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УЧЕНЫЕ ЗАПИСКИ АРМЯНСКОГО ГОСУДАРСТВЕННОГО ПЕДАГОГИЧЕСКОГО УНИВЕРСИТЕТА ИМ. Х. АБОВЯНА

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CHESS IN MEDICAL EDUCATION AT UMANAND PRASAD SCHOOL OF MEDICINE & HEALTH SCIENCES (UPSM&HS) IN FIJI

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KEYWORDS/Abbreviation :Chess,Education,MBBS-Bachelor of Medicine and Surgery, BPHC-Bachelor of Public health science, BMHS-Bachelor of Medical Health science, BNSCH-Bachelor of Nursing science with honour, UPSM&HS-Umanand Prasad School of Medicine & Health science, UNIFIJI-The University of Fiji

Abstract

Chess is a board game played by two people against each other. Chess is an abstract strategy game with no hidden information. It is played on a chessboard with a 64-square square grid and a 64-square square chessboard. At the start, each player has sixteen pieces (one king, one queen, two rooks, two knights, two bishops, and eight pawns): one king, one queen, two rooks, two knights, two bishops, and eight pawns. To acquire relevant information for the study, a literature review and a survey were done.

The study's goal was to identify the link between chess and cognitive development in medical students, as well as the relationship between various game kinds and the multiple

advantages the students received, and to correlate the level of chess players with their academic achievement.

This study found that chess has an influence on or increases abilities in learning and development. Playing chess produces the phenomenon of repeating, practicing, and mastering a strategy to influence the game result; similarly, on a learning platform, this method aids in memory retention of knowledge. Repetition, practice, and mastery are important in medical education because medical internships and residencies build students' confidence, knowledge, and practical skills.

Correspondence rounds are preferred at the starting level to assist learning of chess lessons, and as one improves, they progress to Rapid, Blitz, and Bullet.

More study is needed before educators may be deployed or taught to utilize chess in the classroom. A well monitored research survey may also provide a more definitive evaluation of the impact of chess in medical education in universities.

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Introduction

Chess is a strategic game that originated in India around 1500 years ago. According to legend, the emperor of India instructed his wise men to design a method for teaching the royal family's children to become greater thinkers and generals on the battlefield. The outcome was chess. Chess has expanded to every country on the planet in the centuries since its creation. While many other games have gone out, chess has survived. Many educators, from Benjamin Franklin through former U.S. Secretary of Education Terrell Bell, have endorsed it in the United States. Chess programs are offered in over 70 schools and a dozen libraries in Western Pennsylvania, reaching thousands of youngsters each year.

We introduced chess into the classrooms because we feel it has a direct impact on academic achievement. Chess makes children smarter. It accomplishes this by instilling the following abilities:

- Focusing - Children are taught the importance of paying close attention and focusing. They can not respond to what is going on if they don't pay attention to what's going on, no matter how brilliant they are.
- Visualizing - Children are asked to picture a series of events before they occur. We really improve their capacity to imagine by training them to relocate the pieces in their minds, one at a time, then many steps ahead.
- Thinking Ahead - It is taught to children to think first, then act. We educate kids to question themselves, "What may happen if I do this, and how might I respond?" Chess helps to build patience and thinking over time.

- Weighing Options - Children are taught that they do not have to perform the first thing that comes to mind. They learn to recognize options and weigh the benefits and drawbacks of various activities.
- Analyzing Concretely- chess teaches children to examine the outcomes of specific actions and sequences. Is this sequence beneficial or detrimental to me? Decisions are better made when logic rather than emotion is used to guide them.
- Thinking Abstractly - Children are taught to take a step back from specifics and analyze the broader picture on a regular basis. They also learn to apply patterns learned in one setting to different but similar ones.
- Planning teaches students to set long-term objectives and take efforts toward achieving them. They are also taught the need of reevaluating their strategies as fresh events alter the scenario.
- Managing Multiple Projects Simultaneously -Children are advised not to become unduly involved in any one topic, but to attempt to weigh several considerations at the same time.

