal (UCIN), en la Sala de Neonatología del Hospital del Niño Dr. José Renán Esquivel, durante el mes de Julio del 2022, trasladado del Hospital Santo Tomás.

Resultados: Según los resultados de nuestro estudios, los padres se percibieron de nada a levemente estresados en un 69.2%, pero al subdividir las escala en el nivel de es trés extra e intrapersonales, en esta última cursaron con un nivel de estrés de moderado a extremadamente estresante en 75%, por lo tanto, el 94.2% expreso el deseo contar con un grupo de apoyo.
Conclusión: Es indispensable para los padres contar con un grupo de apoyo.

Palabras clave: unidad de terapia intensiva neonatal, prematuros y nivel de estrés.

Conflitos de intereses: Las autoras declaran no tener ningún conflicto de interes.

Fuente de financiamientos del estudio: La presente investigación no ha recibido ayudas del sector público, sector comercial o entidades sin ánimo de lucro.

ABSTRACT

Introduction: A premature birth is an unexpected event for the parents, generating fear, anxiety and guilt, due to the culmination of the pregnancy and the condition of the baby. mothers with a premature child are three times more likely to have postpartum depression.

Advances in technology have increased the chances of survival in premature infants, but they are prone to complications in the medium and long term.

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Results: According to the results of our studies, 69.2% of parents perceived themselves as not at all to slightly stressed, but when subdividing the scale into extra and intrapersonal stress levels, in the latter they had a moderate to extremely stressful level of stress. in 75%, therefore, 94.2% want to have a support group.

Conclusion: It is essential for parents to have a support group.

Keywords: neonatal intensive care unit, premature babies and stress level.

Conflicts of interest: The authors declare that they have no conflict of interest.

Study funding source: This research has not received support from the public sector, commercial sector or non-profit entities.

Author α σ: Médico Residente del Servicio de Pediatría, Hospital Del Niño Dr. José Renán Esquivel, Cuidad de Panamá correo electrónico.
ρ: Médico Especialista Pediatra, Hospital Del Niño Dr. José Renán Esquivel, Cuidad de Panamá.
Ↄ: Médico Especialista Pediatra- neonatologo, Hospital Del Niño Dr. José Renán Esquivel, Cuidad de Panamá. Correo electrónico.

I. INTRODUCCIÓN

Un nacimiento prematuro es un acontecimiento inesperado para los padres, generando en ellos miedo, ansiedad y culpa; por la culminación temprana del embarazo y la condición actual del bebé. Según estudio reportado la madre de hijo prematuros es tres veces más propensas a tener una depresión post parto que las madres con hijos a término.[1,2]

El avance de la tecnología ha aumentado las probabilidades de supervivencia en los prematuros, pero de igual manera los hace propensos a tener complicaciones a mediano y largo plazo.[2,3] Lo cual hace indispensable que en las unidades de terapia intensiva se cuente con un grupo de apoyo para favorecer a mitigar el estrés en los padres.[4]

La Organización Mundial de la Salud define, prematuro como todo aquel recién nacido menor ó igual de 37 semanas de edad gestacional (SDG) y el recién nacido a término, desde las 37 a 42 SDG; por lo cual, la prematuridad es un desafio en el campo de la Neonatología, es un factor de riesgo de mortalidad y discapacidad infatil.[1,3]

En la actualidad los nacimientos de prematuros representan el 10% del total de nacimientos a nivel mundial y son la primera causa de mortalidad infantil en el primer mes de vida. Gracias a los avances en la medicina y la tecnología, la tasa de superviviencia ha aumento en los ultimos años, pero continúan siendo un grupo con riesgo de padecer complicaciones a corto y largo plazo. [5]

El nacimiento prematuro es una situación inesperada para los padres, causando en ellos miedo, estrés y ansiedad, por la culminación del embarazo de manera temprana; por lo tanto, existe una separación temprana y el recién nacido debe ser trasladado a la UCIN, con la finalidad de preservar su vida.[6]

Durante el postparto las madres tienen el riesgo de cursar con trastornos psicológicos, como la depresión post parto. Según estudios realizado en madres de hijos con prematuros admitidos a la UCIN, se pudo observar que el riesgo de depresión se duplicaba y el riesgo de ansiedad se triplicaba, en comparación con las madres con recién nacidos a término y sano.[2,7,8]

Entre los factores que conllevan que los padres experimenten niveles de estrés, son los factores extrapersonales e intrapersonales, este ultimo con un mayor impacto, debido a la insatisfacción con la culminación del embarazo y la pérdida de la función materna; alterando el rol madre e hijo, por lo tanto, el apego.[2]

El propósito del estudio es medir y describir el nivel de estrés que presentaban los padres con hijos prematuros menor o igual de 36 SDG, admitidos a UCIN del Hospital del Niño Dr. José Renán Esquivel durante el mes de Julio del 2022.

El nivel de estrés en los padres fue evaluado con la encuesta de Escala de Estrés Parental, el cual constaba de 26 items, evaluando situaciones intrínsecas y extrínsecas que vivieron los padres mientras se encontraba el paciente en la UCIN.

Según datos recabados del boletín informativo del Hospital del Niño Dr. José Renán Esquivel, durante el año 2020, se alcanzarón cifras de nacimiento de 9,324 de los cuales, un 18.3% requirieron ser hospitalizados en la Sala de Neonatología 2; Lo cual, nos indica que cada año se reciben aproximadamente a 1000 madres o padres con hijos admitidos a UCIN. [9,10]

II. MATERIALES Y MÉTODOS

Se realizó un estudio observacional, descriptivo, aplicando una encuesta a 52 padres con hijos prematuros menor o igual a 36 SEG; que permanecieron hospitalizados 7 ó mas días en la UCIN del Hospital del Niño Dr. José Renán Esquivel, durante el mes de Julio del 2022. Trasladados de la maternidad del Hospital Santo Tomás.

La escala de estrés parental fue creada por dos enfermeras de la Escuela de Enfermería de la Universidad de Kansas, Margareth Shandor Miles y Melba C. Carter[8]. Es un instrumento de carácter multidisciplinario, desarrollado para medir y evaluar el estrés de los padres con hijos admitidos a una Unidad de Cuidados Intensivos Pediatrico; La versión en lengua castellana fue validada en España por Ochoa y Polaino- Lorente.

La versión adaptada consta de 26 items, que se dividieron en 5 subescalas de estrés parental, como: el aspecto y sonido de la unidad, apariencia y conducta del neonato, relación y rol de los padres, comunicación con el personal y la puntuación del estrés percibido por los padres:

La segunda parte de la encuesta fue creada por los autores para obtener información sociodemográfica de la población panameña; iniciaba con la pregunta ¨en los últimos 6 meses usted ha tenido alguna condición de enfermedad mental o se encuentra bajo medicación¨, de ser su respuesta ¨si¨, se concluía con la encuesta.