None of these abilities are unique to chess, yet they are all required to play the game. The beauty of chess as a teaching tool is that it stimulates children's minds and assists them in developing these abilities while having fun. Children become more critical thinkers, better problem solvers, and autonomous decision makers as a consequence.

Chess may be more than just fun and delight for youngsters. Many parents, teachers, academics, and others believe that "Chess Makes Kids Smart" (a tagline coined by the United States Chess Federation) is more than just a community term.

Some studies in this subject have proposed a relationship between math ability and chess skills. Jeffrey Chesin, a chess teacher in Philadelphia, feels that the mental processes in arithmetic and chess are comparable. "But it isn't the entire story," he continues. "Youngsters who thrive in chess are likely to excel at math or in any problem-solving circumstance," Chesin adds, "but youngsters who excel at arithmetic are not always brilliant chess players."

Chess does not require children to be exceptionally brilliant. Chesin insists. "The bulk of the children I work with would be classified as 'average.' Some of them are below average. But they get interested and work hard at it. Determination is unquestionably a component."

Chess is thriving in several parts of the nation thanks to well-organized clubs. Adults who believe in chess and its benefits for children have tried to make it possible for kindergarten pupils to form teams and play the game. While teachers are frequently the chess instructors and sponsors, parents or other adults frequently accept some or all of the tasks.

After the first lockdown of 2020 because of COVID-19, the University of Fiji formed a chess club for its students for their extracurricular activity. This made way for The University to compete in both local and international competitions.

Review of related literature

According to Forrest, et al (2005) the chess coaching input functioned as a stimulus for educational improvement, as did the social relationships formed with instructors, parents, and students. This new type of social capital becomes a source of increased achievement. Chess-playing and chess-teaching became inextricably linked in this social interaction that rejected low expectations and challenging behavior.

They also stated that chess, like other educational efforts, cannot replace social policy measures that address the material poverty of low income and a long working day for many parents; nonetheless, it can help children's personal growth and resilience in poverty-stricken situations. If the affluent and powerful's major source of social capital is the 'holding of privilege' through extended family resources and the buying of educational opportunities – then chess-play, as a kind of cultural capital, can help to correct some of these educational opportunities inequities.

According to Gobet et al (2006) there is a significant gap between the bold claims frequently seen in chess literature and the very unconvincing findings of a small number of studies. The available evidence suggests that (a) the potential effects of optional chess instruction are still unknown; (b) compulsory instruction is not recommended, as it appears to cause motivational problems; and (c) while chess instruction may be beneficial at first, the benefits appear to diminish as chess skill improves, due to the amount of practice required and the specificity of the knowledge that is acquired.

Gobet et al also stated (2006) while chess may not "make kids smarter," it may provide what De Groot refers to as "low-level advantages" for our society, and it would be a shame not to take advantage of this chance.

According to Scholz et al, (2008) chess might be an excellent learning tool for youngsters with learning impairments. It has been found that chess teachings are being transferred to the strengthening of basic maths abilities.

According to Mirzakhanyan et al 2017 (1) Chess as an academic discipline is commonly referred to as a positive factor for pupils' personal development; (2) Parents' educational level is one of the frequently expressed contextual factors for adequate implementation of chess in schools; (3) Based on current research findings, the chess achievement evaluation test should be improved: Some curriculum adjustments in the school chess program may be required. (4) Appropriate parental support and home conditions for pupils' lesson preparation are also priority and critical variables for the effective introduction

of chess in school curricula: This area should be investigated further in order to understand the approaches and capabilities of schools for improving learning quality; (5) Teachers' pedagogical influence and attitudes toward education for everyone are also important for effective chess education in elementary schools. The research findings will enable the appropriate staff to promote best practices and investigate weak spots at many levels of education planning, spanning from national to student (individual) level.

According to Williams (2014) despite a solid scientific foundation that decisively points to the possible academic benefits, introducing chess will be a risky enterprise. Despite these challenges, policy advocacy change necessitates bold action and, to use another interpretation of the quote above, thinking outside-the-box. Most individuals find dramatic change difficult to embrace, and the use of chess as an educational tool represents a shift in the academic environment and what we as educators have previously deemed acceptable practice.

According to Mc Donald, methodically taught chess is a suitable incentive system to accelerate the rise of IQ in elementary age children of both sexes from all socioeconomic levels. This study looks to have extremely intriguing results about the transfer of chess thought to other fields of study.

Sala et al (2017) stated that chess teaching has been linked to improved arithmetic performance in the general population of primary and middle school pupils in the short term, but not in the long term. As a result, further study is required to validate chess as a teaching tool. A thorough experimental design is required to give information on (a) the possible placebo effects of chess education, (b) the cognitive mechanisms behind the transfer of chess abilities to mathematical skills, and (c) the optimal type and duration of the teaching for this transfer to occur.

Objectives:

1. To establishment chess the correlation and its development in cognitive development in medical students
2. To find out the correlation of different game types to the different advantages the students have acquired.
3. To co-relate the level of chess players (beginner, amateur, intermediate, pro or expert) have influenced chess on their academic success.

Scope and Limitations:

Scope

The purpose of the study was to find out the relationship between playing chess and the education of students in Umanand Prasad School of medicine . The data for this study was

gathered from the students of Umanand Prasad School Of Medicine,the questionnaire was circulated at randon of which 141 students answered. The study was conducted for 3 days

Limitation

There were several notable limitations while compiling this research.

- The number of respondents was a major limitation in this research because of the current COVID-19 restrictions, therefore we could not reach the maximum number of participants. This limitation could not be overcome because of the legislation imposed by the current government of Fiji islands.The effect of this limitation has severely reduced the population size of the research.
- No face to face interviews were conducted due to the authors following strict COVID-19 protocols therefore the fact that the authors of this research could not interview the participants directly was our second major limitation. This limitation could not have been overcome because the authors did not want to come into close contact with any respondents. This limitation has severely hindered the author's ability to conduct this research and compile the data.
- Poor internet connectivity was another issue faced by the authors and the participants. Some of the participants who have answered questions were located in rural areas of Viti levu (main island) and Vanua Levu (second main island) of Fiji where there is weak internet connectivity. This limitation could not be overcome because the author's do not have any control over the internet connectivity.

Methodology

The purpose of this research was to find out the relationship between playing chess and the medical education of students in UPSM&HS in Fiji. The only logical way to gain access to logical and relevant information was to question the students first hand and gather their views and experience regarding their education and the relevance of chess to it. The research article was therefore written in a series of well formulated steps to ensure the most optimal and streamlined process to formulate a well written research paper.

The primary method for gaining this information was through the help of questionnaires circulated via online social media networking sites and student groups randomly. The questionnaires were circulated for well over days with ample publicity among the students to ensure that the data was obtained from as many students as possible. The questionnaires were sent to the various groups of students via class representatives and the major social groups of the faculty to ensure maximum participation amongst students. The questionnaires received a total of 141 responses over the span of 3 days.

The next step was to ensure that the questionnaires were as simple as possible to avoid ambiguity amongst the respondents. Therefore, the questionnaires inquired about the basic information of the players such as their preferred mode of playing chess, their familiarity

with the board game and their Fédération Internationale des Échecs (FIDE) ratings. The student's were also asked about their opinions regarding the benefits of chess and the ways in which chess had helped them become better students and better people as a whole.

The final step of this process was to compile the data obtained from the questionnaires and have it reviewed by the authors to formulate the final discussion.

The total time frame required to complete the research article was approximately 1.5 weeks.

Result and Discussion:

The Unifiji chess club is almost a year old since its commencement.The chess club is open for anyone willing to join and has attracted those who had previous knowledge of chess to those who did not have any knowledge and were willing to learn and play the game,this is most done recreationally and in after school program.Currently we have a chess coordinator who is also the teacher and other volunteers, who willingly help in training,in addition chess members(include:educators and students) have been encouraged to use online platforms in training themselves additional chess instruction and to play as many games as possible.

Some research encourage the implementation of Chess instruction in curriculum but this has some challenges because the educators need to have some level of knowledge in chess and also the student need to choose to play or not rather than be forced to (Wiliams, 2014)

The data finding shows that the majority of the students do not play chess ,this might be because the program is still in its infancy stage but with continuous research a shift will be noted and strategies to implement.