Los padres deberían responder cada items, siguiendo una escala de respuesta en formato Likert, el cual consta de 6 opciones que oscilan de 0 como una situación no experimentada, 1 no estresante, 2 poco estresante, 3 moderadamente estresante, 4 muy estresante y 5 extremadamente estrés; entendiéndose que a menor puntaje menor estrés y mayor puntaje mayor estrés.

2.1 Población y diseño de muestra

Universo: Padres con hijos prematuros menor o igual de 36 SGD, hospitalizados en la Sala de Neonatología 2, área de Unidad de Cuidados Intensivos Neonatal del Hospital del Niño Dr. José Renán Esquivel.

Muestra: Padres con hijos prematuros menor o igual de 36 SDG; hospitalizados más de 7 días en el área de Unidad de Cuidados Intensivos Neonatal, en la Sala de Neonatología 2 del Hospital del Niño Dr. José Renán Esquivel.

2.2 Tamaño de Muestra

Este estudio estuvó conformado por 52 padres con hijos admitidos a la UCIN, durante el mes de Julio del 2022, que cumplían con los criterios de inclusión y deseaban participar.

La muestra se obtuvo del boletín informativo del año 2020 del Hospital del Niño Dr. José Renán Esquivel; donde se reportó, aproximadamente 9,324 nacimientos en el Hospital Santo Tomas (HST), de los cuales 1706 ameritó ser trasladado a Sala de Neonatología 2, cada mes se reciben 60 prematuros menor o igual a 36 SDG, proveniente del HST.

Según datos calculados en Epiinfo para determinar la muestra, con un nivel de confianza del 95% se requerían 53 padres para encuestar.

Criterios de inclusión

1. Padres de todo Prematuro Menor o Igual a 36 SDG, hospitalizados en la Sala de Neonatología 2, área de la Unidad de Cuidados Intensivos Neonatal del Hospital del Niño Dr. José Renán Esquivel.
2. Padres con hijo recién nacido prematuro y trasladado del Hospital Santo Tomás.
3. Padres con hijos prematuros con mínimo 7 días de hospitalización en UCIN.
4. Padres que firmaban el consentimiento informado voluntariamente.

Criterios de exclusión

1. Padres analfabetas.
2. Padres con alguna enfermedad de salud mental o bajo medicación de alguna enfermedad mental, previa a la hospitalización del prematuro.
3. Padres que no firmaban el consentimiento informado.
4. Padres de todo prematuro nacido en instituciones privadas de la localidad o trasladados de hospitales del interior del país.

Procesamiento para la recolección de datos

Para la recolección de datos se utilizó la escala de estrés parental de Miles y Carter, y se confeccionó un cuestionario de caracterización sociodemográficos y salud.

Plan de analisis de datos

Para el análisis estadístico se utilizó el software EpiInfo; donde se evaluó la distribución de las variables estresantes, de acuerdo con la escala de Estrés Parental y la evaluación de las características sociodemográficas. Se utilizó estadística descriptiva como medidas de tendencia central, frecuencia y porcentaje.

III. ASPECTO ÉTICO

El protocolo se realizó siguiento las buenas prácticas clínicas, la Declaración de Helsinki y las Normativas Nacionales; consta de visto bueno de la Dirección Médica, Departamento de Investigación y Registro en la Dirección General de Salud y fue aprobado por el Comité de Bioética e Investigación del Hospital del Niño Dr. José Renán Esquivel y autorizado por la Jefatura de la Sala de Neonatología del Hospital del Niño Dr. José Renán Esquivel. Las autoras de comprometieron a guardar la confidencialidad de los datos.

IV. RESULTADOS

La mayoria de la población encuestada fue del género femenino (84.6%), entre las edades de 25 a 30 años de edad. La procedencia de los encuestados principalmente provenian de la Provincia de Panamá (43.1%) y Panamá Oeste (25.5%). El estado civil de los encuestados fue de unidos (70%), el grado de escolaridad medio a superiores (84.6%) y escolaridad media (52%); a pesar de esto, la mayoria de los encuestados su ocupación es ama de casa (57.69%) y trabajadores dependiente e independiente (32.69 %). La mayoría desconoce el ingreso económico familiar (44.23%).

La población neonatal en su mayoría nació via césarea de urgencia (57%), con una edad gestacional de 29 a 33 SDG; con un peso al nacimiento entre 1501 – 2500 gramos. La estancia promedio del paciente prematuro, incluyendo intensivo e intermedio fue de 19 días intrahospitalario, desde el séptimo dia de su hospitalización hasta el momento que se les aplicó la encuesta a los padres.

Tabla 1: Característica del recién nacido admitido a UCIN

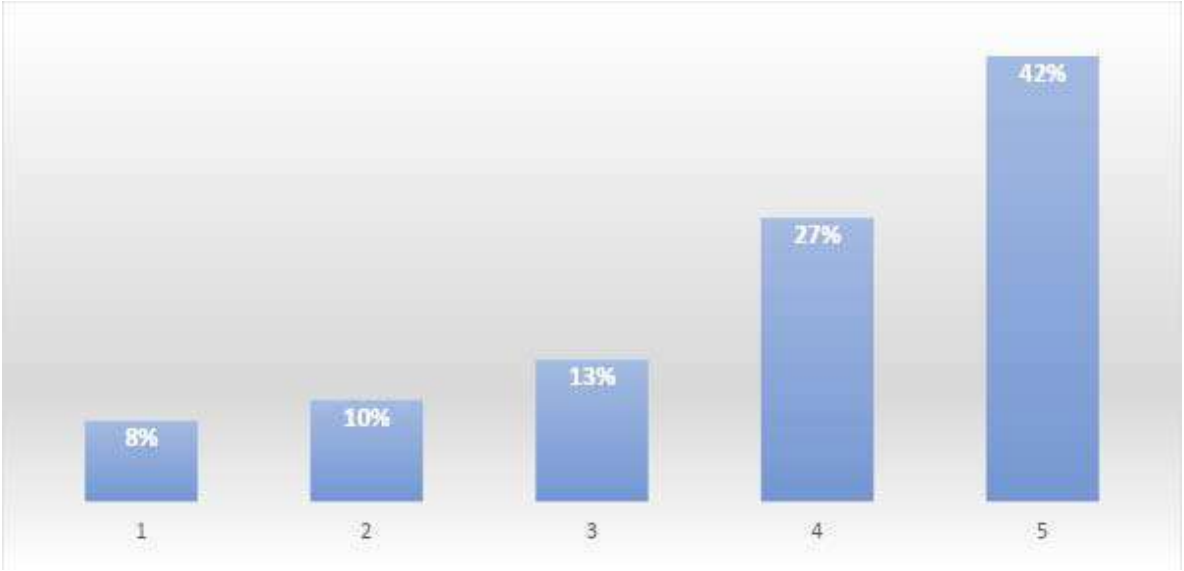
TIPO DE PARTO	FRECUENCIA N = 52	PORCENTAJE %
Cesárea	29	55.77
vaginal	23	44.23
NUMERO DE HIJOS		
1 a 2	33	63.46
3 a 4	16	30.77
5 a 6	1	1.92
7 a 9	2	3.85
EDAD GESTACIONAL (SEMANA)		
< 28	13	25
29 a 33	24	46.15

34 a 36	15	28.85
PESO AL NACER (GRAMOS)		
< 1000 g	13	26
1001 a 1500	15	30
1501 a 2500	21	42
> 2500	1	2

Fuente: Sección de Registro y Estadística de Salud del Hospital del Niño Doctor José Renán Esquivel 2022.

Los niveles de estrés percibidos por los padres durante la hospitalización del prematuro en la UCIN, se calculó que se percibían con niveles de estrés de nada a leve (69.2%) y moderado a extremadamente (30.7%).

Al final de la encuesta se pregunta de manera directa, ¿Cuál es el impacto o grado de estrés que le ha causado la hospitalización de su hijo? Los padres se percibieron que estaban entre moderado a extremadamente estresad (92.31%); en comparación con nada a levemente (7.69%).



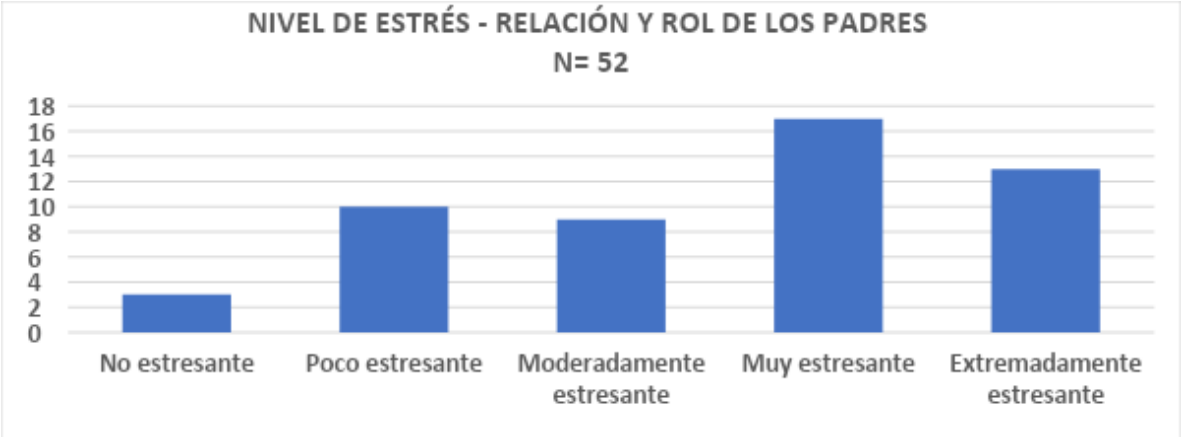
Fuente: Encuesta de estrés parental

Gráfico 1: Nivel De Estrés: Percibido Por Los Padres Durante La Hospitalización

En cuanto al aspecto y sonido de la UCIN se encontrarón levemente estresante (55.77%).

La apariencia y conducta del niño esta ligado a la posición dentro de la cuna/ incubadora, líneas centrales, canalizaciones y del aseo alrededor del neonato encontrandose (53.85%) entre poco a moderadamente estresante.

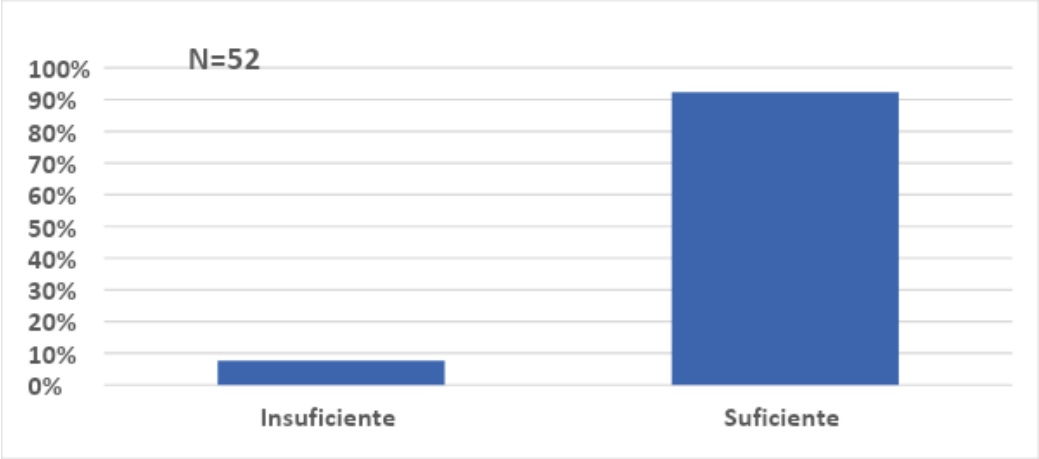
Con respecto a *la relación y rol de los padres*, se calculó un nivel de estrés de moderadamente a extremadamente estresante (75%). Por lo cual, se consideró necesario subdividir este ítem, encontrándose, que los principales factores de estrés de los padres son interpersonales por sentirse inútil acerca de como ayudar a mi bebé durante el tiempo de hospitalización en moderadamente a extremadamente (71.1%); sentirse incapaz de proteger a mi bebé de moderadamente a extremadamente estresante (69.2%); estar separado de mi bebé (88.5%); no poder alimentarlo personalmente (82.7%); y no poder cuidarlo personalmente (86.5%).



Fuente: Encuesta de estrés parental

Gráfica 2: Relación y rol de los padres

En *la relación con el personal de salud y los padres*, refirieron sentirse sastifechos por la información brindada por el personal médico (86.5%); considerando que la información recibida con respecto a la evolución clínica, diagnóstico y tratamiento por parte del personal médico fue percibida como suficiente (92.3%).