This survey had more students from MBBS participating than other courses. Showing that more students taking MBBS also play chess as compared to BPHC, BMHS and BNS(H) (Fig 1).

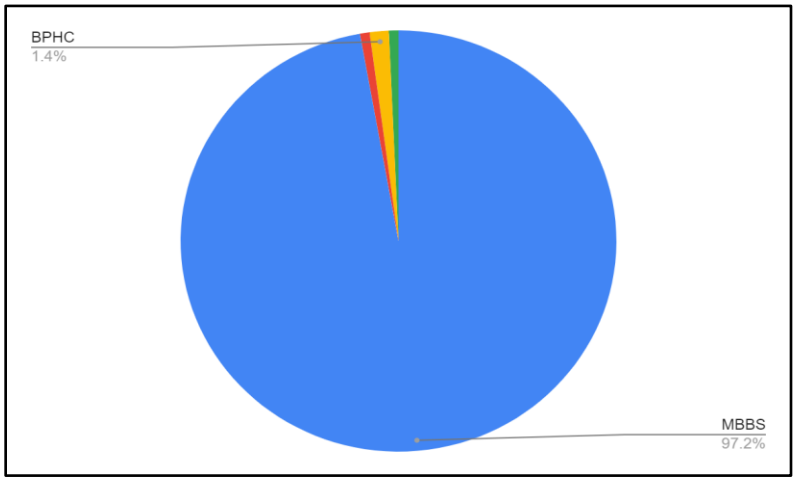

Figure 1:The number of participant in the survey showing 97.2 % ,1.4%,and 1.4 %respectively for MBBS,BPHC and(MBHS and BNS (H)

Chess improves students' learning ability positively in preparation,concentration and participation (confidence) among others in all medical subjects .Students are able to focus,think through and make correct judgement in the shortest time possible in a clinical setting.(Fig 2 and 3)

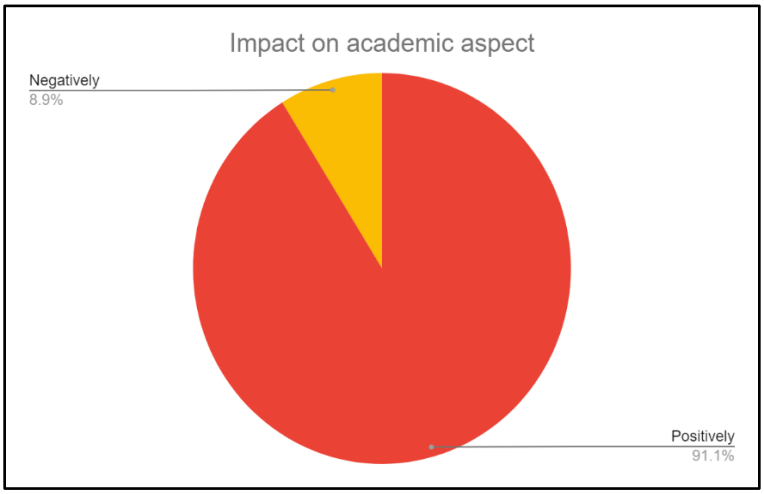

Figure 2: Chess effect in academic, 91.1% positive effect and 8.9 % negative effect