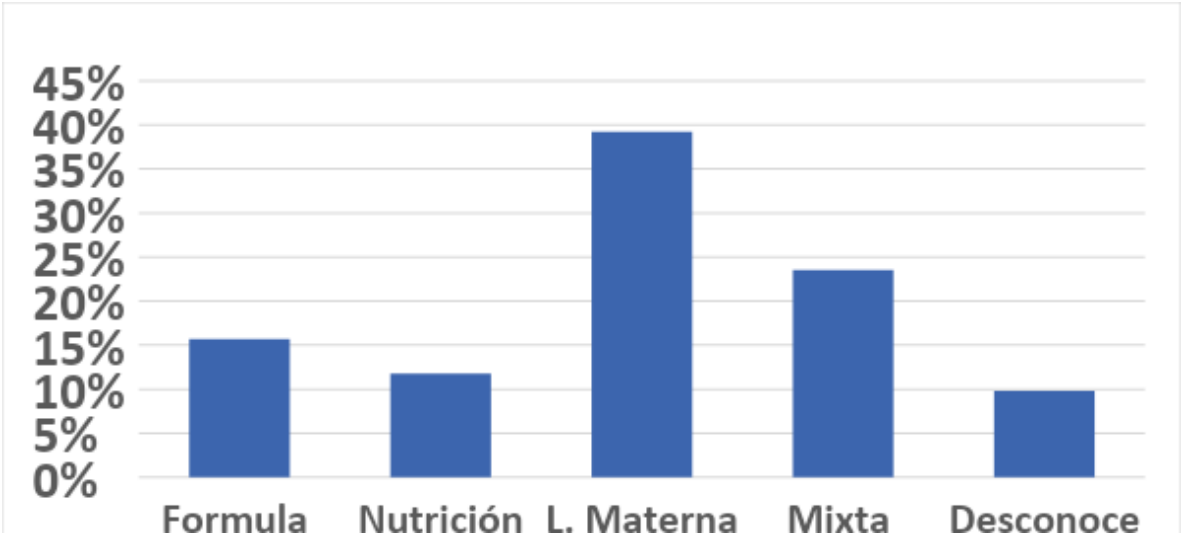
Fuente: Cuestionario De Caracterización Sociodemográfica Y De Salud

Gráfica 3: Información Recibida Por el Personal de Salud

A los padres se les ha permitido apoyar con respecto al cuidado de su bebé en todo momento, lo cual es confirmado (57.7%) y además, se le ha dado la oportunidad de interactuar con su hijo (94.2%).

Sobre el horario de visita, la mayoría de los padres se encontraban conformes con el horario de visita establecido (90.2%).

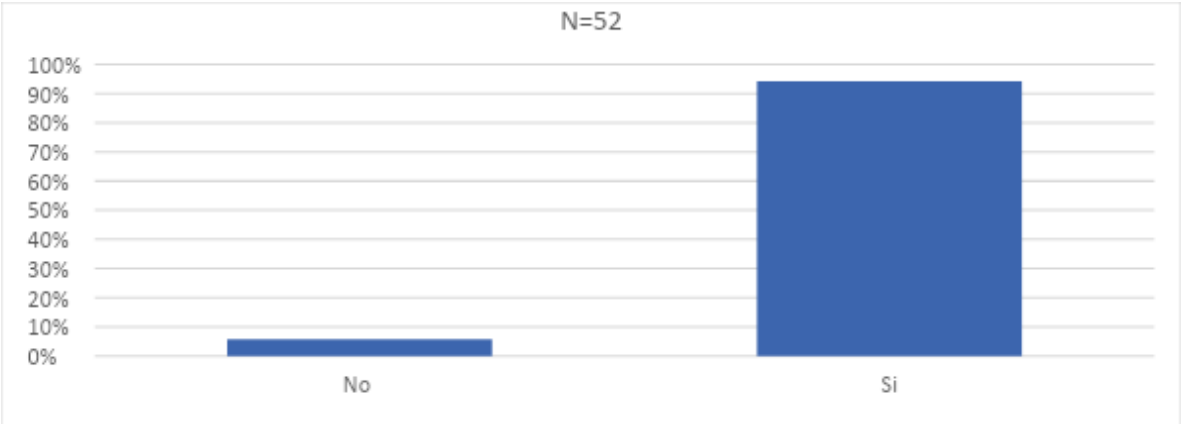
Un 90% de los padres tenía conocimiento de la alimentación que recibieron sus hijos entre lactancia materna (39%), formulada adaptada (16%), mixta (23%) y nutrición parenteral (12%); sin embargo un (10 %) de los padres desconocian que tipop de alimentación recibió su bebé.



Fuente: Cuestionario De Caracterización Sociodemográfica Y De Salud

Gráfica 4: Tipo De Alimentación Recibida Por El Recién Nacido N = 52

Los principales factores ambientales estresantes para los padres durante la hospitalización de sus hijos, fue verlos con una máquina para respirar (80.8%), héridas, cortadas o incisiones en mi bebé (76.9%), tubos y equipo cerca de mi bebé (55.8%); agujas y tubos en mi bebé (78.4%) Los padres desearonque existiera un grupo de apoyo para la compresión y manejo del estrés dentro de la UCIN (94.2%)



Fuente: Cuestionario de caracterización sociodemográfica y de salud

Gráfico 5: Deseo de grupo de apoyo

V. DISCUSIÓN

Este es el primer estudio realizado en la UCIN del Hospital del Niño Dr. José Renán Esquivel, donde se buscaba conocer, el efecto emocional que percibían los padres al tener hijos prematuros hospitalizados. Según los datos obtenidos de la encuesta aplicada, podemos concluir que los padres se perciben de nada a levemente estresados (69.2%), debido a que el neonato ya tenía más de siete días de estar hospitalizado en la UCIN; por lo cual, los padres ya conocían la condición de su bebé, manejaban el diagnóstico y habian entablado una relación con el personal médico. En estudios comparativos, los padres se percibían estresados en un (35 %), pero posteriormente al superar el impacto inicial, las madres recurrían a todos sus recursos para apoyar en el cuidado de su bebé.[7,11]

Al realizar la subdivisión de la escalas de estresores interpersonales y extrapersonales, se

pudo observar que los factores *aspecto y sonido de la unidad*, fue de nada a levemente estresante (55.8%), pero al observar a su bebé con una máquina para respirar fue una situación de moderada a extremadamente estresante (80.8%). En estudio comparativo el nivel del ruido fue poco estresante (92%). [7]

Con nuestro estudio podemos confirmar que los principales factores estresante para los padres son los interpersonales; el cual, se evaluó con la subescala de *relación y rol de los padres;* referían sentirse vulnerables por no poder cuidarlos y alimentarlos personalemente, además, de sentirse inútil de como ayudar a su bebé durante la hospitalización; a pesar de que (57.7%) confirmó que se le permitió ayudar en los cuidados del bebé durante su visita a la UCIN y (94.2 %) se le permitió interactuar con el mismo. En comparación con estudios muchos padres se percibieron de la misma manera debido que desde el momento de la admisión a UCIN, obligaba a los padres depositar su confianza en el personal médico y renunciar a su posición de principal cuidador.[7,12]

En la subescala de comunicación *con el personal de salud,* los padres referían no sentirse estresados (86.5 %), debido a que la información recibida por el personal de salud de la UCIN fue suficiente (92.3%). En estudio comparativo este ítem tuvo niveles de estrés alto en un (80%) debido a que referian que la información brindada por el personal médico y el tiempo de visita eran insuficiente.[7,13]

El manejo de estrés es muy importante para los padres de los pacientes hospitalizados dentro de la Unidad, siendo una unidad conformada principalmente por cuidados intensivos e intermedios, la mayoría expreso el deseo de contar con un grupo de apoyo (94.2%).

Es importante mencionar, durante la aplicación de la encuesta nuestro país se encontraba en emergencia sanitaria por COVID 19, por consiguiente los horarios variaron durante ese tiempo en comparación a la temporada pre COVID 19 y a la actualidad; sin embargo, durante la recolección de los datos los padres tenían acceso a 1 hora de visita a UCIN, la misma variaba de acuerdo a la unidad que se encontraba el paciente.

VI. CONCLUSIÓN

- Los resultados del estudio demuestan que los factores interpersonales, como: no ejercer el rol de padres y cuidador principal, no poder alimentarlo personalmente y estar separado de su bebé,influyeron a que los padres percibieran niveles de estrés altos, durante la estancia hospitalaria del neonato.
- Los resultados demuestran que los padres requieren un soporte emocional durante la hospitalización de sus hijos; ya sea, espiritual o psicosocial para poder resolver las dudas que tienen.
- A pesar de que los padres consideren que el tiempo de visita en la sala es suficiente, consideramos que debemos incluir de manera más activa a los padres en los cuidados personales del neonato, para de esta manera mitigar el sentimiento de sentirse incapaz de como poder ayudar a sus hijos en el proceso de la hospitalización.
- Debemos instruir a todo el personal médico a realizar las intervenciones necesarias en los pacientes y mantener el área de la incubadora con el equipo médico necesario.
- Consideramos apropiado instruir a los padres con un folleto sobre el manejo de la sala y un glosario con los principales términos utilizados en la unidad para una mayor comprensión del cuidado del neonato.

VII. RECOMENDACIONES

- Es necesario contar con un equipo multidisciplinario preparado para atender las necesidades psicosocioemocionales de las familias; así como el desarrollo de espacios de reflexión compartida, para abordar dificultades en el manejo de competencias comunicativas y relacionales.
- Consideramos apropiado la creación de programas de soporte y apoyo emocional, que puedan contribuir al empoderamiento de los padres y a la potenciación de sus capacidades, mejorando su sensación de control, seguridad

y comodidad; de cara a acompañar a sus hijos durante la intervención.

AGRADECIMIENTOS

A todas las participantes del estudio padres e hijos, a la Sala de Neonatología y nuestros asesores por todo el apoyo brindado.

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University Hospital Center Bogodogo

ABSTRACT

Objective: This manuscript aims is to present the difficulties involved in optimizing dosimetric distribution, based on six cases of patients who underwent radiotherapy before or after breast implant surgery. Materials and methods: Clinical characteristics, imaging, anatomical pathological and immunohistochemical data, treatment (neoadjuvant or adjuvant chemotherapy, subcutaneous mastectomy surgery with axillary curage, radiotherapy before or after breast implant placement and difficulties in dosimetric coverage).

Results: Patients aged 37, 30, 48, 32, 44, and 36 years were followed for invasive breast carcinoma of luminal B, triple-negative, Luminal B Her2- positive, triple-negative breast diagnosed by anatomical pathology and immunohisto- chemistry. They received either neoadjuvant or adjuvant chemotherapy, or subcutaneous mastectomy with breast implant or breast prosthesis before or after radiotherapy.

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Radiotherapy with breast implants in the pre-pectoral, retro pectoral, and axilla clavicular CTVs was delivered at a dose of 50 Gy (2Gy per session) or 40.05 Gy (2.67Gy per session). Better optimization of dosimetric distribution was difficult to achieve in the pre-pectoral, retro pectoral, and axilla supra clavicular CTV, as the breast implant was considered a high-risk organ.

Conclusion: Direct, permanent breast reconstruction using a breast implant or prosthesis is an increasingly popular treatment option. It minimizes the psychological, social, and aesthetic repercussions of mastectomy. However, there are still significant challenges to be overcome when adequately planning dosimetric distribution for radiotherapy.

Author α: Department of Radiotherapy, University Hospital Center Bogodogo, Training and Research Unit in Health Sciences, Joseph Ki-Zerbo University, Ouagadougou, Burkina Faso.
σ ρ ↀ ¥ § χ ν Θ: Department of Radiation Oncology, University Hospital Center Ibn Rochd, Faculty of Medicine and Pharmacy, Hassan II University, Casablanca, Morocco.

I. INTRODUCTION

Over the past decade, breast cancer has become the most frequent cancer in women and the leading cause of death [1]. However, data in the literature have confirmed a significant improvement in local control and overall survival in patients with locally advanced disease and, or lymph node metastases [2, 3]. [Approximately 40% of women with breast cancer will undergo mastectomy due to more advanced local and regional disease or individual preference [4], and others will receive post-mastectomy radiotherapy [2]. The social and psychological pressures on women caused by mastectomies have diminished considerably with the advent of immediate or deferred breast reconstruction. This mastectomy resulted in the loss of female sexual characteristics. Today, around 50% of women who have had a mastectomy opt for breast reconstruction to improve their psychological, social, and sexual well-being [4, 5]. Breast

London Journal of Medical & Health Research

reconstruction can be performed at the time of mastectomy (during the same anesthetic) or after several months or even years [4]. With the frequent use of screening tests for various genetic mutations (BRCA1/BRCA2), mastectomy followed by immediate breast reconstruction (IBR) is increasingly indicated [1, 6, 7]. Also, more and more patients, even in the context of post-mastectomy radiotherapy, are opting for immediate breast reconstruction to cope with the aesthetic and psychological consequences of breast loss [4]. The difficulties of irradiating a reconstructed breast may lead to sub-optimal coverage of target volumes by the optimal radiotherapy dose, particularly when locoregional lymph nodes have to be treated along with the chest wall. And this can lead to increased amounts of organs at risk, such as the heart and lungs [4].