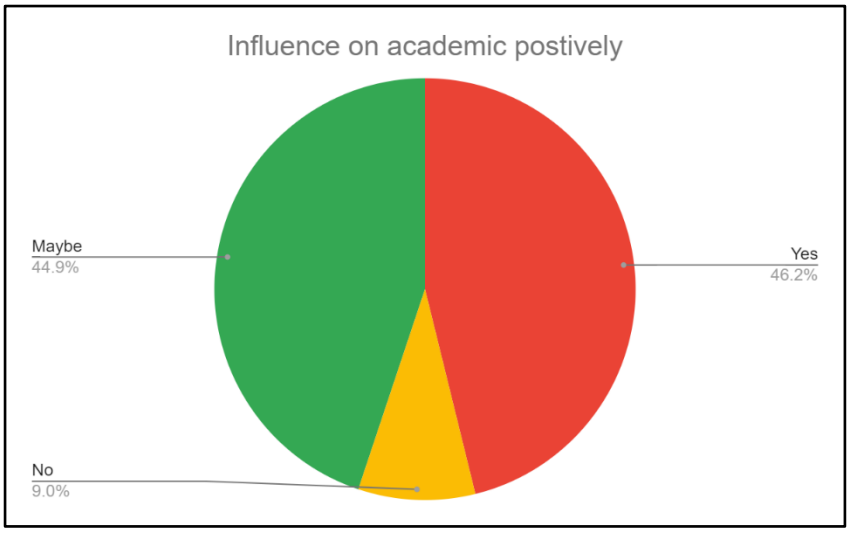

Figure 3: Chess associated with academic improvement supported by 46.2%

Chess as a game is becoming more famous and influential, 58.7% of the participants had played at least one game in 2021 while 41.1% had no interaction with chess (Fig 4).The Unifiji early this year hosted 3 face to face (traditional board gaming) chess tournament in conjunction with Chess Fiji, which attracted at least 34, 32, 36 participants respectively, with approximately 20 observers.

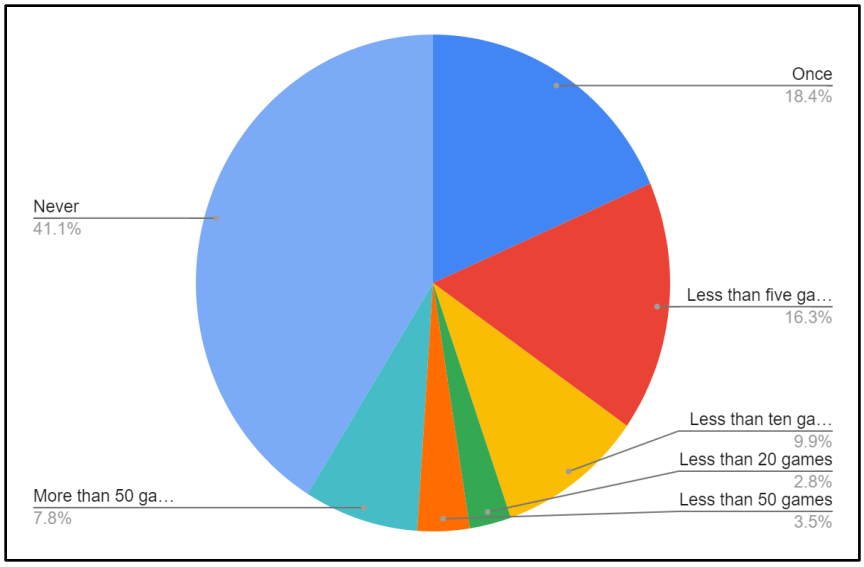

Fig 4:The number of games played within this year (2021)

COVID-19 has changed the dynamic as to how the game is played from traditional to online digital platform with 57.6% of our participants adapting to it while 42.4% still not using online platforms and would prefer traditional gaming (Fig 5 and 6). This has also further improved their skills in use of online platforms since learning is also administered online.