However, the current techniques for administering radiotherapy to breast cancer patients who have undergone reconstruction have improved, reducing the radiotherapy planning challenges that once seemed difficult to overcome [8]. Despite improvements in reconstruction and radiotherapy techniques, complications remain without compromising oncological and cosmetic results [8]. This work aims to show the constraints or difficulties associated with immediate breast reconstruction with radio-therapy. We report the cases of six patients, three of whom underwent subcutaneous mastectomy with immediate breast reconstruction and three of whom underwent deferred breast reconstruction.

Observation 1

We report the clinical observation of a 37-year-old female patient with a family history of breast cancer (sister treated for breast cancer at age 38 and aunt treated for breast cancer at age 60), smoker at 15 packs/year, and weaned alcoholic. She presented with a left breast nodule that had appeared three months previously, without mastodynia or nipple discharge. On clinical examination, she was in good general condition, had a type C cup breast, and palpated a nodule measuring approximately 2 cm at the union of the upper quadrants of the left breast, with no axillary or supraclavicular adenopathy. Mammography and breast ultrasound revealed a 21.8 mm nodular lesion at the junction of the upper quadrants, associated with a small focal lesion with no axillary adenopathy. The examination was graded ACR 5. Magnetic resonance imaging of the breasts revealed a tumoral process in the left breast with a 43.7 x 33 x 28 mm mass, diffuse micronodular enhancement of the superior- internal quadrant, and several nodules at the union of the upper quadrants. A microbiopsy of two nodules was performed. Histological examination and immunohistochemistry revealed, for the first mass, an invasive breast carcinoma, non-specific type SBR II, without in situ component or vascular emboli, with estrogen receptors at 100%, progesterone receptors at 0%, Her2 score 1+ negative and Ki67 at 30%; for the second nodule, invasive breast carcinoma, non-specific type SBR II, with no in situ component or vascular emboli, estrogen receptors 100%, progesterone receptors 0%, Her2 score 1+ negative and Ki67 20%. Thoracic-abdominal- pelvic CT scan and bone scan did not reveal any distant secondary lesions.

The clinical case was presented at a multi-disciplinary consultation meeting. Subcutaneous mastectomy with sentinel lymph node and immediate breast reconstruction with breast prosthesis was proposed and performed. Histological examination and immuno histochemistry of the mastectomy specimen and axillary curage revealed a non-specific invasive breast carcinoma, grade SBR 1, measuring 1.5 cm long, with an associated intraductal component of intermediate nuclear grade and comedonecrosis estimated at 10% of tumor volume. There were no perivascular emboli. The deep margin was tumoral, and the other margins were healthy.

There were no lymph node metastases at the 0N+/3N sentinel node. In the immuno histochemical study, estrogen receptors were 80%, progesterone receptors 30%, Her2 negative, and Ki67 30%. The disease was classified as pT1N0M0 Luminal B. The DX Oncotype was requested, and the RS score was 46. The patient then underwent three courses of Epirubicin 60mg per m2 - Cyclophosphamide 600mg per m2, and a course of paclitaxel 175mg per m2 (paclitaxel was discontinued due to anaphylactic shock resulting in two cardiac arrests). Adjuvant radiotherapy at a

dose of 40.05 Gy (2.67 Gy per session in 15 sessions) on the pre-pectoral, retro pectoral, and axilla supra clavicular VTC with a boost of 13.35 Gy (2.67 Gy per session in 5 sessions) on the pre pectoral VTC was performed. Due to the breast implant, the dosimetric coverage of the target volumes (pre-pectoral CTV, retro pectoral CTV, and axilla sus clavicular CTV) was challenging to achieve. Optimization was necessary to achieve good dosimetric distribution while delivering less dose to the breast implant. Tamoxifen-type hormone therapy for five years was proposed, followed by clinical and radiological monitoring (mammography-ultrasound, magnetic resonance imaging of the breasts, and abdominopelvic ultrasound).

Observation 2

A 30-year-old female patient with a medical history of lymph node tuberculosis treated in 2018 and family history (Uncles treated for stomach cancer) was consulted in February 2019 for a right breast nodule evolving for about two years, without mastodynia or nipple discharge. The patient's physical examination revealed a 1.5 cm nodule in the lower inner quadrant of the left breast and a 4 cm nodule in the lower inner quadrant of the right breast. Mammography-ultrasound revealed two nodules in the left breast, 12 mm in the lower internal quadrant and 9 mm in the upper external quadrant, and two nodules in the right breast, 7 mm in the lower outer quadrant and 45 mm in the lower internal quadrant. The examination was classified as ACR 3 on the left and ACR 4 on the right. The patient underwent conservative surgery on the right breast, with histological examination and immunohistochemistry showing invasive breast carcinoma of non-specific SBR grade 3 without vascular emboli, with a triple-negative molecular profile.

Magnetic resonance imaging of both breasts six weeks later revealed a right breast nodule classified as ACR BIRADS 6 and a left breast nodule classified as ACR BIRADS 3. The patient received neoadjuvant chemotherapy consisting of four courses of Epirubicin 90mg/m2 - Cyclophosphamide 600mg/m2 and 4 courses of Docetaxel 100mg/m2 with good tolerance. Surgery involving right mastectomy with axillary lymph node dissection (sentinel node technique) combined with immediate breast reconstruction with a prosthesis was performed. Anatomical pathology revealed no tumor proliferation.

Adjuvant radiotherapy at 50 Gy in 25 sessions was performed on the pre-pectoral CTV. From the point of view of dosimetric distribution, coverage of the pre-pectoral CTV and retro pectoral CTV was challenging, as the breast implant was considered an organ at risk and should receive less dose. Monitoring was marked by a small nodule measuring 8 mm in the lower internal quadrant of the right wall prosthetic implant. The patient underwent revision surgery involving extraction of the nodule and replacement of the prosthetic implant.

Observation 3

A 48-year-old female patient, nulligravida, non-menopausal, with a surgical history of thyroidectomy in 2010 and myomectomy in 2016, consulted for a nodule in the upper external quadrant of the left breast one year ago. On clinical examination, the patient was in good general condition. The breast examination revealed a 70 x 70 mm supra areolar mass of the left breast, rugged and mobile about the two planes, associated with a 30 x 20 mm left axillary adenopathy with no supraclavicular adenopathy and a 40 x 30 mm nodule straddling the right lower quadrants, mobile about the two superficial and deep planes, with a 10 mm axillary adenopathy and no supraclavicular adenopathy. A radiological consisting of mammography, breast ultrasound, and magnetic resonance imaging of the breasts was performed. Mammography revealed breasts of type C density. In the left breast, there was a well-limited, oval, inferior medial quadrant opacity measuring 28 x 36mm classified as ACR BIRADS 5. There were no suspicious lesions in the right breast. On breast ultrasound, a hypoechoic, lobulated, calcified tissue formation with peri-lesional infiltration measuring 37 x 21mm was found in the upper outer quadrant of the left breast, along with left axillary adenopathies, the largest measuring 32 x 17mm, and multiple bilateral breast cystic formations, the largest on the right, in the

periareolar region, measuring 37 x 14. 5mm straddling the outer quadrants and lower outer quadrants; the largest on the left was located in the lower inner quadrant, measuring 31 x 14mm. The examination was classified as ACR BIRADS 5 on the left and ACR BIRADS 3 on the right. Magnetic resonance imaging of the breasts revealed, in the left breast, a roughly rounded lesion straddling the upper quadrants, with irregular contours, measuring 40 x 40mm; an oval lesion, with irregular outlines, measuring 24. 9 x 19mm in the deep retro-areolar region, associated with multiple bilateral cystic formations, the largest of which was located in the lower external quadrant, measuring 32.3 x 20mm, axillary adenopathies, the largest of which measured 40 x 23.6mm, and integrity of the pectoralis major muscle. In the right breast, there was a roughly rounded lesion with irregular contours measuring 16 x 13 mm straddling the lower quadrants, multiple cystic formations, the most voluminous straddling the outer quadrants measuring 43 x 22 mm, and a right axillary adenopathy measuring 11 mm in minor axis, suggesting multicentricity and bilaterality. The examination was classified as ACR BIRADS 4 on the right and ACR BIRADS 5 on the left.

A biopsy of the nodule straddling the upper quadrants and the retroareolar nodule of the left breast, with puncture of the left axillary adenopathy, and a biopsy of the lesion in the lower external quadrant of the right breast were performed. Histological examination revealed a non-specific invasive breast carcinoma with SBR grade II and the presence of a few clusters of carcinomatous cells in the lesion at the union of the upper quadrants of the left breast, with estrogen receptors at 5%, progesterone receptors at 1%, Ki67 at 80% and Her2 upbeat with a +++ score, and in the left retro-areolar mass with negative hormone receptors at 0%, Ki67 at 70% and Her2 upbeat with a +++ score. The nodule straddling the lower quadrants of the right breast revealed an invasive breast carcinoma, SBR grade II with estrogen receptor-positive at 30%, progesterone receptor-negative at 0%, Her2 upbeat score 3+++, and Ki67: 40%. Extension report with thoracic-abdominal-pelvic CT scan and bone scans revealed no distant metastatic lesions. The patient was a 48-year-old nulligravida patient with bilateral invasive nonspecific breast carcinoma. The patient was receiving neoadjuvant chemotherapy consisting of Epirubicin 90mg per m2 - Cyclophosphamide 600mg per m2 combined with Paclitaxel 175mg per m2 with double block (Trastuzumab 8mg per kilogram, then 6mg per kilogram from cycle 2 + Pertuzumab 840mg in cycle one then 420mg from cycle 2). Surgery was performed as a subcutaneous mastectomy with right and left axillary curage. Histological examination revealed mastoid breast parenchyma in the left breast, with fibrous and calcific changes and a histiocytic reaction, no residual tumor proliferation, and no lymph node metastases (0N+/7N). Histological examination of the right breast showed no residual tumor proliferation. Absence of lymph node metastasis (0N+/6N). The patient underwent radiotherapy at 40.05 Gy (2.67 Gy per session in 15 sessions) on the left and right walls and the left supra-clavicular axilla. The dosimetric distribution of CTV left wall, left axillary supraclavicular, and right wall did not encounter any difficulties with the VMAT technique. Six months after the end of radiotherapy, she benefited from a bilateral breast prosthesis.

Observation 4

Patient aged 32, menarche at age 12, genitally active with a regular menstrual cycle, no particular pathological history. She had been taking oral contraceptives for eight years. The patient was consulted in June 2020 for mastodynia with no palpable mass or mamelon discharge. Clinically, the patient's general condition was preserved, but there were no palpable masses in either breast or the right and left axillary and supra-clavicular areas.

Mammography revealed a predominance of fibro-glandular tissue in both breasts, with type c density. A periareolar opacity in the right upper-external quadrant with irregular contours containing amorphous microcalcifications and thickening and retraction of the periareolar plate.

Right axillary adenopathy. There is no suspicious-looking nodular or stellate opacity on

the left side. Mammary ultrasound revealed highly hypoechoic tissue formations with irregular outlines containing microscopic calcifications measuring 28 x 17 mm in diameter in the right breast. Hypoechoic right axillary adenopathies, the largest measuring 18.7 mm in long axis.

Edematous infiltration of suitable conjunctiva-glandular tissue. No tissue, fluid, or attenuating image is visible in the left breast. Examination classified as ACR BIRADS 5. A true-cut breast biopsy was performed, and histological examination and immunohisto-chemistry noted a non-specific, poorly differentiated, SBR grade III invasive breast carcinoma infiltrating the lower external quadrant of the right breast without neoplastic emboli with negative hormone receptors, HER2 negative score of 0+, Ki67% not evaluated. Thoracoabdominal and pelvic CT scans and bone scans were unremarkable.

Neoadjuvant chemotherapy consisting of four courses of Adriamycin 60mg per m2 - Cyclophosphamide 600mg per m2, and four classes of Paclitaxel 175mg per m2 was administered. The patient underwent subcutaneous mastectomy, removing the aero-mamellar plate, with immediate reconstruction and fitting of a prosthesis with a satisfactory aesthetic result. Histological examination revealed residual invasive breast carcinoma of the non-specific type classified as ypT2N2a, chevalier grade 3 stage TB, and staff NC classified as RCB III. Adjuvant chemotherapy with eight courses of capecitabine 1000 - 1250mg per m2 twice daily D1 to D14 was performed. She subsequently underwent radiotherapy at a dose of 50 Gy (2 Gy per session in 25 sessions) to the right pre-pectoral CTV, the proper axilla supra clavicular area. Difficulties related to dosimetric coverage were noted, as it was necessary to have a good distribution in the right pre-pectoral CTV, retro pectoral CTV, and axilla supra clavicular CTV while sparing the breast implant as much as possible.