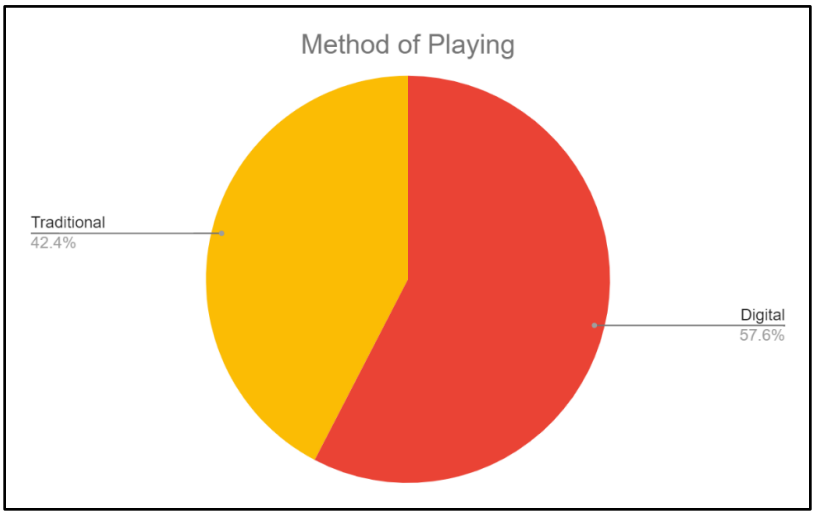

Figure 5:Preference in mode of playing chess

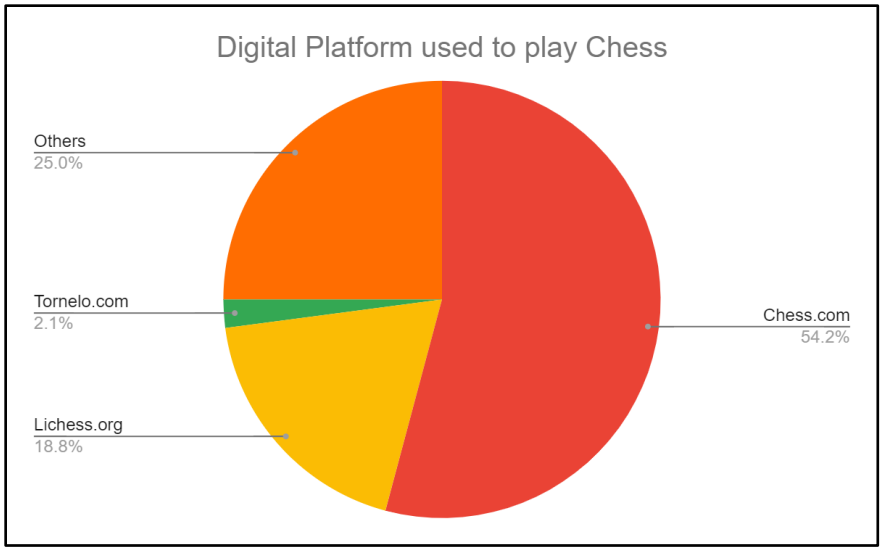

Figure 6: Platforms used to play digital Chess

In regards to the playing level, 71.8%, 22.4% and 5.9% of the students are at the beginner level, amateur and intermediate respectively, hence the introduction of Chess has created a platform for learning of the game and interest (Fig 7). More than 90% participants play chess once a week (Fig 8).