Observation 5

We report the clinical observation of a 44-year-old patient, gender two and parity two, with no particular pathological history. She presented in July 2020 with right shoulder pain that had been evolving for about two months. Clinical examination revealed a patient in good general condition, with a left mastodynia associated with a nodule measuring approximately 3 cm on the left breast, rounded, mobile concerning the two superficial and deep planes, and without axillary adenopathy. Mammography and ultrasound revealed a right breast mass measuring 45 x 28 mm in large diameter, classified as ACR BIRADS 5. Histological examination and immunohisto-chemistry of the tru-cut biopsy fragments showed the presence of an invasive breast carcinoma of the left breast, SBR grade III without vascular emboli, with negative hormone receptors, negative Her2 score 1+, and Ki67 at 60%. A thoracic-abdominal-pelvic CT scan and bone scintigraphy were used to assess the extent of the disease, showing no distant secondary lesions. Neoadjuvant chemotherapy consisting of four courses of Adriamycin 60mg per m2 - Cyclophosphamide 600mg per m2, and four classes of Paclitaxel 175mg per m2 was administered, followed by subcutaneous mastectomy with left axillary lymph node dissection. On pathological examination, non-specific infiltrating breast carcinoma, 3.5cm large diameter, SBRIII, vascular embolus present, healthy margins, 0N+/22N. Adjuvant chemotherapy (8 sessions of capecitabine 1000 - 1250mg per m2 twice daily D1 to D14) and adjuvant radiotherapy at a dose of 50 Gy to the left wall and supraclavicular area were performed, followed by placement of a left breast prosthesis. Dosimetric distribution of the left wall and supra-clavicular size was obtained without great difficulty during radiotherapy sessions, as the patient had no breast implant at the time of radiotherapy.

Observation 6

A 36-year-old female, G4P3, non-menopausal, with no particular pathological history, was consulted for the appearance in August 2020 of a mass in the right breast associated with mastodynia. On clinical examination, the patient's general condition was unchanged. In the right breast, there was an approximately 3cm mass, which was rugged and mobile about the deep and

superficial planes, and large homolateral axillary adenopathies, approximately 3cm in size and fixed about the deep plane. The rest of the clinical examination was unremarkable. Bilateral mammography showed a patch of overdensity in the lower internal quadrant of the right breast, spiculated in places and extending over 66mm on the front view, classified as BI-RADS 6, and left breast classified as BI-RADS 1. A biopsy of the right breast mass was performed, and the pathological anatomy examination noted a non-specific SBR grade 2 invasive breast carcinoma without vascular emboli. Immunohistochemistry showed estrogen receptors at 1%, progesterone receptors negative, Her2 negative, and Ki67 at 80%. A thoracic-abdominal-pelvic CT scan showed no secondary or suspicious bone lesions, and a 46 x 42 mm necrotic mass in the right breast, with multiple large homolateral axillary adenopathies measuring approximately 3.5 cm. The patient received chemotherapy, four sessions of Adriamycin-Cyclophosphamide, and four sessions of Paclitaxel, with three episodes of febrile neutropenia. The patient subsequently underwent subcutaneous mastectomy with right axillary curage. Histological examination revealed residual invasive breast carcinoma of non-specific type, SBR grade 3, with vascular emboli. The retro-mamelonal zone was non-tumoral, the surgical section boundaries were healthy, TILs were estimated at 10%, and an absence of lymph node metastases 0N+ /9N, ypT1cN0 classified RCB III. Immunohistochemistry showed negative hormone receptors, negative Her2, and 80% Ki67. She subsequently underwent adjuvant chemotherapy with capecitabine and 40.05 Gy of radiotherapy to the right wall and proper axilla supra clavicular area. One year after radiotherapy, the patient underwent deferred breast reconstruction.

II. DISCUSSION

Immediate breast reconstruction using implants or prostheses has become a widely used technique for breast reconstruction after mastectomy in recent years [9]. According to the Korean Breast Cancer Society registry, breast reconstruction surgeries almost tripled between 2002 and 2013 [8, 10]. In this Korean Breast Cancer Society 2017 report, the percentage of breast implants after mastectomy was 39.1% for women aged under 40, 33.7% for women aged 40-59, and 9.4% for those aged 60 and over [8,11]. Breast reconstruction is an essential component of treatment. Studies have consistently demonstrated improved in quality-of-life indices and aesthetic results [12, 13]. Most reconstructions performed after mastectomy for breast cancer are stent- or implant-based [12, 14]. One commonly used technique has been the initial placement of a subpectoral tissue stent for patients who may require radiotherapy after mastectomy. This stent is then replaced by a permanent implant months after the end of radiotherapy [12]. However, in recent years, immediate direct implant reconstruction has been increasingly used for breast cancer patients undergoing mastectomy [12, 15]. Although immediate breast reconstruction by implant or prosthesis is a safe and effective technique, limited data are available on outcomes for patients undergoing post-mastectomy radiotherapy following immediate and permanent implant reconstruction [12, 16, 17]. Immediate and permanent implant reconstruction offers patients several opportunities, the possibility of a single surgery (mastectomy with reconstruction and breast implant placement) [12,18]. Secondly, it provides a more enhanced aesthetic result due to the preservation of the submammary fold, enabling a more natural appearance and also the possibility of adjusting the position of the scar [19,20]. More importantly, for women, it offers enormous psychosocial benefits by restoring femininity and improving vitality, sexuality, and quality of life [19, 20]. However, the benefits of such an approach must be weighed against the oncological outcome and complications [12, 18]. For patients who prefer immediate implant reconstruction, it is essential to counsel patients on the potential difficulties associated with radiation planning and toxicities [12]. It has an acceptable rate of post-operative complications and, from an oncological point of view, is considered safe, with a local recurrence rate ranging from 2% to 10% [9]. Complications following irradiation of a breast implant for immediate breast

reconstruction include the risk of capsular retraction, unsatisfactory aesthetic results, and replacement of the prosthetic breast implant. As for breast implant placement after radiotherapy, the various complications are more complex and painful expansion, risk of thoracic deformation and prosthesis exposure, and unsatisfactory aesthetic results.

III. CONCLUSION

Direct, permanent implant reconstruction is increasingly used for patients undergoing mastectomy. It has become an essential part of the multidisciplinary management of breast cancer patients because of the importance of the psychosocial functions of the symmetrical breast mound. Post-mastectomy radiotherapy reduces recurrence and improves survival. The presence of reconstructed tissue or implants can compromise radiotherapy planning and adversely affect its final results. However, reconstruction should not impact radiotherapy dose, fractionation, or irradiated areas. Multidisciplinary collaboration between radiation oncologists, surgical oncologists, plastic surgeons, and medical oncologists is imperative to provide the best care for our patients.