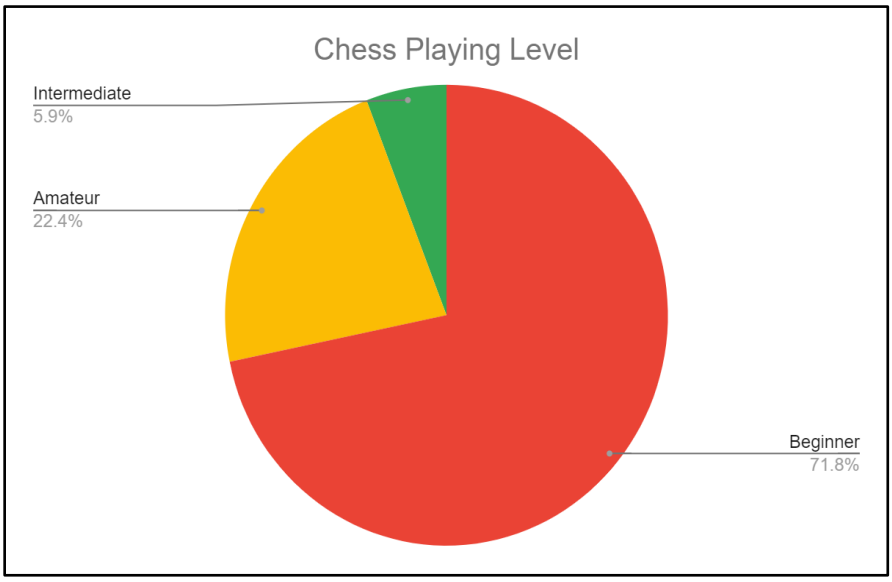

Figure 7: Chess playing level

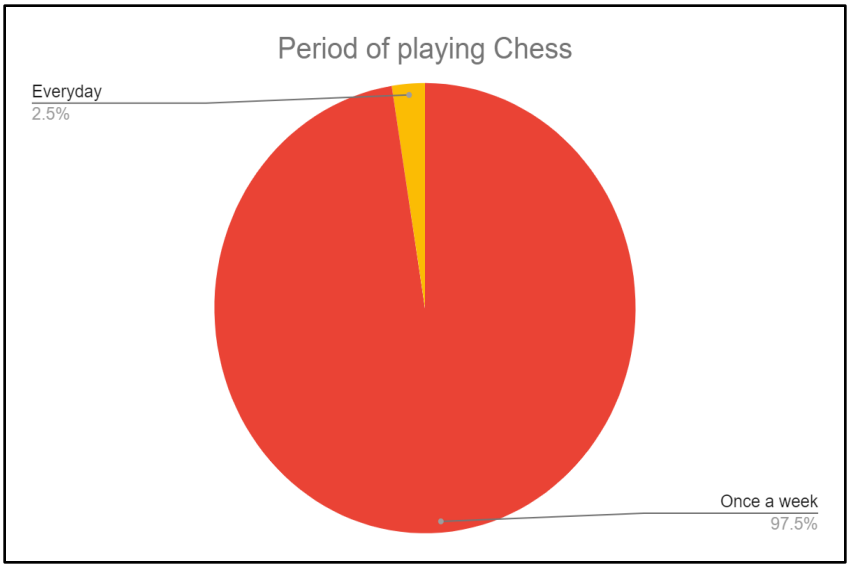

Figure 8: Period of playing chess

WIth the time spent on playing chess, 41.8% prefer Correspondence rounds at the starting level to allow for the acquisition of chess teaching, and as one improves, they move to Rapid, Blitz, and Bullet rounds (Fig 9).

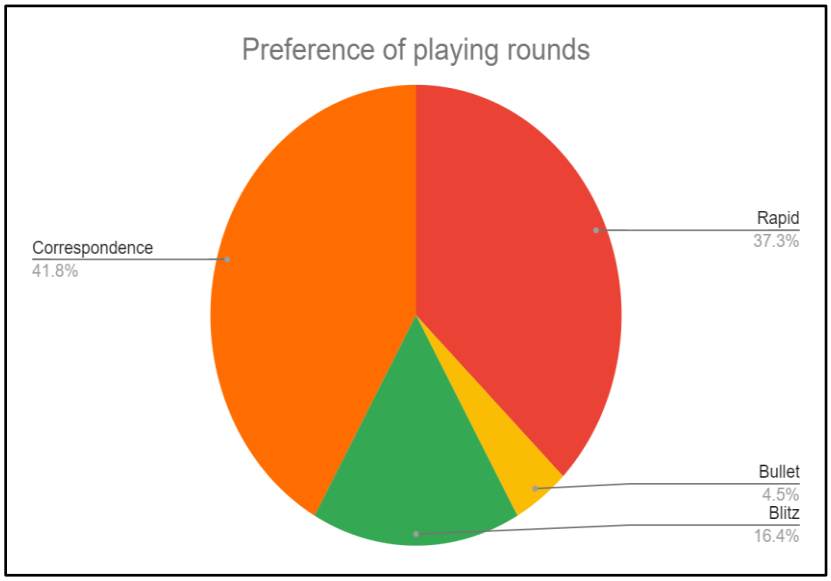

Figure 9: Preference of playing rounds.

Conclusion

This research shows that Chess influences or improves to some extent skills in learning and development skills. Playing Chess creates a phenomenon of repeating, practising, mastering some technique to influence the game outcome,similarly in learning platform this technique helps in memory retention of knowledge. In Medical Education,

repetition, practise and mastery play an important role since medical internship and residency enhance the student's confidence, knowledge and practical skills.

At beginner level, Correspondence rounds are prefered to allow learning of chess instruction and as one gets better they advance to Rapid, Blitz and Bullet. More research needs to be done in order to implement or train educators to use chess in education. A close monitored study survey can also give a more conclusive study of the effect of Chess in Medical education in universities. Experimental research is also suggested as with Sala et al.

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